DAIKIN

1994

ENGINEERING DATA

PACKAGED AIR CONDITIONERS

DAIKIN INDUSTRIES, LTD.

VOL. 3

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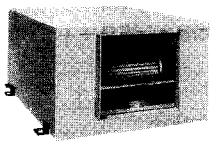
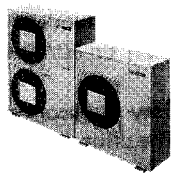
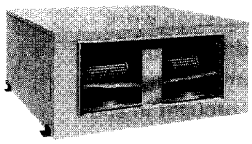
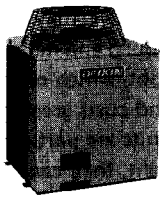
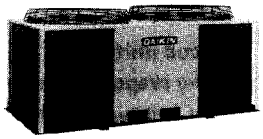
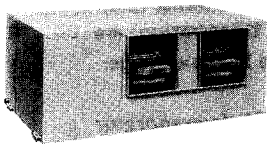








1-1 Air Cooled Split System Air Conditioners Duct Connection Type FD+R(U) Series

1. Features

The Daikin Air Cooled Split System Air Conditioners in FD + R(U) Series are specially designed to be installed in a ceiling or suspended from the ceiling with air distribution ducting. They are available in 9 models from 6,500/7,100 kcal/h to 52,000/57,200 kcal/h (50/60Hz). In addition, smaller 7 condensing units can be connected with fan coil units in 16 different variations in capacity.

Both fan coil units (FD) and condensing units R(U) are specifically designed for extremely low noise operation. They are ideally used for air conditioning of residences, offices, shops, schools and any type of buildings in almost every part of the world, as they are designed to be operative in a wide ambient temperature range from 20°C (5°C in case a head pressure control system is attached additionally) to 52/49°C [in case of standard combinations of (FD + RU)] on 50/60Hz.

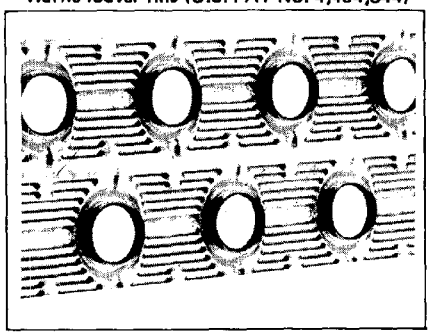
Easy and economical installation

The units are internally wired and are subject to stringent tests at the factory before delivery. All that is required is to provide ducting, refrigerant piping and main power supply on the spot, which reduces installation work and costs greatly. In addition, since the units are particularly compact and light, they can be easily brought in and installed, and space required for installation is small.

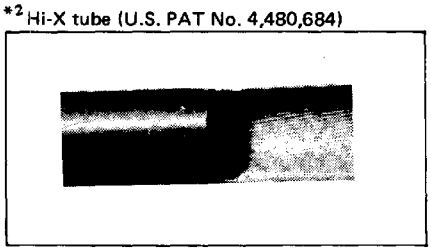
Fan coil unit (FD):

- **The evaporator** is of the unique cross fin coil type. Waffle louver fins*1 and Hi-X copper tubes*2 (internal tube surface is modified by serration) are adopted to improve heat exchange greatly.
- **Dual suction multi-blade evaporator fans** are adopted to reduce operation noise extremely, and driven by the V belt. Since the variable pitch pulley is attached to FD03M~FD11J, the accurate air flow rate is obtained by adjusting the pulley diameter from the front service panel even after the unit is installed and the ducting is provided. FD16J and FD22J can be altered on the spot to have air distributed upwards.
- **The evaporator fan motor** is equipped with an overcurrent relay for safe operation.

*1 Waffle louver fins (U.S. PAT No. 4,434,844)

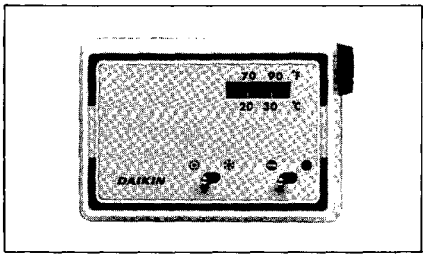


*2 Hi-X tube (U.S. PAT No. 4,480,684)



Condensing unit R(U):

- **The compressor** is a compact and powerful hermetically sealed reciprocating compressor which has been developed with Daikin's own technique. The 2-pole reciprocating type compressor is held by springs in the compressor casing to minimize operation vibration. In addition, the whole compressor is installed with vibration isolation rubber to reduce vibration from going outside.
  A complete set of the safety devices such as crankcase heater, overcurrent relay, compressor thermal protector encased in the motor coil, etc. are equipped, ensuring a long life and trouble-free operation.
- **The condenser** is of the unique cross fin coil type. Waffle louver fins*1 and Hi-X copper tubes*2 are adopted to increase heat exchange coefficient (E.E.R.) greatly.
- **The condenser fan** is a direct drive propeller fan and draws the air from both sides and rear (and the front in case of R100BA, RU16J and 22J) of the unit and discharges it upwards together with operation noise, which ensures quiet operation.
- **The condenser fan motor** is of the water proof induction type and is equipped with thermal protector for safe operation (RU05J~11J and RU16JA·22JA). Non-lubrication bearings are used for maintenance-free operation.
- **The remote controller (Option):** The remote controller for operation with 24V low voltage. It encases a sensible thermostat to ensure accurate temperature control.



Conversion formulae		
Btu/h	=	kcal/h x 3.97
kW	=	kcal/h x 0.001163
Inches	=	mm x 0.0394
Pounds	=	kg x 2.205
Psi	=	kg/cm² x 14.22
KPa	=	kg/cm² x 98.07
Cfm	=	m³/min. x 35.3
US Gallons	=	Liter x 0.264
UK Gallons	=	Liter x 0.220

e.g. 12,500 kcal/h = 12,500 x 3.97
= 49,600 Btu/h

2. Specifications

Model				FD03M R71BB	FD04M R100BB	FD05J RU05J	FD07J RU07J	FD08J RU08J
*1 Cooling capacity 50/60Hz			kcal/h	6,500/7,100	9,500/10,000	12,500/14,100	14,800/16,700	18,900/20,900
			Btu/h	25,800/28,200	37,700/39,700	49,600/56,000	58,800/66,300	75,000/83,000
			kW	7.6/8.3	11.0/11.6	14.5/16.4	17.2/19.4	22.0/24.3
Capacity steps			%	100-0	100-0	100-0	100-0	100-0
Refrigerant				R22				
No.of refrigerant circuits				1	1	1	1	1
Connections	Refrigerant piping	Liquid	mm	Dia.9.5	Dia.9.5	Dia.12.7	Dia.12.7	Dia.15.9
		Gas	mm	Dia.15.9	Dia.19.1	Dia.19.1	Dia.19.1	Dia.25.4
	Drain piping (Fan coil unit)			FPS3/4B	FPS3/4B	FPS3/4B	FPS3/4B	FPS3/4B
Ducting	Return (HXW)		mm	280X530	280X680	320X750	320X930	370X980
	Supply (HXW)		mm	300X354	300X504	315X695	315X695	350X870
Fan coil unit				**FD03M**	**FD04M**	**FD05J**	**FD07J**	**FD08J**
Casing/color				Cold rolled steel plate/Ivory white				
Coil	Type			Cross fin coil (Waffle louver fins and Hi-X tubes)				
	RowsXStages			3X16	3X16	3X18	3X18	3X20
	Fin pitch		mm	2.0	2.0	2.0	2.0	2.5
	Face area		m^2	0.203	0.264	0.329	0.411	0.483
Fan	Type			Dual suction multi-blade				
	Drive			Belt drive				
	Air flow rate 50/60Hz		m^3/min	27	36	46	60	68
			cfm	950	1,270	1,620	2,120	2,400
	Motor speed 50/60Hz		r.p.m	1,410/1,700	1,410/1,700	1,420/1,700	1,420/1,700	1,420/1,700
	Motor output		kW	0.4	0.4	0.75	0.75	0.75
Refrigerant control				—	—	—	—	—
Dimensions	H		mm	410	410	450	450	500
	W		mm	680	830	900	1,080	1,130
	D		mm	750	750	800	800	850
Weight			kg	60	65	90	95	110
Condensing unit				**R71BB**	**R100BB**	**RU05J**	**RU07J**	**RU08J**
Casing/color				Paintable galvanized steel plate/Ivory white				
Compressor	Type			Hermetically sealed rotary type	hermetically sealed scroll type	Hermetically sealed recipocating type		
	ModelXNo.			RC112V1TN(V1) RC112YENE(Y1) RC88AVHN(VHL)	JT118A-V13(V1) JT118A-YE3(Y1) JT106A-VH3(VHL)	2T55LGX1	2T55QGX1	3T55KGX1
	No.of cylinders			—	—	2	2	3
	Speed 50/60Hz		r.p.m	2,850/3,400	2,900/3,450	2,900/3,450	2,900/3,450	2,900/3,450
Refrigerant oil	Model			SUNISO 4GS-DI	SUINSO 4GS-DK			
	Charge		ℓ	1.35	2.2	2.6	2.6	3.2
Coil	Type			Cross fin coil (Fire louver fins and Hi-X tubes)		Cross fin coil (Waffle louver fins and Hi-X tubes)		
	RowsXstages			2X40	2X52	2X28	2X34	2X30
	Fin pitch		mm	2.0	2.0	2.0	2.0	2.0
	Face area		m^2	0.554	0.721	1.273	1.546	1.886
Refrigerant control				Capillary tube				
Fan	Type			Propeller				
	Drive			Direct drive				
	Air flow rate 50/60Hz		m^3/min	50	77	92/105	110/120	130/150
			cfm	1,940/1,940	2,930/3,250	3,250/3,710	3,880/4,240	4,580/5,300
	Motor output Y1 Model		kW	0.095	0.095+0.075	0.12	0.22	0.12
	V1,VH,VHL,YH,TH model		kW	0.095	0.095+0.075	0.19	0.25	0.19
Safety devices				High pressure switch, low pressure switch (only for R100BB), fuse, overcurrent relays for compressor (only Y1,VHL) and indoor fan motor, thermal protector for compressor and outdoor fan motor, reverse phase protector.		High pressure switch, low pressure switch, crankcase heater, fuse, overcurrent relays for compressor and evaporator fan motor, thermal protector for compressor and condenser fan motor.		
Dimensions	H		mm	900	1,160	994	1,150	1,010
	W		mm	820	820	770	770	980
	D		mm	295	295	770	770	980
Weight			kg	67(V1,VHL), 64(Y1)	90(V1,VHL), 88(Y1)	140 —	155 —	190 —

16 different variations in capacity

Condensing unit			R71BB	R100BB		RU05J	RU07J			RU08J			RU10J			RU11J	
Fan coil unit			FD03M	FD03M	FD04M	FD05J	FD07J	FD05J	FD07J	FD08J	FD07J	FD08J	FD10J	FD08J	FD10J	FD11J	FD10J	FD11J
*1 Nominal cooling capacity	50Hz	kcal/h	6,500	8,500	9,500	12,500	13,300	13,800	14,800	15,400	17,900	18,900	19,800	20,600	22,200	23,100	23,500	26,600
		Btu/h	25,800	33,700	37,700	49,600	52,800	54,800	58,800	61,100	71,100	75,000	78,600	81,800	88,100	91,700	93,300	101,600
	60Hz	kcal/h	7,100	9,200	10,000	14,100	15,000	15,500	16,700	17,300	19,900	20,900	21,900	23,700	26,500	26,500	27,000	28,700
		Btu/h	28,200	36,500	39,700	56,000	59,600	61,500	66,300	68,700	79,000	83,000	86,900	94,100	101,200	105,200	107,200	113,900
Operation limit	50/60Hz	°CDB	52/50	52/50	52/50	52/49	50/47	52/49	52/49	50/47	52/49	52/49	50/47	52/49	52/49	50/47	52/49	52/49
	50Hz(V1, Y1)		46	46	46													

Model				FD10J RU10J	FD11J RU11J	FD16J RU16J(A)	FD22J RU22J(A)
*1 Cooling capacity 50/60Hz			kcal/h	22,200/25,500	25,600/28,700	37,500/41,200	52,000/57,200
			Btu/h	88,100/101,200	101,600/113,900	148,900/163,600	206,500/227,100
			kW	25.8/29.6	29.8/33.4	43.6/47.9	60.5/66.5
Capacity steps			%	100—0	100—0	100—50—0	100—50—0
Refrigerant				R22			
No.of refrigerant circuits				1	1	2	2
Connections	Refrigerant piping	Liquid	mm	Dia.15.9	Dia.15.9	Dia.15.9×2	Dia.15.9×2
		Gas	mm	Dia.31.8	Dia.31.8	Dia.25.4×2	Dia.31.8×2
	Drain piping (Fan coil unit)			FPS 3/4B	FPS 3/4B	FPS 1B	FPS 1B
Ducting	Return (H×W)		mm	370×1,180	370×1,330	532×1,450	744×1,830
	Supply (H×W)		mm	350×870	350×870	352×902	352×1,042
Fan coil unit				**FD10J**	**FD11J**	**FD16J**	**FD22J**
Casing/color				Cold rolled steel plate/Ivory white			
Coil	Type			Closs fin coil (Waffle louver fins and Hi-X tubes)			
	Rows×Stages			3×20	3×20	3×22	3×30
	Fin pitch		mm	2.5	2.5	2.0	2.0
	Face area		m^2	0.584	0.660	0.81	1.37
Fan	Type			Dual suction multi-blade			
	Drive			Belt drive			
	Air flow rate 50/60Hz		m^3/min	83	93	136	226
			cfm	2,930	3,280	4,800	7,980
	Motor speed 50/60Hz		r.p.m	1,420/1,700	1,420/1,700	1,420/1,700	1,420/1,700
	Motor output		kW	1.5	1.5	2.2	3.7
Refrigerant control				—	—	Thermal expansion valve	
Dimensions	H		mm	500	500	640	845
	W		mm	1,330	1,480	1,620	1,975
	D		mm	850	850	800	800
Weight			kg	125	135	260	310
Condensing unit				**RU10J**	**RU11J**	**RU16J(RU16JA)**	**RU22J(RU22JA)**
Casing/color				Paintable galvanized steel plate/Ivory white			
Compressor	Type			Hermetically sealed reciprocating type			
	Model×No.			3T55RG×1	3T55VG×1	3T55NF×2	3T55VF×2
	No.of cylinders			3	3	3×2	3×2
	Speed 50/60Hz		r.p.m	2,900/3,450	2,900/3,450	2,900/—(2,900/3,450)	2,900/—(2,900/3,450)
Refrigerant oil	Model			SUNISO 3GSD			
	Charge		ℓ	3.2	3.2	2.7×2	2.7×2
Coil	Type			Cross fin coil (Waffle louver fins and Hi-X tubes)			
	Rows×stages			2×32	2×40	2×24(2×38)	2×30(2×42)
	Fin pitch		mm	2.0	2.0	2.0	2.0
	Face area		m^2	2.012	2.515	1.11(2.135)×2	1.50(2.673)×2
Refrigerant control				Capillary tube		—	—
Fan	Type			Propeller			
	Drive			Direct drive			
	Air flow rate 50/60Hz		m^3/min	180/198	190/210	370/—(260/300)	550/—(380/420)
			cfm	6,350/6,990	6,710/7,410	13,060/—(9,180/10,600)	19,420/—(13,400/14,800)
	Motor output Y1 Model		kW	0.21	0.21	1.0×2	1.5×2
	VH,TH model		kW	0.28	0.28	(0.19×2)	(0.28×2)
Safety devices				High pressure switch, low pressure switch, crankcase heater, fuse, overcurrent relays for compressor and evaporator fan motor (and condenser fan motor in case of RU16JY1, 22JY1), thermal protector for compressor and condenser fan motor (RU10J·11J and RU16JA,22JA), recycling gurad timer (RU16J(A), 22J(A) only)			
Dimensions	H		mm	1,075	1,275	813(1,200)	945(1,310)
	W		mm	980	980	1,800(2,000)	1,900(2,500)
	D		mm	980	980	850(960)	960(1,060)
Weight			kg	205	245	350(370)	440(460)

Notes:

*1. Nominal cooling capacities are based on the following conditions:
Return air temperature: 27°CDB (80°FDB), 19.5°CWB (67°FWB)
Outdoor temperature: 35°CDB (95°FDB)
Equivalent ref. piping: 5 m (Horizontal)
Capacities are gross capacities which do not include a deduction for evaporator fan motor heat.

2. In the specifications RU16·22, the figures inside ( ) show the case of RU16JAYH·TH, RU22JAYH·TH and those outside ( ) show the case of RU16JY1, RU22JY1. (The others are the same either for JY1 or for JA models.)

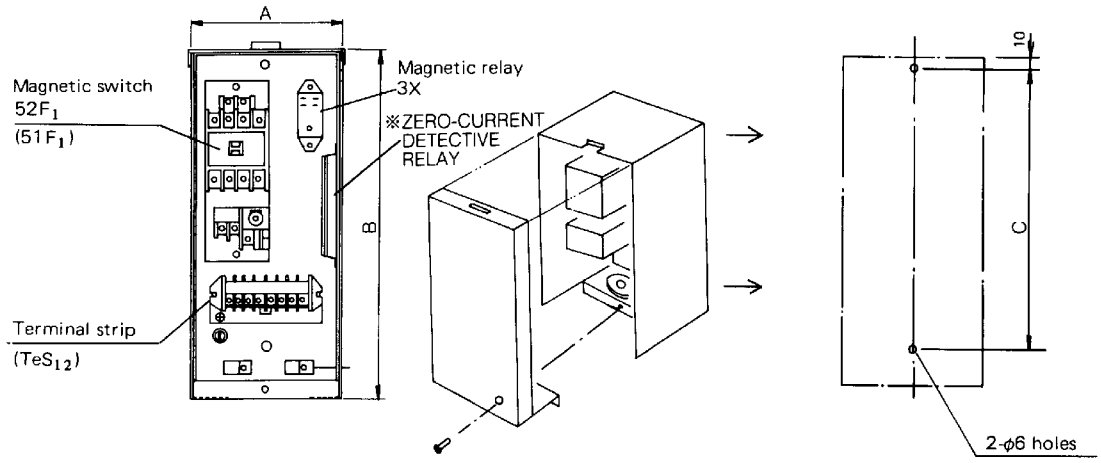
■ Power supply

SYMBOL	Power supply	Condensing unit	Fan coil unit	Connectable units as different variation combinations
VHL	1 ϕ, 200/220V, 50/60Hz	R71BBVHL	FD03MVHL	—
		R100BBVHL	FD04MVHL	—
V1	1 ϕ, 220~240V, 50Hz	R71BBV1	FD03MV1	—
		R100BBV1	FD04MV1	FD03MV1
Y1	3 ϕ, 380~415V, 50Hz (4 wires)	R71BBY1	FD03MY1	(FD03MV1) ☆
		R100BBY1	FD04MY1	(FD04MV1) ☆, FD03MY1, (FD03MV1) ☆
		RU05JY1	FD05JY1	FD07JY1
		RU07JY1	FD07JY1	FD05JY1, FD08JY1
		RU08JY1	FD08JY1	FD07JY1, FD10JY1
		RU10JY1	FD10JY1	FD08JY1, FD11JY1
		RU11JY1	FD11JY1	FD10JY1
		RU16JY1	FD16JY1	—
		RU22JY1	FD22JY1	—
YH	3 ϕ, 346~380/380~400V, 50/60Hz (3 wires)	RU05JYH	FD05JYH	FD07JYH
		RU07JYH	FD07JYH	FD05JYH, FD08JYH
		RU08JYH	FD08JYH	FD07JYH, FD10JYH
		RU10JYH	FD10JYH	FD08JYH, FD11JYH
		RU11JYH	FD11JYH	FD10JYH
		RU16JAYH	FD16JYH	—
		RU22JAYH	FD22JYH	—
TH	3 ϕ, 220/220~240V, 50/60Hz (3 wires)	RU05JTH	FD05JTH	FD07JTH
		RU07JTH	FD07JTH	FD05JTH, FD08JTH
		RU08JTH	FD08JTH	FD07JTH, FD10JTH
		RU10JTH	FD10JTH	FD08JTH, FD11JTH
		RU11JTH	FD11JTH	FD10JTH
		RU16JATH	FD16JTH	—
		RU22JATH	FD22JTH	—

Note ☆ Y1 outdoor unit can connect with V1 indoor unit.

3. Standard accessories ... Switch box

The magnetic switch box for evaporator fan motor is encased in the casing of FD unit as a standard accessory. Take it out of the casing before installation and attach it anywhere it is convenient for maintenance.



Mounting dimensions

	A	B	C
FD03M·04M	120	250	205
FD05J~22J	100	230	185

※:FD03M·04M only

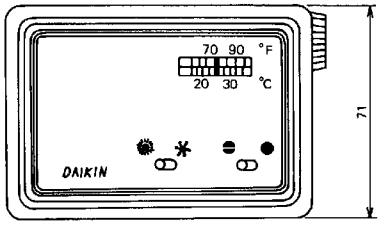
4. Optional accessories

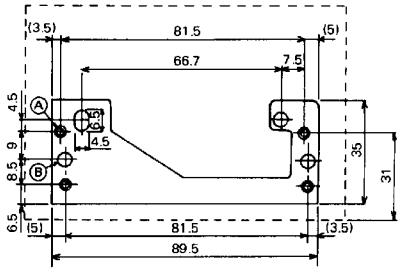
(These options should be attached in DAIKIN factory. Field modifications are not available.)

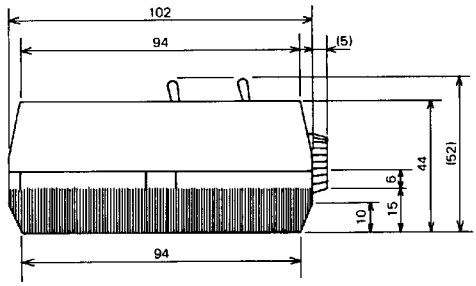
1. **Anti-corrosion treatment for outdoor units** ※
   - E [Standard anti-corrosion model]
   - E2 [Stronger anti-corrosion model]
2. **Low ambient temp. operation for outdoor units**
   - down to 5°C
   - down to 0°C
3. **Fan motor pulley change [Evaporator fan]** ☆
4. **Fan motor 1 size larger [Evaporator fan]** ☆
5. **Remote controller ... KRC17-2B**

(Unit: mm)

KRC17-2B







Ⓐ Screw hole for remote controller (2-M4)
Ⓑ Screw hole for wall mounting (φ4.4)

Note: The screws for remote controller and terminal for connecting wires (11 pcs) are attached.

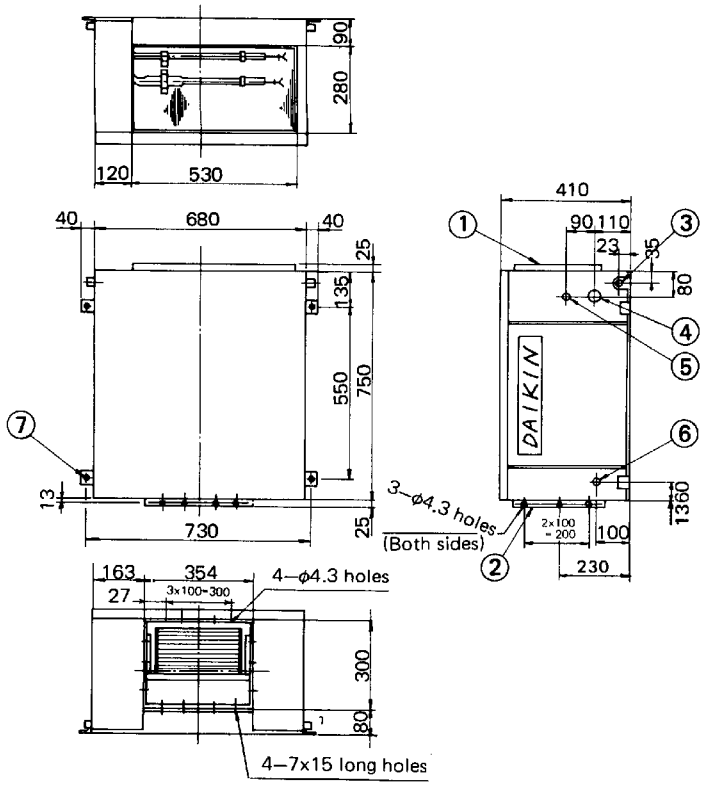
Note: Item 1 & 2 is available for Y1 models only.
Item 3 & 4 & 5 is available for all indoor models.
※ For the detail specification of "Anti-corrosion treatment" , refer to Appendix-1 (Last chapter of this catalog).
☆ In case ordering these modifications, inform "Air flow rate (m^3/min)" & "External static pressure (mmH_2O)".

5. Dimensions

(Fan coil units)

(Unit: mm)

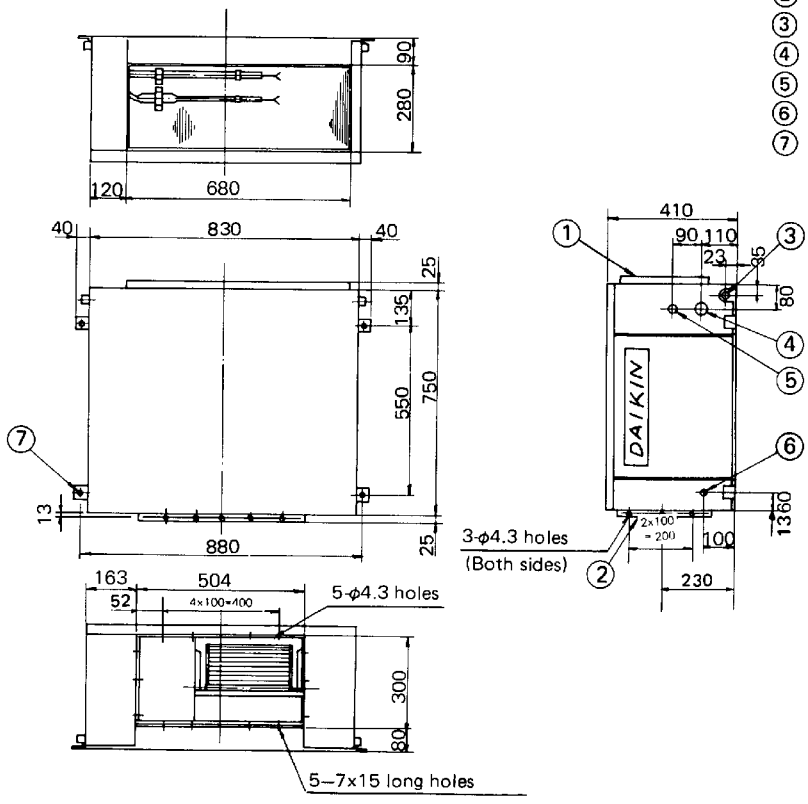
FD03M



①	Evaporator air inlet conn.	(for return duct)
②	Evaporator air outlet conn.	(for supply duct)
③	Drain conn. (both sides)	FPS 3/4B
④	Gas pipe conn.	φ15.9 Brazing
⑤	Liquid pipe conn.	φ9.5 Brazing
⑥	Power supply intake	φ15 hole
⑦	Set plate	φ15 hole

(Unit: mm)

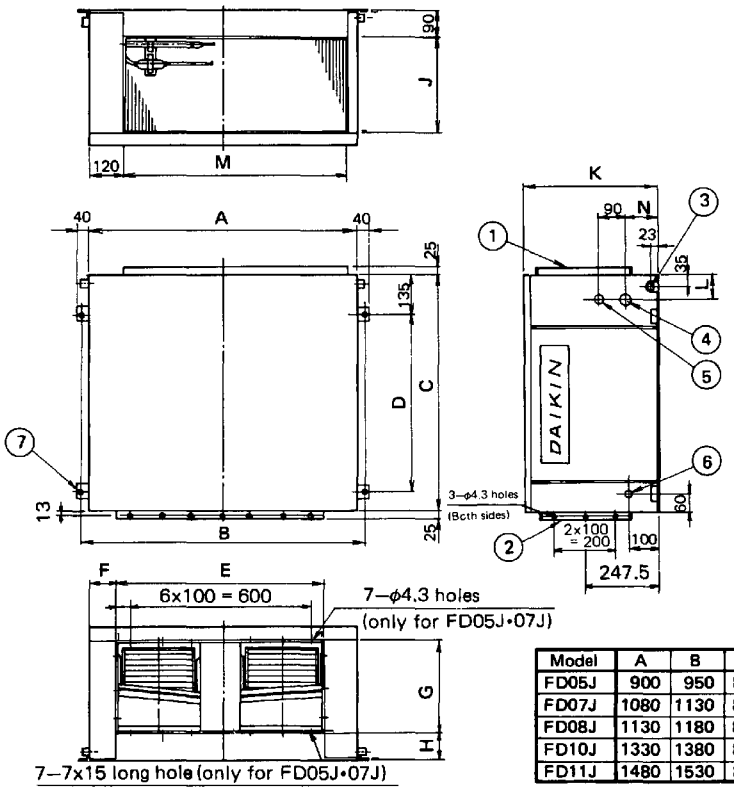
FD04M



①	Evaporator air inlet conn.	(for return duct)
②	Evaporator air outlet conn.	(for supply duct)
③	Drain conn. (both sides)	FPS 3/4B
④	Gas pipe conn.	φ19.1 Brazing
⑤	Liquid pipe conn.	φ9.5 Brazing
⑥	Power supply intake	φ15 hole
⑦	Set plate	φ15 hole

(Unit: mm)

FD05J~11J

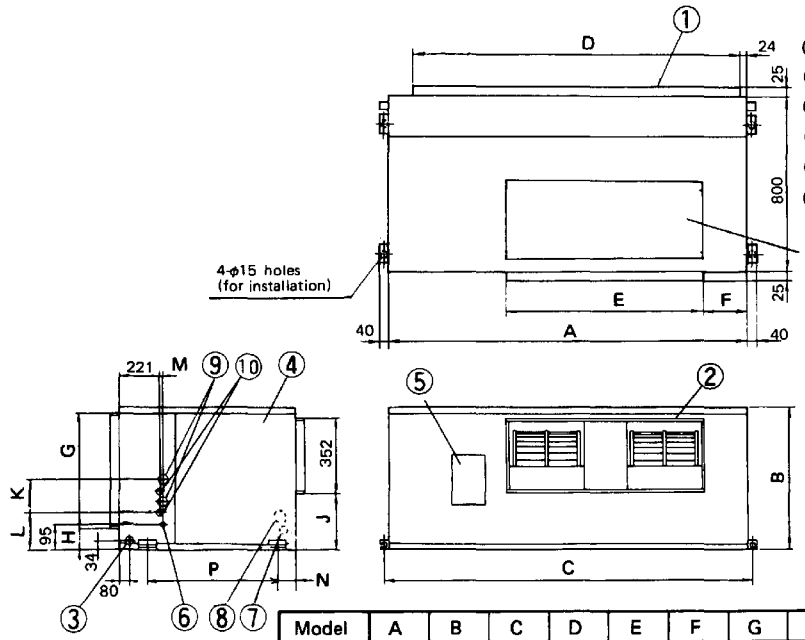


① Evaporator air inlet conn. (for return duct)
② Evaporator air outlet conn. (for supply duct)
③ Drain conn. (both sides) FPS 3/4B
④ Gas pipe conn. φ19.1 Brazing (FD05J, 07J)
φ25.4 Brazing (FD08J)
φ31.8 Brazing (FD10J, 11J)
⑤ Liquid pipe conn. φ12.7 Brazing (FD05J, 07J)
φ15.9 Brazing (FD08J, 10J, 11J)
⑥ Power supply intake φ15 hole
⑦ Set plate φ15 hole

Model	A	B	C	D	E	F	G	H	J	K	L	M	N
FD05J	900	950	800	600	695	90	315	90	320	450	80	750	110
FD07J	1080	1130	800	600	695	180	315	90	320	450	80	930	110
FD08J	1130	1180	850	650	870	115	350	100	370	500	46	980	130
FD10J	1330	1380	850	650	870	215	350	100	370	500	46	1180	130
FD11J	1480	1530	850	650	870	290	350	100	370	500	46	1330	130

(Unit: mm)

FD16J·22J



① Evaporator air inlet conn. (for return duct)
② Evaporator air outlet conn. (for supply duct)
③ Drain conn. FPS 1B (both sides)
④ Service panel for joint box, expansion valve, fan motor pulley and fan
⑤ Service panel for fan motor pulley (only for FD22J).
⑥ Power supply intake φ15 hole
⑦ Grounding terminal M6 bolt
⑧ Joint box
⑨ Gas pipe conn. φ25.4 (φ31.8) DCuT Brazing
⑩ Liquid pipe conn. φ15.9 (φ15.9) DCuT Brazing
⑪ Set plate φ15 hole

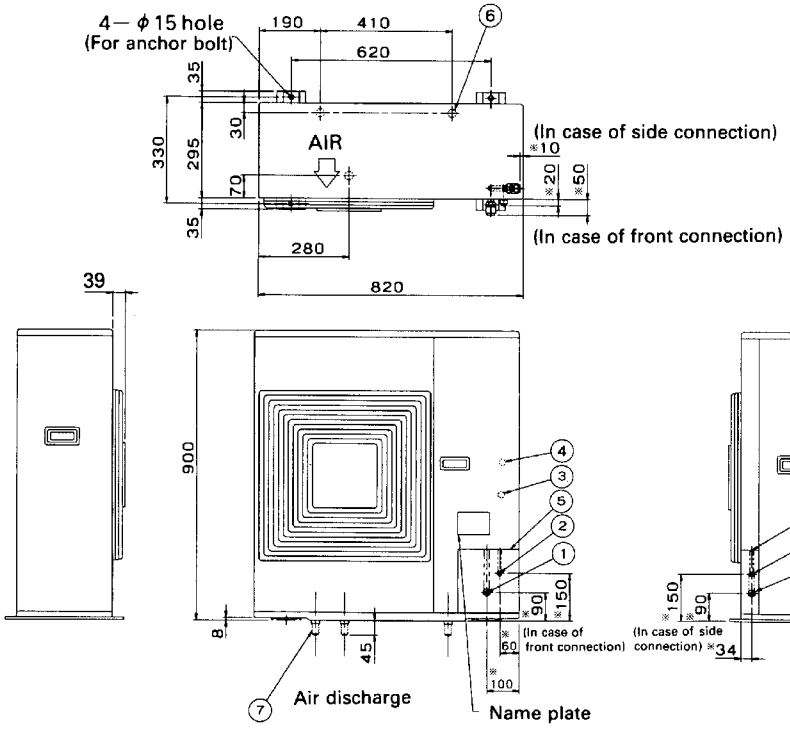
Note: Figures in ( ) show the dimension of FD22J.

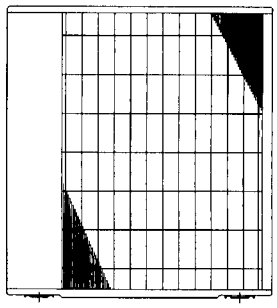
Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P
FD16J	1620	640	1650	1450	902	194	532	90	247	3x50=150	166	5	101	538
FD22J	1975	845	2005	1830	1042	298	744	90	451	3x60=180	216	8	81	558

(Condensing units)

(Unit: mm)

R71BB





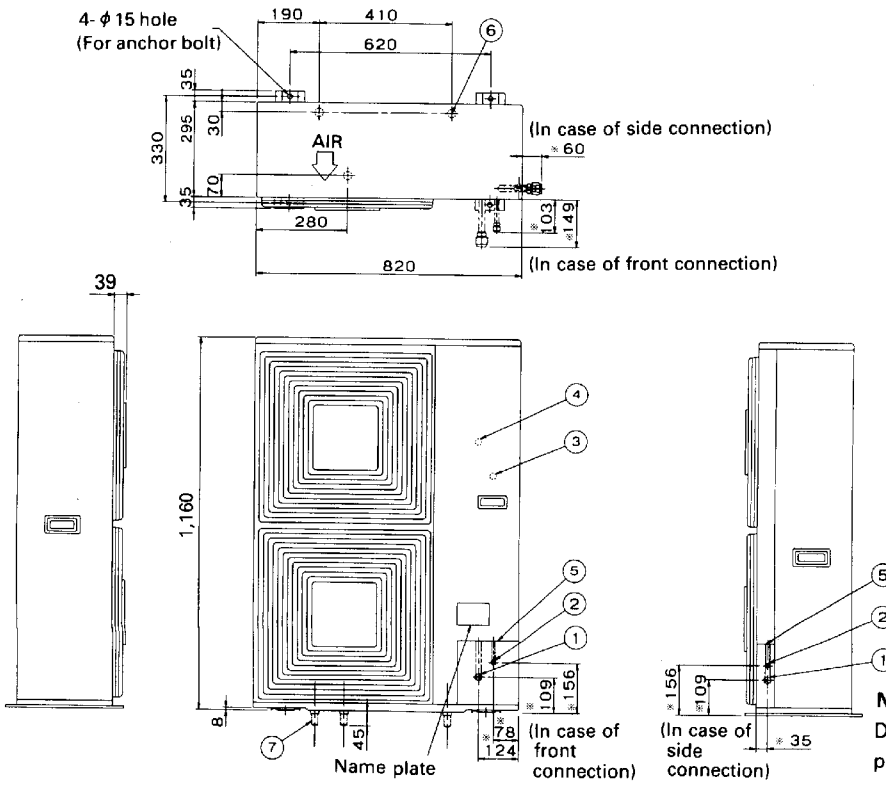
Air suction

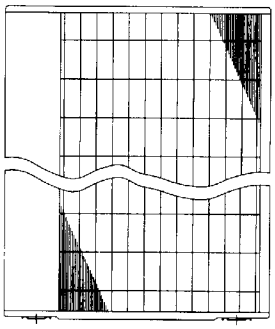
① Gas pipe connection φ 15.9 Flare
② Liquid pipe connection φ 9.5 Flare
③ Service port (in the unit)
④ Grounding terminal M5 (in switch box)
⑤ Power, control wiring intake
⑥ Drain pipe connection (3 holes)
⑦ Drain plug (option)

Notes;
Dimensions ※ means the case of mounting the piping kit equipped with the unit.

(Unit: mm)

R100BB





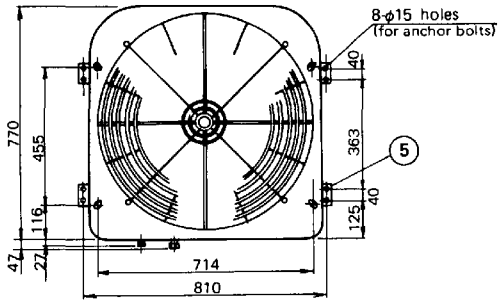
Air suction

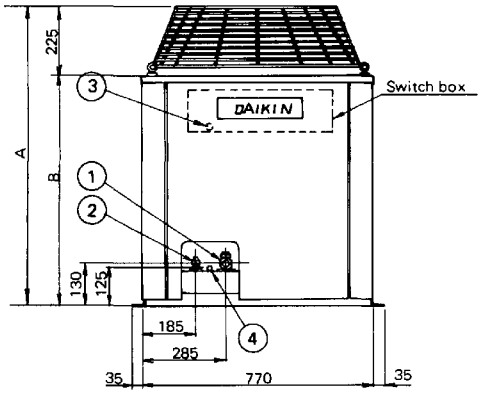
① Gas pipe connection φ 19.1 Flare
② Liquid pipe connection φ 9.5 Flare
③ Service port (in the unit)
④ Grounding terminal M5 (in switch box)
⑤ Power, control wiring intake
⑥ Drain pipe connection (3 holes)
⑦ Drain plug (option)

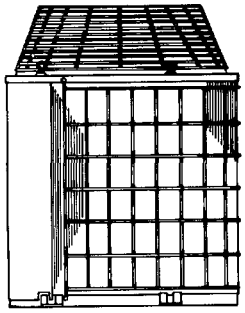
Notes;
Dimensions ※ means the case of mounting the piping kit equipped with the unit.

(Unit: mm)

RU05J·07J







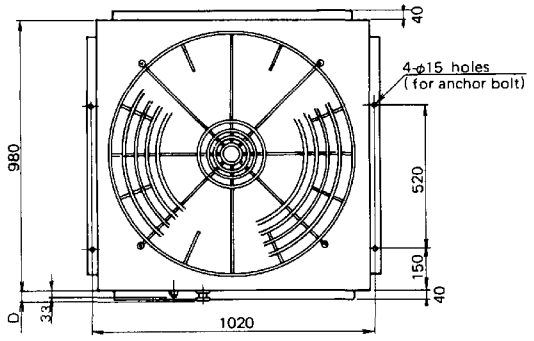
① Gas pipe conn. φ19.1 Flare
② Liquid pipe conn. φ12.7 Flare
③ Grounding terminal M6
④ Wire intake
⑤ Anchor bolt set plates
(Use one of the two holes
of each four set plates)

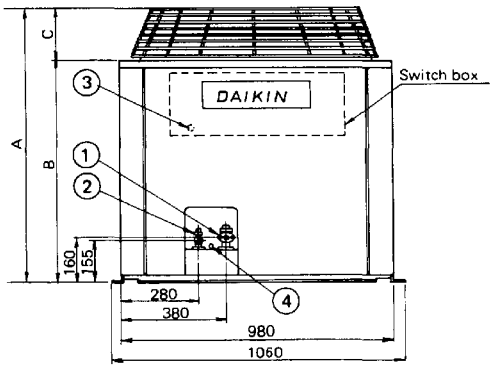
Note: Grounding terminal (M6 bolt) is encased in the switch box.

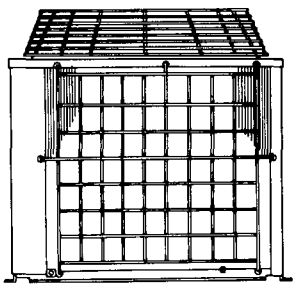
Model	A	B
RU05J	995	770
RU07J	1150	925

(Unit: mm)

RU08J~11J





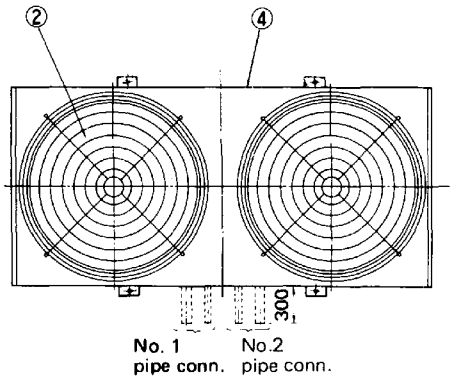


① Gas pipe conn. φ25.4 (RU08J) Brazing
φ31.8 (RU10J, 11J) Brazing
② Liquid pipe conn. φ15.9 Flare
③ Ground terminals M6
④ Wire intake

Note: Grounding terminal (M6 bolt) is encased in the switch box.

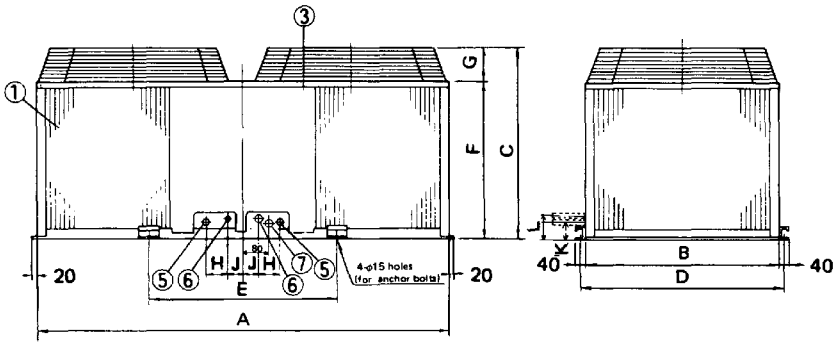
Model	A	B	C	D
RU08J	1010	830	180	22
RU10J	1075	890	185	70
RU11J	1275	1090	185	70

RU16J(A)·22J(A)



① Condenser air inlet
② Condenser air outlet
③ Service panel for switch box
④ Service panel for compressor
⑤ Gas pipe conn. ϕ25.4 (ϕ31.8) Brazing
⑥ Liquid pipe conn. ϕ15.9 (ϕ15.9) Brazing
⑦ Power supply and control wire intake

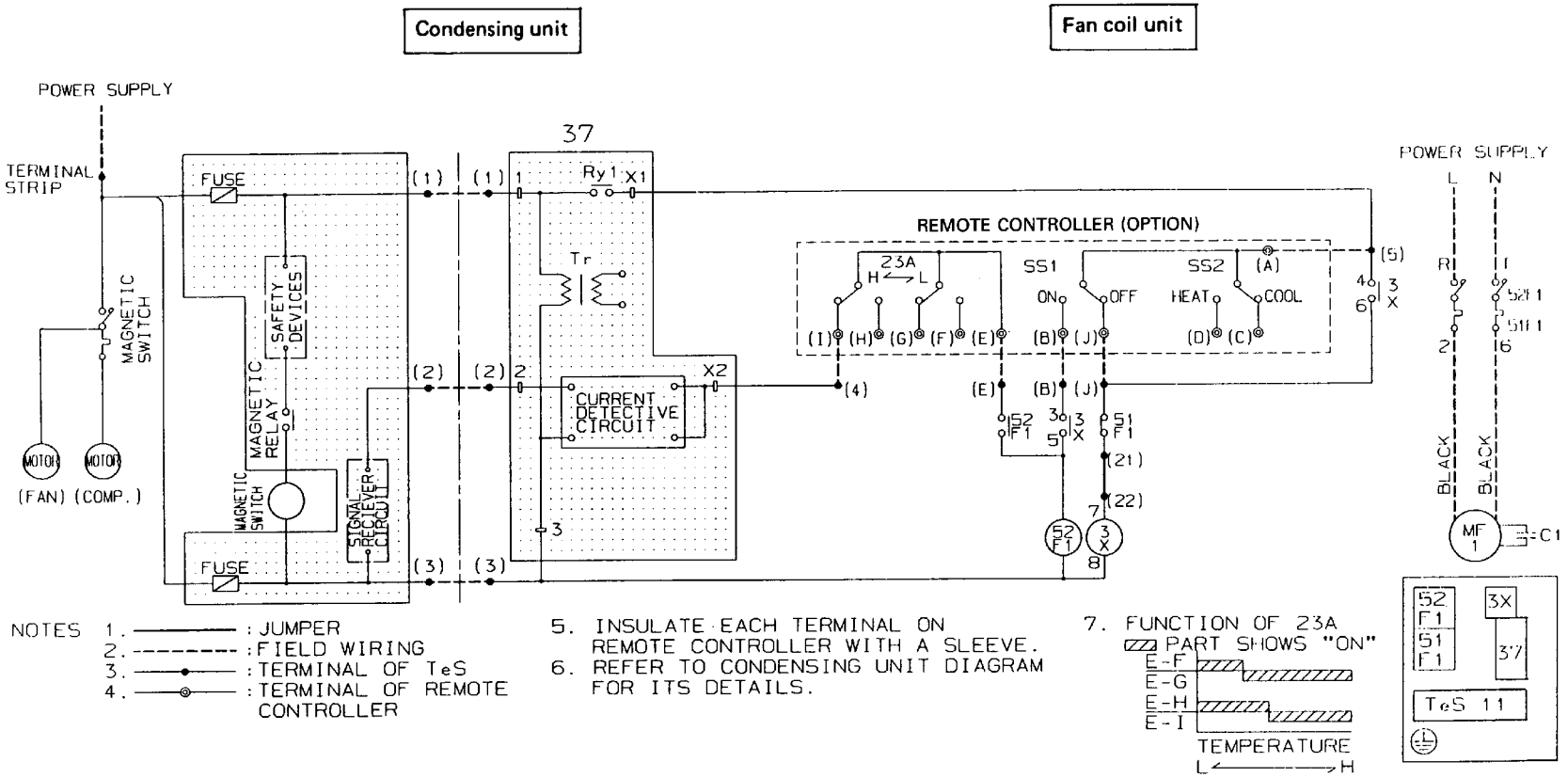
Notes: 1. Figures in ( ) show the dimension of RU22J(A).
2. Grounding terminal (M6 bolt) is encased in the switch box.



Model	A	B	C	D	E	F	G	H	J	K	L
RU16JY1	1800	850	813	900	825	668	145	70	50	65	75
RU22JY1	1900	960	945	1010	825	820	125	27	55	160	80
RU16JA	2000	960	1200	1010	825	1020	180	70	50	65	75
RU22JA	2500	1060	1310	1110	1025	1125	185	25	55	160	80

FD03MV1, VHL+R71BBV1, VHL
FD03MV1, VHL+R100BBV1, VHL
FD04MV1, VHL+R100BBV1, VHL

Model	Power supply
V1	220, 230, 240V 50Hz
VH	200~220/220V 50/60Hz



NOTES
1. ——— : JUMPER
2. - - - - - : FIELD WIRING
3. —•— : TERMINAL OF TeS
4. —◎— : TERMINAL OF REMOTE CONTROLLER

5. INSULATE EACH TERMINAL ON REMOTE CONTROLLER WITH A SLEEVE.
6. REFER TO CONDENSING UNIT DIAGRAM FOR ITS DETAILS.
7. FUNCTION OF 23A
▨ PART SHOWS "ON"

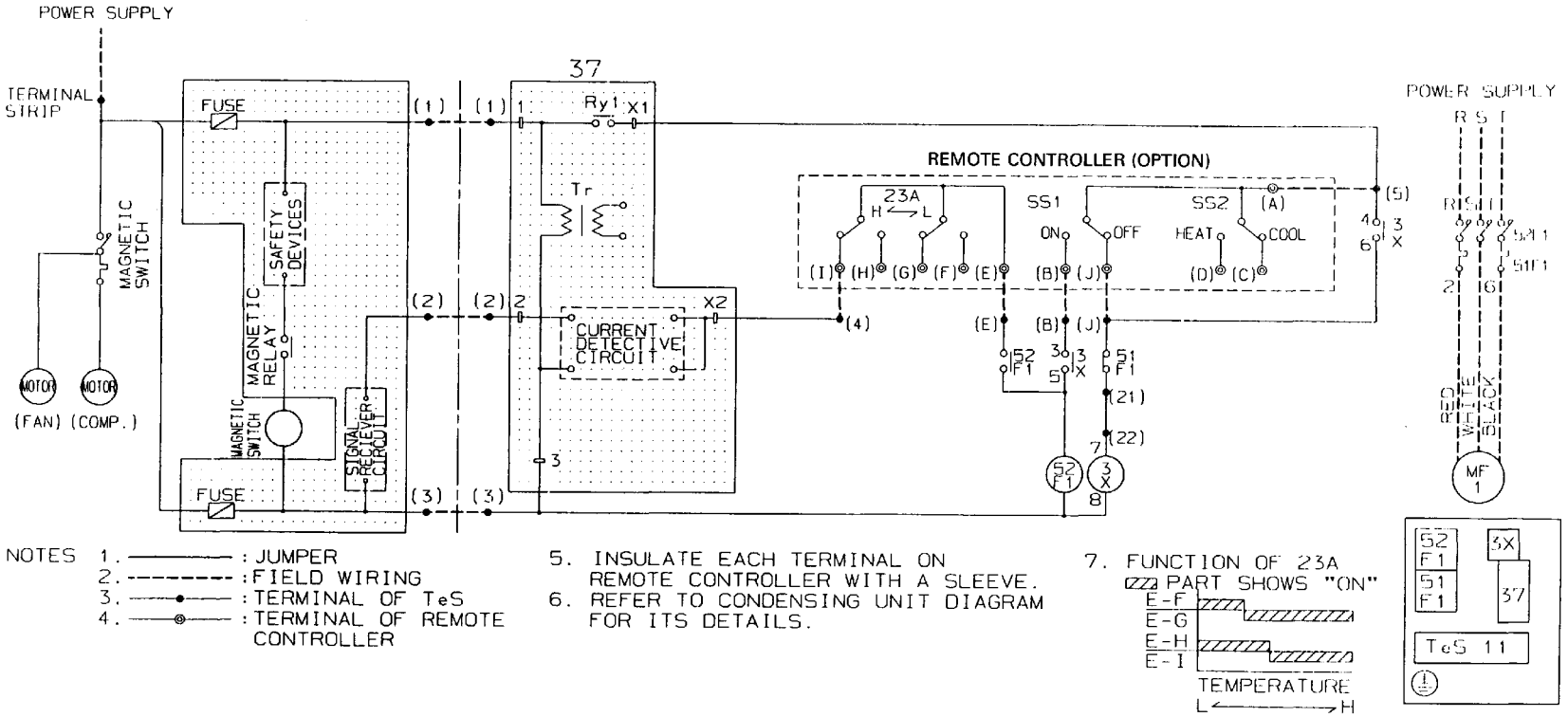
1-RED	2-WHITE	3-BLACK	4-YELLOW	5-ORANGE	21-BLUE	22-PINK	B-BLACK	E-GRAY	J-WHITE
37	ZERO-CURRENT DETECTIVE RELAY			Tr	TRANSFORMER			REMOTE CONTROLLER (OPTION)	
3X	MAGNETIC RELAY							23A	THERMOSTAT
51F1	OVERCURRENT RELAY (MF1)							SS1	SELECTOR SWITCH (ON-OFF)
52F1	MAGNETIC SWITCH (MF1)							SS2	SELECTOR SWITCH (COOL-HEAT)
C1	CAPACITOR (MF1 RUN)								
MF1	MOTOR (COMPRESSOR)								
Ry1	MAGNETIC RELAY								

DU527—509

Model	Power supply
Y1	380, 400, 415V 50Hz

Condensing unit

Fan coil unit

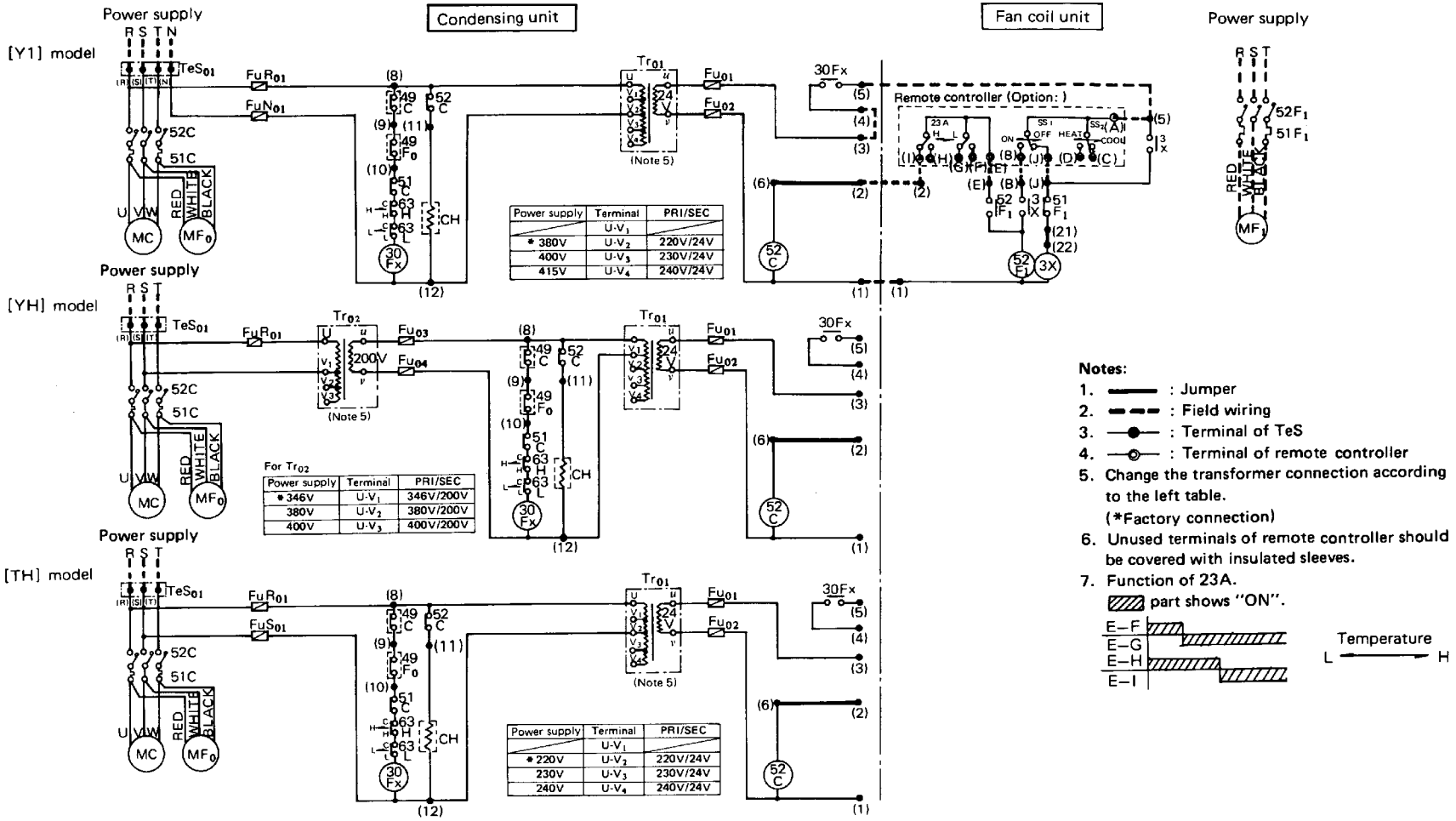


NOTES
1. ——— : JUMPER
2. - - - - - : FIELD WIRING
3. ——•—— : TERMINAL OF TeS
4. ——◎—— : TERMINAL OF REMOTE CONTROLLER

5. INSULATE EACH TERMINAL ON REMOTE CONTROLLER WITH A SLEEVE.
6. REFER TO CONDENSING UNIT DIAGRAM FOR ITS DETAILS.
7. FUNCTION OF 23A
▨ PART SHOWS "ON"

1-RED	2-WHITE	3-BLACK	4-YELLOW	5-ORANGE	21-BLUE	22-PINK	B-BLACK	E-GRAY	J-WHITE		
37	ZERO-CURRENT DETECTIVE RELAY							REMOTE CONTROLLER (OPTION)			
3X	MAGNETIC RELAY							23A	THERMOSTAT		
51F1	OVERCURRENT RELAY		(MF1)					SS1	SELECTOR SWITCH		(ON OFF)
52F1	MAGNETIC SWITCH		(MF1)					SS2	SELECTOR SWITCH		(COOL-HEAT)
MF1	MOTOR		(COMPRESSOR)								
Ry1	MAGNETIC RELAY										
Tr	TRANSFORMER										

Model	Power supply	
Y1	380, 400, 415V	50Hz
YH	346, 380/380, 400V	50/60Hz
TH	220/220, 230, 240V	50/60Hz



Notes:

1. ——— : Jumper
2. - - - : Field wiring
3. —●— : Terminal of TeS
4. —◎— : Terminal of remote controller
5. Change the transformer connection according to the left table. (*Factory connection)
6. Unused terminals of remote controller should be covered with insulated sleeves.
7. Function of 23A.
   ▨ part shows "ON".

Symbols:

3X	: Magnetic relay			MC	: Motor (Compressor)
30Fx	: Magnetic relay	63H	: High pressure switch	MF_0	: Motor (Condenser fan)
$49F_0$	: Fan motor thermal protector	63L	: Low pressure switch	MF_1	: Motor (Evaporator fan)
49C	: Comp. thermal protector	CH	: Crankcase heater	TeS_0	: Terminal strip
51C	: Overcurrent relay (MC)	$Fu_{01,02}$	: Fuse (250V 10A)	Tr_{01}	: Transformer (50VA)
$51F_1$	: Magnetic switch (MF_1)	$Fu_{03,04}$	: Fuse (250V 5A)	Tr_{02}	: Transformer (75VA)
52C	: Magnetic switch (MC)	$FuR_{01}N_{01}$	: Fuse (600V 5A)		
$52F_1$	: Magnetic switch (MF_1)	$FuR_{01}S_{01}$	: Fuse (600V 5A)		

Remote controller (Option)

23A	: Thermostat
SS_1	: Selector switch (ON-OFF)
SS_2	: Selector switch (COOL-HEAT)

DU531–502A

FD16·22J + RU16J(A)·22J(A)

Power supply

Condensing unit

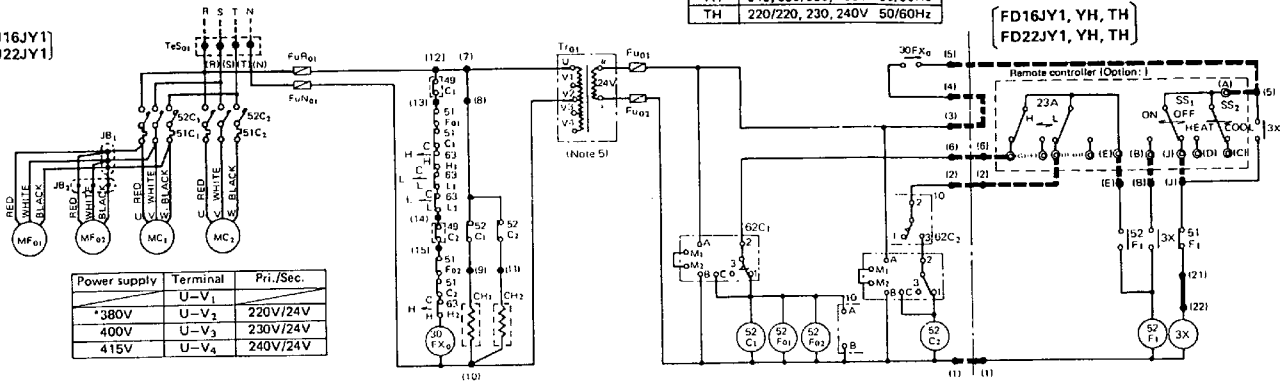
Model	Power supply
Y1	380, 400, 415V 50Hz
YH	346, 380/380, 400V 50/60Hz
TH	220/220, 230, 240V 50/60Hz

Fan coil unit

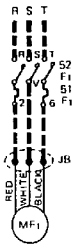
FD16JY1, YH, TH
FD22JY1, YH, TH

Power supply

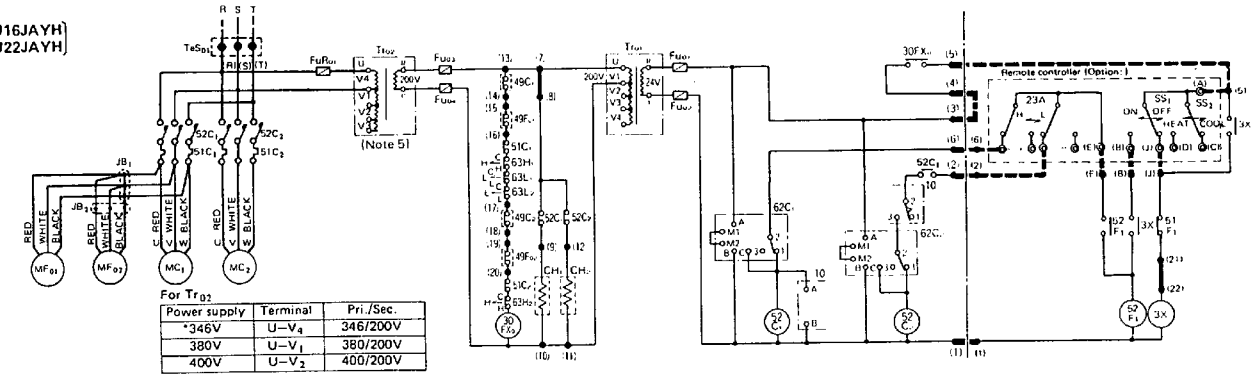
RU16JY1 RU22JY1



Power supply	Terminal	Pri./Sec.
	U–V1	
*380V	U–V2	220V/24V
400V	U–V3	230V/24V
415V	U–V4	240V/24V



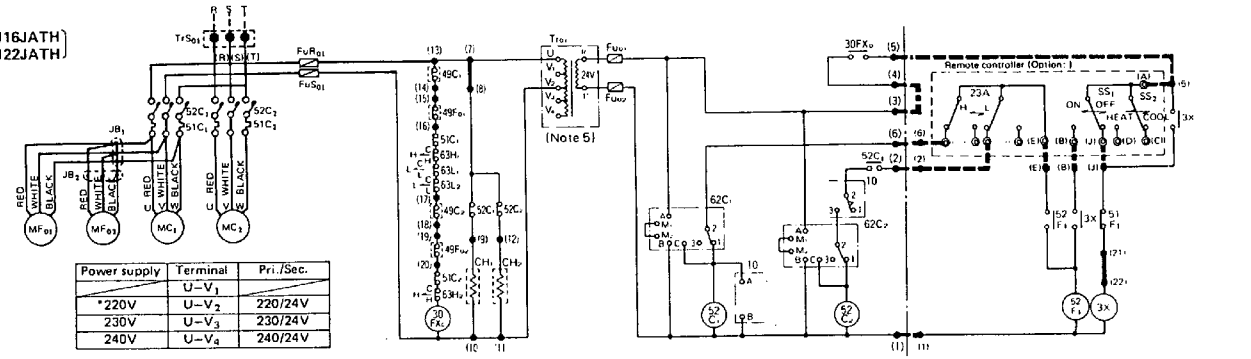
RU16JAYH RU22JAYH



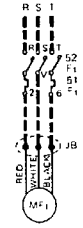
For Tr_{02}

Power supply	Terminal	Pri./Sec.
*346V	U–V4	346/200V
380V	U–V1	380/200V
400V	U–V2	400/200V

RU16JATH RU22JATH



Power supply	Terminal	Pri./Sec.
	U–V1	
*220V	U–V2	220/24V
230V	U–V3	230/24V
240V	U–V4	240/24V



Symbols:

3X	Magnetic relay
10	Timer (5 sec.)
$30FX_0$	Magnetic relay
49C	Thermal protector (MC)
$49F_0$	Thermal protector ($MF_{01,02}$)
$51C_{1,2}$	Overcurrent relay ($MC_{1,2}$)
$51F_0$	Overcurrent relay ($MF_{01,02}$)
$51F_1$	Overcurrent relay (MF_1)
52C	Magnetic switch (MC)
$52F_0$	Magnetic switch ($MF_{01,02}$)
$52F_1$	Magnetic switch (MF_1)
62C	Timer (10 min.)
63H	High press. switch
63L	Low press. switch
CH	Crankcase heater
$Fu_{01,02}$	Fuse (Y1-250V 10A, TH-250V 15A)
$Fu_{03,04}$	Fuse (250V 5A)
FuR_{01},FuS_{01},FuN_{01}	Fuse (600V 5A)
$JB_{1,2}$	Joint box
$MC_{1,2}$	Motor (Compressor)
MF_0	Motor (Condenser fan)
MF_1	Motor (Evaporator fan)
TeS_0	Terminal strip
Tr_{01}	Transformer (150VA)
Tr_{02}	Transformer (300VA)

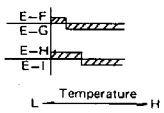
Remote controller (Option)

23A	Thermostat
SS_1	Selector switch (ON-OFF)
SS_2	Selector switch (COOL–HEAT)

Notes:

1. ▬▬ : Jumper
2. ▪▪▪ : Field wiring
3. —●— : Terminal of TeS
4. —Ⓑ— : Terminal of remote controller
5. Change the transformer connection as table. (* Factory connection)
6. Unused terminals of remote controller should be covered with insulated sleeve.
7. Funciton of 23A.

▨ Part shows "ON".

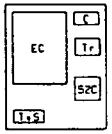


OU535–504
OU535–506

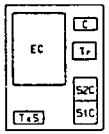
● Switch box

[R71BB]

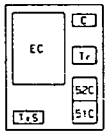
[V1 model]
Switch box



[VH model]
Switch box

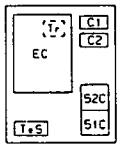


[Y1 model]
Switch box

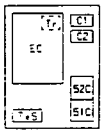


[R100BB]

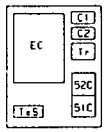
[V1 model]
Switch box



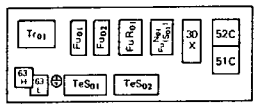
[VH model]
Switch box



[Y1 model]
Switch box

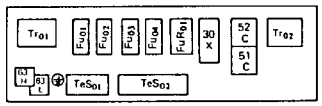


RU05J~11J
[Y1, TH]

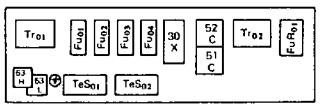


( ) shows the case of TH models.

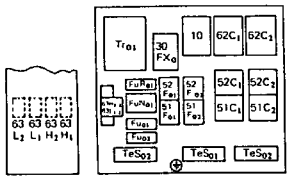
RU05J·07J
[YH]



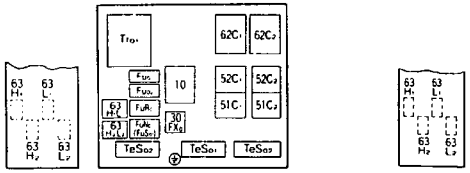
RU08J~11J
[YH]



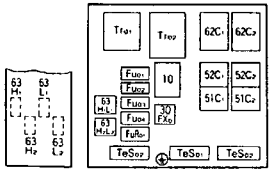
RU16J·22J
[Y1]



RU16JA·22JA
[TH]



RU16JA·22JA
[YH]



7. Capacity tables

[50Hz]

[FD03MV1·Y1+R71BBV1·Y1]

Indoor AFR (BF)	Indoor EWB (°C)	Indoor EDB (°C)	Outdoor temperature (°CDB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI
23 (0.07)	16.0	23	6.2	5.0	2.3	6.0	4.9	2.5	5.7	4.8	2.8	5.5	4.7	3.0	5.1	4.5	3.4
	18.0	25	6.6	5.1	2.4	6.4	5.0	2.6	6.1	4.9	2.8	5.8	4.8	3.1	5.4	4.6	3.4
	19.5	27	6.9	5.2	2.4	6.6	5.1	2.6	6.4	5.0	2.9	6.1	4.8	3.2	5.7	4.7	3.5
	22.0	30	7.4	5.3	2.5	7.1	5.2	2.7	6.8	5.1	3.0	6.5	5.0	3.2	6.1	4.8	3.6
	24.0	32	7.8	5.3	2.5	7.5	5.3	2.8	7.2	5.2	3.0	6.9	5.0	3.3	6.5	4.9	3.7
27 (0.07)	16.0	23	6.3	5.4	2.3	6.1	5.3	2.6	5.8	5.2	2.8	5.6	5.1	3.1	5.2	4.9	3.4
	18.0	25	6.7	5.5	2.4	6.5	5.5	2.6	6.2	5.3	2.9	5.9	5.2	3.1	5.6	5.1	3.5
	19.5	27	7.0	5.6	2.4	6.8	5.5	2.7	6.5	5.4	2.9	6.2	5.3	3.2	5.8	5.2	3.5
	22.0	30	7.5	5.8	2.5	7.3	5.7	2.7	7.0	5.6	3.0	6.7	5.5	3.3	6.3	5.3	3.6
	24.0	32	8.0	5.9	2.5	7.7	5.8	2.8	7.4	5.7	3.1	7.1	5.6	3.3	6.8	5.4	3.7
31 (0.08)	16.0	23	6.4	5.8	2.3	6.2	5.7	2.6	5.9	5.6	2.8	5.7	5.5	3.1	5.3	5.3	3.4
	18.0	25	6.8	6.0	2.4	6.6	5.9	2.6	6.3	5.8	2.9	6.0	5.7	3.1	5.6	5.5	3.5
	19.5	27	7.1	6.1	2.4	6.9	6.0	2.7	6.6	5.9	2.9	6.3	5.8	3.2	5.9	5.6	3.5
	22.0	30	7.6	6.2	2.5	7.4	6.2	2.7	7.1	6.1	3.0	6.8	6.0	3.3	6.3	5.8	3.6
	24.0	32	8.1	6.4	2.5	7.8	6.3	2.8	7.5	6.2	3.1	7.1	6.1	3.4	6.7	5.9	3.7

[FD03MVHL+R71BBVHL]

Indoor AFR (BF)	Indoor EWB (°C)	Indoor EDB (°C)	Outdoor temperature (°CDB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI	50 TC	50 SHC	50 PI	52 TC	52 SHC	52 PI
23 (0.05)	16.0	23	6.3	5.0	2.1	6.1	4.9	2.3	5.8	4.8	2.6	5.6	4.7	2.8	5.2	4.6	3.1	5.1	4.5	3.3	4.9	4.5	3.4	4.8	4.4	3.5
	18.0	25	6.7	5.2	2.2	6.5	5.1	2.4	6.2	5.0	2.6	5.9	4.8	2.9	5.5	4.7	3.2	5.4	4.6	3.3	5.3	4.6	3.4	5.1	4.5	3.6
	19.5	27	7.0	5.3	2.2	6.8	5.2	2.4	6.5	5.0	2.7	6.2	4.9	2.9	5.8	4.8	3.3	5.7	4.7	3.4	5.5	4.7	3.5	5.4	4.6	3.6
	22.0	30	7.6	5.4	2.2	7.3	5.3	2.5	7.0	5.2	2.7	6.7	5.1	3.0	6.3	4.9	3.3	6.1	4.9	3.5	6.0	4.8	3.6	5.8	4.8	3.7
	24.0	32	8.0	5.5	2.3	7.8	5.4	2.5	7.4	5.3	2.8	7.1	5.2	3.1	6.7	5.0	3.4	6.5	5.0	3.5	6.3	4.9	3.7	—	—	—
27 (0.05)	16.0	23	6.3	5.4	2.1	6.1	5.3	2.4	5.8	5.2	2.6	5.6	5.1	2.8	5.2	5.0	3.2	5.1	4.9	3.3	4.9	4.9	3.4	4.8	4.8	3.5
	18.0	25	6.7	5.6	2.2	6.5	5.5	2.4	6.2	5.4	2.6	5.9	5.3	2.9	5.5	5.1	3.2	5.4	5.1	3.3	5.3	5.0	3.5	5.1	5.0	3.6
	19.5	27	7.0	5.7	2.2	6.8	5.6	2.4	6.5	5.5	2.7	6.2	5.4	2.9	5.8	5.2	3.3	5.7	5.2	3.4	5.5	5.1	3.5	5.4	5.1	3.6
	22.0	30	7.6	5.8	2.3	7.3	5.7	2.5	7.0	5.6	2.7	6.7	5.5	3.0	6.3	5.4	3.4	6.1	5.3	3.5	6.0	5.3	3.6	5.8	5.2	3.7
	24.0	32	8.0	5.9	2.3	7.8	5.9	2.5	7.4	5.8	2.8	7.1	5.6	3.1	6.7	5.5	3.4	6.5	5.5	3.6	6.3	5.4	3.7	—	—	—
31 (0.07)	16.0	23	6.3	5.8	2.1	6.1	5.7	2.4	5.8	5.6	2.6	5.6	5.5	2.8	5.2	5.2	3.2	5.1	5.1	3.3	4.9	4.9	3.4	4.8	4.8	3.5
	18.0	25	6.7	5.8	2.2	6.4	5.8	2.4	6.2	5.7	2.6	5.9	5.6	2.9	5.5	5.5	3.2	5.4	5.4	3.4	5.3	5.3	3.5	5.1	5.1	3.6
	19.5	27	7.0	6.1	2.2	6.8	6.0	2.4	6.5	5.9	2.7	6.2	5.8	2.9	5.8	5.6	3.3	5.7	5.6	3.4	5.5	5.5	3.5	5.4	5.4	3.7
	22.0	30	7.6	6.2	2.3	7.3	6.1	2.5	7.0	6.0	2.7	6.7	5.9	3.0	6.3	5.8	3.4	6.1	5.8	3.5	6.0	5.7	3.6	5.8	5.7	3.7
	24.0	32	8.0	6.4	2.3	7.7	6.3	2.5	7.4	6.2	2.8	7.1	6.1	3.1	6.6	5.9	3.4	6.5	5.9	3.6	6.3	5.8	3.7	—	—	—

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW) (Comp. + condenser fan motor)

Notes:

1. Rating shown is gross capacity which does not include a deduction for evaporator fan motor heat.
2. ▭ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB. Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

[50Hz]

[FD03MV1·Y1+R100BBV1·Y1]

Indoor			Outdoor temperature (°CDB)														
AFR (BF)	EWB (°C)	EDB (°C)	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
23 (0.07)	16.0	23	7.9	5.8	2.9	7.7	5.6	3.2	7.4	5.5	3.5	7.0	5.3	3.9	6.6	5.1	4.4
	18.0	25	8.4	5.9	3.0	8.2	5.8	3.3	7.8	5.6	3.6	4.5	5.5	3.9	7.1	5.3	4.4
	19.5	27	8.8	6.0	3.0	8.5	5.8	3.3	8.2	5.7	3.6	7.9	5.5	4.0	7.4	5.4	4.5
	22.0	30	9.5	6.1	3.1	9.2	5.9	3.4	8.9	5.8	3.7	8.5	5.7	4.1	8.0	5.5	4.6
	24.0	32	10.2	6.2	3.1	9.8	6.0	3.4	9.4	5.9	3.8	9.0	5.7	4.2	8.5	5.6	4.7
27 (0.10)	16.0	23	8.2	6.2	2.9	7.9	6.0	3.2	7.6	5.9	3.6	7.3	5.8	3.9	6.8	5.6	4.4
	18.0	25	8.7	6.3	3.0	8.4	6.2	3.3	8.1	6.0	3.6	7.8	5.9	4.0	7.3	5.7	4.5
	19.5	27	9.1	6.4	3.0	8.8	6.3	3.3	8.5	6.1	3.7	8.1	6.0	4.0	7.7	5.8	4.5
	22.0	30	9.9	6.5	3.1	9.5	6.4	3.4	9.2	6.3	3.7	8.8	6.1	4.1	8.3	5.9	4.7
	24.0	32	10.5	6.6	3.1	10.1	6.5	3.5	9.7	6.4	3.8	9.3	6.2	4.2	8.8	6.1	4.7
31 (0.12)	16.0	23	8.4	6.6	3.0	8.1	6.4	3.3	7.8	6.3	3.6	7.4	6.1	3.9	7.0	5.9	4.4
	18.0	25	8.9	6.7	3.0	8.6	6.6	3.3	8.3	6.4	3.6	7.9	6.3	4.0	7.5	6.1	4.5
	19.5	27	9.3	6.8	3.0	9.0	6.7	3.3	8.7	6.6	3.7	8.3	6.4	4.1	7.8	6.2	4.6
	22.0	30	10.1	7.0	3.1	9.7	6.8	3.4	9.4	6.7	3.8	9.0	6.6	4.2	8.5	6.4	4.7
	24.0	32	10.7	7.1	3.2	10.3	6.9	3.5	10.0	6.8	3.8	9.6	6.7	4.2	9.0	6.5	4.8

[FD03MVHL+R100BBVHL]

Indoor			Outdoor temperature (°CDB)																								
AFR (BF)	EWB (°C)	EDB (°C)	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
23 (0.08)	16.0	23	7.9	5.8	2.7	7.7	5.6	3.0	7.4	5.5	3.2	7.0	5.3	3.6	6.6	5.1	4.0	6.4	5.0	4.1	6.2	5.0	4.3	6.0	4.9	4.4
	18.0	25	8.5	5.9	2.7	8.2	5.8	3.0	7.9	5.6	3.3	7.5	5.5	3.6	7.0	5.3	4.0	6.8	5.2	4.2	6.7	5.1	4.4	6.5	5.0	4.5
	19.5	27	8.9	6.0	2.7	8.6	5.8	3.0	8.2	5.7	3.3	7.9	5.5	3.7	7.4	5.3	4.1	7.2	5.3	4.2	7.0	5.2	4.4	6.8	5.1	4.6
	22.0	30	9.6	6.1	2.8	9.3	6.0	3.1	8.9	5.8	3.4	8.5	5.7	3.7	8.0	5.5	4.2	7.8	5.4	4.3	7.6	5.3	4.5	7.4	5.2	4.7
	24.0	32	10.2	6.2	2.8	9.8	6.0	3.1	9.5	5.9	3.4	9.0	5.7	3.8	8.5	5.5	4.2	8.3	5.5	4.4	8.1	5.4	4.6	—	—	—
27 (0.10)	16.0	23	8.2	6.2	2.7	7.9	6.0	3.0	7.6	5.9	3.3	7.3	5.8	3.6	6.8	5.5	4.0	6.6	5.5	4.2	6.4	5.4	4.3	6.2	5.3	4.5
	18.0	25	8.7	6.3	2.7	8.4	6.2	3.0	8.1	6.0	3.3	7.7	5.9	3.6	7.2	5.7	4.1	7.1	5.6	4.2	6.9	5.5	4.4	6.7	5.4	4.5
	19.5	27	9.1	6.4	2.8	8.8	6.3	3.0	8.5	6.1	3.4	8.1	6.0	3.7	7.6	5.8	4.1	7.4	5.7	4.3	7.2	5.6	4.4	7.0	5.5	4.6
	22.0	30	9.9	6.5	2.8	9.5	6.4	3.1	9.2	6.3	3.4	8.8	6.1	3.8	8.2	5.9	4.2	8.0	5.9	4.4	7.8	5.8	4.5	7.6	5.7	4.7
	24.0	32	10.5	6.6	2.9	10.1	6.5	3.2	9.7	6.4	3.5	9.3	6.2	3.8	8.7	6.0	4.3	8.5	6.0	4.4	8.3	5.9	4.6	—	—	—
31 (0.11)	16.0	23	8.3	6.6	2.7	8.1	6.4	3.0	7.8	6.3	3.3	7.4	6.1	3.6	6.9	5.9	4.0	6.7	5.8	4.2	6.5	5.8	4.3	6.3	5.7	4.5
	18.0	25	8.9	6.7	2.8	8.6	6.6	3.0	8.3	6.5	3.3	7.9	6.3	3.7	7.4	6.1	4.1	7.2	6.0	4.2	7.0	5.9	4.4	6.8	5.9	4.6
	19.5	27	9.3	6.8	2.8	9.0	6.7	3.1	8.7	6.6	3.4	8.3	6.4	3.7	7.7	6.2	4.1	7.6	6.1	4.3	7.4	6.1	4.5	7.1	6.0	4.6
	22.0	30	10.1	7.0	2.8	9.7	6.9	3.1	9.4	6.7	3.4	8.9	6.6	3.8	8.4	6.4	4.2	8.2	6.3	4.4	8.0	6.2	4.6	7.7	6.2	4.7
	24.0	32	10.7	7.1	2.9	10.3	7.0	3.2	9.9	6.8	3.5	9.5	6.7	3.8	8.9	6.5	4.3	8.7	6.4	4.5	8.5	6.4	4.6	—	—	—

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW) (Comp. + condenser fan motor)

Notes:

1. Rating shown is gross capacity which does not include a deduction for evaporator fan motor heat.
2. ▒▒▒ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB. Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

[50Hz]

[FD04MV1·Y1+R100BBV1·Y1]

Indoor			Outdoor temperature (°CDB)															
AFR (BF)	EWB (°C)	EDB (°C)	25			30			35			40			46			
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
31 (0.07)	16.0	23	9.0	7.0	3.1	8.7	6.8	3.4	8.3	6.7	3.7	7.9	6.5	4.1	7.4	6.2	4.6	
	18.0	25	9.6	7.1	3.1	9.3	7.0	3.5	8.9	6.8	3.8	8.5	6.6	4.2	7.9	6.4	4.7	
	19.5	27	10.1	7.2	3.2	9.7	7.1	3.5	9.3	6.9	3.9	8.9	6.8	4.3	8.3	6.5	4.8	
	22.0	30	10.9	7.4	3.3	10.5	7.3	3.6	10.1	7.1	4.0	9.6	6.9	4.4	9.0	6.7	4.9	
	24.0	32	11.6	7.5	3.3	11.2	7.4	3.7	10.7	7.2	4.0	10.2	7.0	4.4	9.6	6.8	5.0	
36 (0.07)	16.0	23	9.2	7.5	3.1	8.9	7.4	3.4	8.5	7.2	3.8	8.1	7.0	4.1	7.6	6.8	4.7	
	18.0	25	9.8	7.7	3.2	9.5	7.5	3.5	9.1	7.4	3.8	8.6	7.2	4.2	8.1	7.0	4.7	
	19.5	27	10.3	7.8	3.2	9.9	7.7	3.5	9.5	7.5	3.9	9.1	7.3	4.3	8.5	7.1	4.8	
	22.0	30	11.1	8.0	3.3	10.7	7.9	3.6	10.3	7.7	4.0	9.8	7.5	4.4	9.2	7.3	4.9	
	24.0	32	11.8	8.1	3.3	11.4	8.0	3.7	10.9	7.9	4.1	10.4	7.7	4.5	9.8	7.5	5.0	
41 (0.08)	16.0	23	9.3	8.0	3.1	9.0	7.9	3.4	8.6	7.7	3.8	8.2	7.5	4.2	7.7	7.3	4.7	
	18.0	25	9.9	8.2	3.2	9.6	8.1	3.5	9.2	7.9	3.8	8.7	7.7	4.2	8.2	7.5	4.8	
	19.5	27	10.4	8.4	3.2	10.0	8.2	3.5	9.6	8.1	3.9	9.2	7.9	4.3	8.6	7.7	4.8	
	22.0	30	11.2	8.6	3.3	10.8	8.5	3.6	10.4	8.3	4.0	9.9	8.1	4.4	9.3	7.9	4.9	
	24.0	32	11.9	8.8	3.4	11.5	8.6	3.7	11.0	8.5	4.1	10.5	8.3	4.5	9.9	8.1	5.1	

[FD04MVHL+R100BBVHL]

Indoor																									
AFR (BF)	EWB (°C)	EDB (°C)	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
31 (0.07)	16.0	23	9.0	7.0	2.8	8.7	6.9	3.1	8.4	6.7	3.4	8.0	6.5	3.8	7.4	6.3	4.2	7.2	6.2	4.4	7.0	6.1	4.5	6.8	6.0	4.7
	18.0	25	9.6	7.2	2.9	9.3	7.0	3.2	8.9	6.9	3.5	8.5	6.7	3.8	7.9	6.4	4.3	7.7	6.4	4.5	7.5	6.3	4.6	7.3	6.2	4.8
	19.5	27	10.1	7.3	2.9	9.7	7.1	3.2	9.3	7.0	3.5	8.9	6.8	3.9	8.3	6.6	4.3	8.1	6.5	4.5	7.9	6.4	4.7	7.6	6.3	4.8
	22.0	30	10.9	7.4	3.0	10.5	7.3	3.3	10.1	7.2	3.6	9.6	7.0	4.0	9.0	6.7	4.4	8.7	6.7	4.6	8.5	6.6	4.8	8.3	6.5	5.0
	24.0	32	11.6	7.6	3.0	11.1	7.4	3.3	10.7	7.3	3.7	10.2	7.1	4.0	9.5	6.9	4.5	9.3	6.8	4.7	9.0	6.7	4.9	—	—	—
36 (0.07)	16.0	23	9.2	7.5	2.9	8.9	7.4	3.1	8.5	7.2	3.5	8.1	7.1	3.8	7.5	6.8	4.2	7.3	6.7	4.4	7.1	6.6	4.6	6.9	6.6	4.7
	18.0	25	9.8	7.7	2.9	9.5	7.6	3.2	9.1	7.4	3.5	8.6	7.2	3.9	8.0	7.0	4.3	7.8	6.9	4.5	7.6	6.9	4.6	7.4	6.8	4.8
	19.5	27	10.3	7.9	2.9	9.9	7.7	3.2	9.5	7.6	3.5	9.0	7.4	3.9	8.4	7.2	4.4	8.2	7.1	4.5	8.0	7.0	4.7	7.8	6.9	4.9
	22.0	30	11.1	8.1	3.0	10.7	7.9	3.3	10.3	7.8	3.6	9.8	7.6	4.0	9.1	7.4	4.5	8.9	7.3	4.6	8.6	7.2	4.8	8.4	7.1	5.0
	24.0	32	11.8	8.2	3.1	11.3	8.0	3.3	10.9	7.9	3.7	10.4	7.7	4.1	9.7	7.5	4.5	9.4	7.4	4.7	9.2	7.4	4.9	—	—	—
41 (0.08)	16.0	23	9.3	8.0	2.9	9.0	7.9	3.2	8.6	7.7	3.5	8.2	7.6	3.8	7.6	7.3	4.3	7.4	7.2	4.4	7.2	7.1	4.6	7.0	7.0	4.7
	18.0	25	9.9	8.3	2.9	9.6	8.1	3.2	9.2	7.9	3.5	8.7	7.8	3.9	8.1	7.5	4.3	7.9	7.5	4.5	7.7	7.4	4.7	7.5	7.3	4.8
	19.5	27	10.4	8.4	2.9	10.0	8.3	3.2	9.6	8.1	3.6	9.1	7.9	3.9	8.5	7.7	4.4	8.3	7.6	4.5	8.1	7.5	4.7	7.8	7.4	4.9
	22.0	30	11.2	8.6	3.0	10.8	8.5	3.3	10.4	8.3	3.6	9.9	8.2	4.0	9.2	7.9	4.5	9.0	7.9	4.6	8.7	7.8	4.8	8.5	7.7	5.0
	24.0	32	11.9	8.8	3.1	11.4	8.6	3.4	11.0	8.5	3.7	10.5	8.3	4.1	9.8	8.1	4.6	9.5	8.0	4.7	9.3	8.0	4.9	—	—	—

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW) (Comp. + condenser fan motor)

Notes:

1. Rating shown is gross capacity which does not include a deduction for evaporator fan motor heat.
2. ▨ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB.
   Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

[50Hz]

[FD05J + RU05J]

Evap. air			Entering air temp. to condenser (°CDB)																							
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
39 (0.07)	16.0	23	11.8	9.0	4.0	11.3	8.8	4.3	10.8	8.6	4.5	10.2	8.3	4.8	9.6	8.0	5.2	---	---	---	---	---	---	---	---	---
	18.0	25	12.6	9.2	4.1	12.1	9.0	4.4	11.6	8.8	4.7	11.0	8.5	5.0	10.3	8.3	5.3	10.0	8.1	5.5	---	---	---	---	---	---
	19.5	27	13.2	9.4	4.2	12.8	9.2	4.5	12.2	8.9	4.7	11.6	8.7	5.1	10.8	8.4	5.4	10.6	8.3	5.6	10.3	8.2	5.7	10.1	8.1	5.9
	22.0	30	14.4	9.6	4.3	13.8	9.4	4.6	13.2	9.2	4.9	12.7	9.0	5.2	11.9	8.7	5.6	11.6	8.6	5.8	11.3	8.5	6.0	11.0	8.4	6.1
	24.0	32	15.4	9.8	4.4	14.8	9.6	4.7	14.1	9.3	5.0	13.4	9.1	5.4	12.7	8.8	5.7	12.4	8.8	6.0	12.1	8.7	6.2	---	---	---
46 (0.09)	16.0	23	12.1	9.7	4.1	11.6	9.5	4.3	11.1	9.3	4.6	10.5	9.0	4.9	9.8	8.7	5.2	---	---	---	---	---	---	---	---	---
	18.0	25	12.9	9.9	4.2	12.4	9.7	4.4	11.9	9.5	4.7	11.3	9.3	5.0	10.6	9.0	5.3	10.3	8.9	5.5	---	---	---	---	---	---
	19.5	27	13.6	10.1	4.2	13.1	9.9	4.5	12.5	9.8	4.8	11.9	9.5	5.1	11.2	9.3	5.4	10.9	9.1	5.7	10.6	9.0	5.8	10.4	8.9	6.0
	22.0	30	14.8	10.4	4.3	14.2	10.2	4.6	13.6	10.0	5.0	13.0	9.8	5.3	12.2	9.5	5.6	11.9	9.4	5.9	11.6	9.3	6.0	11.3	9.2	6.2
	24.0	32	15.8	10.6	4.4	15.2	10.4	4.8	14.5	10.2	5.1	13.8	10.0	5.5	13.0	9.7	5.8	12.7	9.6	6.1	12.4	9.5	6.2	---	---	---
53 (0.11)	16.0	23	12.3	10.4	4.1	11.8	10.1	4.3	11.3	9.9	4.6	10.7	9.7	4.9	10.0	9.4	5.3	---	---	---	---	---	---	---	---	---
	18.0	25	13.1	10.6	4.2	12.6	10.4	4.5	12.1	10.2	4.7	11.5	10.0	5.0	10.8	9.7	5.4	10.5	9.6	5.6	---	---	---	---	---	---
	19.5	27	13.9	10.9	4.3	13.4	10.7	4.5	12.7	10.4	4.8	12.1	10.2	5.2	11.3	9.9	5.5	11.1	9.8	5.7	10.8	9.7	5.9	10.6	9.6	6.0
	22.0	30	15.1	11.2	4.4	14.5	11.0	4.7	13.9	10.7	5.0	13.2	10.5	5.3	12.4	10.3	5.7	12.1	10.2	5.9	11.8	10.1	6.1	11.5	9.9	6.2
	24.0	32	16.1	11.4	4.5	15.5	11.2	4.8	14.8	11.0	5.1	14.1	10.7	5.5	13.2	10.5	5.8	12.9	10.4	6.1	12.6	10.3	6.3	---	---	---

[FD07J + RU05J]

Evap. air			Entering air temp. to condenser (°CDB)																				
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
51 (0.07)	16.0	23	12.6	10.5	4.2	12.1	10.3	4.4	11.6	10.0	4.7	11.0	9.8	5.0	10.3	9.5	5.4	---	---	---	---	---	---
	18.0	25	13.5	10.8	4.3	13.0	10.6	4.6	12.3	10.3	4.9	11.7	10.1	5.2	11.0	9.8	5.5	10.8	9.7	5.7	---	---	---
	19.5	27	14.3	11.0	4.4	13.6	10.8	4.6	13.0	10.5	5.0	12.3	10.3	5.3	11.6	10.0	5.6	11.3	9.9	5.9	11.1	9.8	6.0
	22.0	30	15.5	11.3	4.5	14.8	11.1	4.8	14.2	10.9	5.1	13.4	10.6	5.5	12.6	10.3	5.8	12.3	10.2	6.1	12.0	10.1	6.2
	24.0	32	16.4	11.5	4.6	15.8	11.3	4.9	15.1	11.1	5.3	14.4	10.9	5.6	13.4	10.5	6.0	13.1	10.5	6.3	---	---	---
60 (0.09)	16.0	23	12.9	11.4	4.2	12.4	11.2	4.5	11.8	10.9	4.8	11.2	10.7	5.1	10.5	10.4	5.5	---	---	---	---	---	---
	18.0	25	13.8	11.7	4.3	13.3	11.5	4.6	12.6	11.3	4.9	12.0	11.0	5.2	11.2	10.7	5.6	11.0	10.6	5.8	---	---	---
	19.5	27	14.6	12.0	4.4	13.9	11.7	4.7	13.3	11.6	5.0	12.6	11.2	5.3	11.8	11.0	5.7	11.5	10.8	5.9	11.3	10.8	6.1
	22.0	30	15.8	12.3	4.5	15.1	12.1	4.8	14.5	11.9	5.2	13.7	11.6	5.5	12.9	11.4	5.9	12.6	11.3	6.1	12.3	11.2	6.3
	24.0	32	16.8	12.6	4.6	16.1	12.4	5.0	15.4	12.1	5.3	14.7	11.9	5.7	13.7	11.6	6.0	13.4	11.5	6.3	---	---	---
69 (0.11)	16.0	23	13.1	12.2	4.2	12.6	12.0	4.5	12.0	11.8	4.8	11.4	11.4	5.1	10.7	10.7	5.5	---	---	---	---	---	---
	18.0	25	14.0	12.6	4.3	13.5	12.4	4.6	12.8	12.1	4.9	12.2	11.9	5.3	11.4	11.4	5.6	11.2	11.2	5.8	---	---	---
	19.5	27	14.8	12.9	4.4	14.1	12.6	4.7	13.5	12.4	5.0	12.8	12.2	5.4	12.0	11.9	5.7	11.7	11.7	5.9	11.5	11.5	6.1
	22.0	30	16.0	13.3	4.6	15.3	13.1	4.9	14.7	12.9	5.2	13.9	12.6	5.6	13.1	12.3	5.9	12.8	12.2	6.2	12.5	12.1	6.3
	24.0	32	17.0	13.6	4.7	16.3	13.4	5.0	15.6	13.2	5.4	14.9	12.9	5.7	13.9	12.6	6.1	13.6	12.5	6.4	---	---	---

[FD05J + RU07J]

Evap. air			Entering air temp. to condenser (°CDB)																							
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
39 (0.07)	16.0	23	13.0	9.6	4.4	12.4	9.3	4.6	11.9	9.0	4.9	11.4	8.8	5.2	10.7	8.5	5.6	---	---	---	---	---	---	---	---	---
	18.0	25	13.9	9.8	4.5	13.3	9.5	4.8	12.7	9.3	5.0	12.1	9.0	5.3	11.5	8.7	5.7	11.2	8.6	5.9	---	---	---	---	---	---
	19.5	27	14.6	9.9	4.6	14.0	9.7	4.8	13.4	9.4	5.1	12.8	9.2	5.5	12.0	8.9	5.9	11.8	8.8	6.0	11.6	8.7	6.1	11.3	8.6	6.3
	22.0	30	15.8	10.2	4.7	15.3	9.9	5.0	14.6	9.7	5.3	13.9	9.4	5.6	13.1	9.1	6.1	12.8	9.0	6.2	12.5	8.9	6.4	12.2	8.8	6.5
	24.0	32	16.9	10.3	4.8	16.2	10.1	5.1	15.5	9.8	5.5	14.9	9.6	5.8	14.0	9.3	6.3	13.7	9.2	6.4	13.4	9.1	6.6	---	---	---
46 (0.09)	16.0	23	13.4	10.3	4.4	12.8	10.0	4.7	12.2	9.8	5.0	11.7	9.5	5.3	11.0	9.2	5.6	---	---	---	---	---	---	---	---	---
	18.0	25	14.3	10.5	4.5	13.7	10.3	4.8	13.1	10.0	5.1	12.5	9.8	5.4	11.8	9.5	5.8	11.5	9.4	5.9	---	---	---	---	---	---
	19.5	27	15.0	10.7	4.6	14.4	10.5	4.9	13.8	10.3	5.2	13.2	10.0	5.5	12.4	9.7	5.9	12.1	9.5	6.1	11.9	9.5	6.2	11.6	9.4	6.4
	22.0	30	16.3	11.0	4.8	15.7	10.8	5.1	15.0	10.5	5.4	14.3	10.2	5.7	13.5	9.9	6.1	13.2	9.8	6.3	12.9	9.7	6.4	12.6	9.6	6.6
	24.0	32	17.4	11.2	4.9	16.7	10.9	5.2	16.0	10.7	5.5	15.3	10.4	5.9	14.4	10.1	6.3	14.1	10.1	6.5	13.8	10.0	6.6	---	---	---
53 (0.11)	16.0	23	13.7	11.0	4.5	13.1	10.7	4.7	12.4	10.4	5.0	11.9	10.2	5.3	11.2	9.9	5.7	---	---	---	---	---	---	---	---	---
	18.0	25	14.6	11.2	4.6	14.0	11.0	4.9	13.4	10.7	5.1	12.8	10.5	5.4	12.0	10.2	5.8	11.7	10.1	6.0	---	---	---	---	---	---
	19.5	27	15.3	11.4	4.7	14.7	11.2	4.9	14.1	10.9	5.2	13.5	10.7	5.6	12.7	10.4	6.0	12.3	10.3	6.1	12.1	10.2	6.3	11.8	10.1	6.4
	22.0	30	16.6	11.7	4.8	16.0	11.5	5.1	15.3	11.3	5.4	14.6	11.0	5.8	13.8	10.7	6.2	13.5	10.6	6.3	13.2	10.5	6.5	12.9	10.4	6.7
	24.0	32	17.8	12.0	4.9	17.0	11.7	5.2	16.3	11.5	5.6	15.6	11.2	5.9	14.7	10.9	6.4	14.4	10.8	6.5	14.1	10.8	6.7	---	---	---

[FD07J + RU07J]

Evap. air			Entering air temp. to condenser (°CDB)																							
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
51 (0.07)	16.0	23	14.1	11.2	4.6	13.5	10.9	4.8	12.9	10.6	5.1	12.2	10.3	5.4	11.4	10.0	5.8	---	---	---	---	---	---	---	---	---
	18.0	25	15.1	11.4	4.7	14.5	11.2	4.9	13.8	10.9	5.2	13.1	10.6	5.6	12.3	10.3	6.0	12.0	10.2	6.1	---	---	---	---	---	---
	19.5	27	15.8	11.6	4.8	15.2	11.4	5.0	14.5	11.1	5.3	13.8	10.8	5.7	12.9	10.5	6.1	12.6	10.4	6.2	12.3	10.3	6.4	12.0	10.2	6.5
	22.0	30	17.2	12.0	4.9	16.4	11.7	5.2	15.7	11.4	5.5	15.0	11.1	5.9	14.0	10.8	6.3	13.7	10.7	6.5	13.4	10.6	6.6	13.1	10.5	6.8
	24.0	32	18.3	12.1	5.0	17.5	11.9	5.4	16.7	11.6	5.7	15.9	11.4	6.1	15.0	11.0	6.5	14.7	11.0	6.7	14.3	10.8	6.8	---	---	---
60 (0.09)	16.0	23	14.4	12.0	4.6	13.8	11.8	4.9	13.2	11.5	5.1	12.5	11.2	5.4	11.7	10.9	5.8	---	---	---	---	---	---	---	---	---
	18.0	25	15.4	12.4	4.7	14.8	12.1	5.0	14.1	11.8	5.3	13.4	11.6	5.6	12.6	11.3	6.0	12.3	11.1	6.2	---	---	---	---	---	---
	19.5	27	16.2	12.6	4.8	15.5	12.3	5.1	14.8	12.1	5.4	14.1	11.8	5.7	13.2	11.5	6.1	12.9	11.4	6.3	12.6	11.2	6.4	12.3	11.1	6.6
	22.0	30	17.6	13.0	5.0	16.8	12.7	5.3	16.1	12.4	5.6	15.3	12.2	5.9	14.3	11.8	6.4	14.0	11.7	6.5	13.7	11.6	6.7	13.4	11.5	6.9
	24.0	32	18.7	13.2	5.1	17.9	12.9	5.4	17.1	12.7	5.7	16.3	12.4	6.1	15.3	12.1	6.6	15.0	12.0	6.7	14.6	11.9	6.9	---	---	---
69 (0.11)	16.0	23	14.6	12.9	4.6	14.0	12.6	4.9	13.4	12.4	5.2	12.7	12.1	5.5	11.9	11.7	5.9	---	---	---	---	---	---	---	---	---
	18.0	25	15.6	13.3	4.8	15.0	13.0	5.0	14.3	12.7	5.3	13.6	12.4	5.6	12.8	12.1	6.1	12.5	12.0	6.2	---	---	---	---	---	---
	19.5	27	16.5	13.5	4.8	15.7	13.2	5.1	15.0	13.0	5.4	14.3	12.7	5.8	13.4	12.4	6.2	13.1	12.3	6.3	12.8	12.2	6.5	12.5	12.1	6.6
	22.0	30	17.9	13.8	5.0	17.1	13.7	5.3	16.4	13.4	5.6	15.5	13.1	6.0	14.5	12.8	6.4	14.2	12.7	6.6	13.9	12.6	6.7	13.6	12.5	6.9
	24.0	32	19.0	14.2	5.1	18.2	13.9	5.4	17.4	13.7	5.8	16.6	13.4	6.2	15.5	13.1	6.6	15.2	13.0	6.8	14.8	12.9	6.9	---	---	---

[50Hz]

[FD08J + RU07J]

Evap. air			Entering air temp. to condenser (°CDB)																					
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
58 (0.12)	16.0	23	14.7	11.8	4.7	14.1	11.6	5.0	13.4	11.3	5.3	12.7	11.0	5.6	12.0	10.6	6.0	---	---	---	---	---	---	
	18.0	25	15.8	12.2	4.8	15.1	11.9	5.1	14.3	11.6	5.4	13.6	11.3	5.8	12.8	11.0	6.1	12.5	10.8	6.3	---	---	---	
	19.5	27	16.6	12.4	4.9	15.9	12.1	5.2	15.1	11.8	5.6	14.3	11.5	5.9	13.4	11.1	6.2	13.1	11.0	6.5	12.8	10.9	6.6	
	22.0	30	17.9	12.7	5.1	17.2	12.4	5.4	16.4	12.1	5.7	15.6	11.8	6.1	14.6	11.5	6.5	14.3	11.4	6.7	14.0	11.3	6.9	
	24.0	32	19.1	12.9	5.2	18.2	12.6	5.6	17.4	12.4	5.9	16.6	12.1	6.3	15.6	11.8	6.6	15.2	11.6	6.9	---	---	---	
68 (0.14)	16.0	23	15.0	12.7	4.8	14.4	12.5	5.0	13.7	12.2	5.3	13.0	11.9	5.7	12.2	11.5	6.1	---	---	---	---	---	---	
	18.0	25	16.1	13.1	4.9	15.4	12.8	5.2	14.6	12.5	5.5	13.9	12.2	5.8	13.1	11.9	6.2	12.8	11.8	6.4	---	---	---	
	19.5	27	16.9	13.3	5.0	16.2	13.1	5.3	15.4	12.9	5.6	14.6	12.5	5.9	13.7	12.2	6.3	13.4	12.0	6.5	13.1	11.9	6.7	
	22.0	30	18.3	13.7	5.1	17.5	13.4	5.5	16.7	13.1	5.8	15.9	12.9	6.2	14.9	12.5	6.5	14.6	12.4	6.8	14.3	12.3	6.9	
	24.0	32	19.5	14.0	5.3	18.6	13.7	5.6	17.8	13.4	6.0	16.9	13.1	6.3	15.9	12.8	6.7	15.5	12.7	7.0	---	---	---	
78 (0.16)	16.0	23	15.2	13.5	4.8	14.6	13.3	5.1	13.9	13.0	5.4	13.2	12.7	5.7	12.4	12.4	6.1	---	---	---	---	---	---	
	18.0	25	16.3	14.0	4.9	15.6	13.7	5.2	14.8	13.4	5.5	14.1	13.1	5.9	13.3	12.8	6.2	13.0	12.7	6.4	---	---	---	
	19.5	27	17.1	14.2	5.0	16.4	14.0	5.3	15.6	13.7	5.6	14.8	13.4	6.0	13.9	13.0	6.3	13.6	12.9	6.6	13.3	12.8	6.7	
	22.0	30	18.6	14.7	5.2	17.7	14.4	5.5	16.9	14.1	5.8	16.1	13.8	6.2	15.1	13.5	6.6	14.8	13.4	6.8	14.5	13.3	7.0	
	24.0	32	19.8	15.0	5.3	18.9	14.7	5.6	18.1	14.4	6.0	17.1	14.1	6.4	16.1	13.8	6.7	15.7	13.7	7.0	---	---	---	

[FD07J + RU08J]

Evap. air			Entering air temp. to condenser (°CDB)																									
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
51 (0.07)	16.0	23	16.9	12.5	5.3	16.2	12.2	5.6	15.5	11.8	5.9	14.7	11.4	6.3	13.6	10.9	6.6	---	---	---	---	---	---	---	---	---
	18.0	25	18.1	12.8	5.4	17.3	12.4	5.8	16.5	12.1	6.1	15.7	11.7	6.4	14.6	11.3	6.8	14.3	11.1	7.0	---	---	---	---	---	---
	19.5	27	19.1	13.0	5.5	18.3	12.7	5.9	17.4	12.3	6.2	16.5	11.9	6.6	15.4	11.5	6.9	15.0	11.3	7.1	14.6	11.2	7.3	14.2	11.0	7.4
	22.0	30	20.6	13.3	5.7	19.7	12.9	6.1	18.9	12.6	6.4	17.9	12.2	6.8	16.7	11.8	7.1	16.3	11.6	7.4	15.8	11.5	7.5	15.5	11.3	7.7
	24.0	32	22.0	13.4	5.8	21.0	13.1	6.2	20.1	12.8	6.6	19.1	12.4	7.0	17.8	12.0	7.3	17.4	11.8	7.6	16.9	11.7	7.7	---	---	---
60 (0.09)	16.0	23	17.4	13.4	5.4	16.7	13.1	5.7	15.9	12.7	6.0	15.1	12.4	6.3	14.0	11.9	6.7	---	---	---	---	---	---	---	---	---
	18.0	25	18.6	13.7	5.5	17.8	13.4	5.8	17.0	13.0	6.2	16.2	12.7	6.5	15.0	12.2	6.9	14.7	12.1	7.1	---	---	---	---	---	---
	19.5	27	19.6	14.0	5.6	18.8	13.6	6.0	17.9	13.4	6.3	17.0	12.9	6.6	15.8	12.6	7.0	15.4	12.3	7.2	15.0	12.1	7.4	14.6	12.0	7.5
	22.0	30	21.2	14.3	5.8	20.3	14.0	6.1	19.4	13.6	6.5	18.4	13.3	6.9	17.2	12.8	7.2	16.8	12.7	7.5	16.3	12.5	7.6	15.9	12.4	7.8
	24.0	32	22.6	14.5	5.9	21.6	14.2	6.3	20.7	13.9	6.7	19.6	13.5	7.0	18.3	13.1	7.4	17.9	12.9	7.7	17.4	12.8	7.8	---	---	---
69 (0.11)	16.0	23	17.8	14.2	5.4	17.0	13.9	5.7	16.2	13.6	6.1	15.4	13.2	6.4	14.3	12.7	6.8	---	---	---	---	---	---	---	---	---
	18.0	25	19.0	14.6	5.6	18.2	14.3	5.9	17.3	13.9	6.2	16.5	13.6	6.6	15.3	13.1	6.9	15.0	13.0	7.1	---	---	---	---	---	---
	19.5	27	20.0	14.9	5.7	19.2	14.6	6.0	18.3	14.2	6.4	17.3	13.9	6.7	16.1	13.4	7.1	15.7	13.2	7.3	15.3	13.1	7.4	14.9	12.9	7.6
	22.0	30	21.6	15.3	5.8	20.7	14.9	6.2	19.8	14.6	6.6	18.8	14.2	6.9	17.5	13.8	7.3	17.1	13.7	7.5	16.6	13.5	7.7	16.2	13.4	7.8
	24.0	32	23.1	15.5	6.0	22.0	15.2	6.3	21.1	14.9	6.7	20.0	14.5	7.1	18.7	14.1	7.5	18.3	14.0	7.7	17.8	13.8	7.9	---	---	---

[FD08J + RU08J]

Evap. air			Entering air temp. to condenser (°CDB)																									
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
58 (0.12)	16.0	23	17.9	13.3	5.5	17.2	13.0	5.8	16.4	12.6	6.1	15.5	12.2	6.5	14.4	11.7	6.9	---	---	---	---	---	---	---	---	---
	18.0	25	19.2	13.7	5.6	18.4	13.3	6.0	17.6	12.9	6.3	16.6	12.5	6.7	15.4	12.0	7.0	15.0	11.8	7.2	---	---	---	---	---	---
	19.5	27	20.2	13.9	5.7	19.3	13.5	6.1	18.4	13.1	6.4	17.5	12.7	6.8	16.3	12.3	7.1	15.8	12.1	7.4	15.4	11.9	7.5	15.0	11.8	7.6
	22.0	30	21.8	14.1	5.9	21.0	13.8	6.3	20.0	13.4	6.6	18.9	13.0	7.0	17.7	12.6	7.4	17.3	12.4	7.6	16.8	12.3	7.8	16.3	12.1	7.9
	24.0	32	23.3	14.4	6.0	22.3	14.0	6.4	21.3	13.6	6.8	20.2	13.3	7.2	18.8	12.8	7.5	18.3	12.6	7.8	17.8	12.5	8.0	---	---	---
68 (0.14)	16.0	23	18.4	14.2	5.6	17.6	13.9	5.9	16.8	13.5	6.2	15.9	13.1	6.5	14.8	12.6	6.9	---	---	---	---	---	---	---	---	---
	18.0	25	19.7	14.6	5.7	18.9	14.3	6.0	18.0	13.9	6.4	17.0	13.5	6.7	15.8	13.0	7.1	15.4	12.8	7.3	---	---	---	---	---	---
	19.5	27	20.7	14.8	5.8	19.8	14.5	6.1	18.9	14.2	6.5	17.9	13.7	6.9	16.7	13.4	7.2	16.2	13.1	7.4	15.8	12.9	7.6	15.4	12.8	7.7
	22.0	30	22.4	15.2	6.0	21.5	14.9	6.3	20.5	14.5	6.7	19.4	14.1	7.1	18.1	13.6	7.5	17.7	13.5	7.7	17.2	13.3	7.8	16.7	13.1	8.0
	24.0	32	23.9	15.5	6.1	22.9	15.1	6.5	21.8	14.7	6.9	20.7	14.4	7.3	19.3	13.9	7.6	18.8	13.7	7.9	18.3	13.6	8.1	---	---	---
78 (0.16)	16.0	23	18.7	15.1	5.6	17.9	14.7	5.9	17.1	14.4	6.3	16.2	14.0	6.6	15.1	13.5	7.0	---	---	---	---	---	---	---	---	---
	18.0	25	20.1	15.5	5.7	19.2	15.1	6.1	18.3	14.8	6.4	17.3	14.4	6.8	16.1	13.9	7.1	15.7	13.7	7.3	---	---	---	---	---	---
	19.5	27	21.1	15.8	5.8	20.2	15.4	6.2	19.2	15.0	6.5	18.2	14.6	6.9	17.0	14.2	7.3	16.5	14.0	7.5	16.1	13.8	7.6	15.7	13.7	7.8
	22.0	30	22.8	16.2	6.0	21.9	15.8	6.4	20.9	15.5	6.8	19.7	15.1	7.1	18.4	14.6	7.5	18.0	14.5	7.7	17.5	14.3	7.9	17.0	14.1	8.1
	24.0	32	24.3	16.5	6.1	23.3	16.1	6.5	22.2	15.8	6.9	21.1	15.4	7.3	19.6	14.9	7.7	19.1	14.8	7.9	18.6	14.6	8.1	---	---	---

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW) (Comp. + condenser fan motor)

Notes:

1. Rating shown is gross capacity which does not include a deduction for evaporator fan motor heat.
2. ▨ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB. Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

[50Hz]

[FD10J + RU08J]

Evap. air			Entering air temp. to condenser (°CDB)																					
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
71 (0.12)	16.0	23	19.0	14.9	5.7	18.1	14.5	6.0	17.2	14.1	6.4	16.3	13.7	6.7	15.1	13.2	7.1	---	---	---	---	---	---	
	18.0	25	20.3	15.3	5.8	19.4	14.9	6.2	18.4	14.5	6.5	17.4	14.1	6.9	16.2	13.6	7.2	15.8	13.4	7.4	---	---	---	
	19.5	27	21.4	15.6	5.9	20.4	15.2	6.3	19.4	14.8	6.6	18.3	14.4	7.0	17.0	13.9	7.3	16.6	13.7	7.6	16.2	13.5	7.7	
	22.0	30	23.1	15.9	6.1	22.0	15.6	6.5	21.1	15.2	6.9	19.9	14.8	7.2	18.5	14.3	7.6	18.0	14.1	7.9	17.5	14.0	8.0	
	24.0	32	24.6	16.2	6.2	23.5	15.8	6.6	22.3	15.5	7.0	21.2	15.1	7.4	19.7	14.6	7.7	19.2	14.4	8.1	---	---	---	
83 (0.14)	16.0	23	19.4	16.0	5.7	18.5	15.6	6.1	17.6	15.2	6.4	16.6	14.8	6.7	15.4	14.3	7.2	---	---	---	---	---	---	
	18.0	25	20.7	16.4	5.9	19.8	16.0	6.2	18.8	15.6	6.6	17.8	15.2	6.9	16.5	14.7	7.3	16.1	14.6	7.5	---	---	---	
	19.5	27	21.8	16.7	6.0	20.8	16.3	6.3	19.8	16.1	6.7	18.7	15.5	7.1	17.4	15.2	7.4	16.9	14.9	7.7	16.5	14.7	7.8	
	22.0	30	23.6	17.2	6.1	22.5	16.8	6.5	21.5	16.4	6.9	20.3	16.0	7.3	18.9	15.5	7.6	18.4	15.4	7.9	17.9	15.2	8.1	
	24.0	32	25.1	17.5	6.3	24.0	17.1	6.7	22.8	16.7	7.1	21.6	16.3	7.5	20.1	15.9	8.8	19.6	15.7	8.1	---	---	---	
95 (0.16)	16.0	23	19.7	17.0	5.8	18.8	16.6	6.1	17.9	16.2	6.4	16.8	15.8	6.8	15.6	15.3	7.2	---	---	---	---	---	---	
	18.0	25	21.0	17.5	5.9	20.1	17.1	6.3	19.1	16.7	6.6	18.1	16.3	7.0	16.7	15.8	7.3	16.3	15.6	7.5	---	---	---	
	19.5	27	22.1	17.8	6.0	21.1	17.4	6.4	20.1	17.0	6.7	19.0	16.6	7.1	17.7	16.1	7.5	17.1	15.9	7.7	16.7	15.8	7.9	
	22.0	30	23.9	18.3	6.2	22.8	17.9	6.6	21.8	17.6	7.0	20.6	17.2	7.3	19.2	16.7	7.7	18.7	16.5	8.0	18.2	16.3	8.1	
	24.0	32	25.5	18.7	6.3	24.3	18.3	6.7	23.1	17.9	7.1	21.9	17.5	7.5	20.4	17.1	7.9	19.9	16.9	8.2	---	---	---	

[FD08J + RU10J]

Evap. air			Entering air temp. to condenser (°CDB)																									
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
58 (0.12)	16.0	23	19.4	14.0	6.7	18.6	13.7	7.0	17.8	13.2	7.4	16.8	12.8	7.8	15.7	12.3	8.4	---	---	---	---	---	---	---	---	---
	18.0	25	20.8	14.4	6.8	19.9	14.0	7.2	19.0	13.6	7.6	18.1	13.1	8.1	16.9	12.6	8.6	16.4	12.4	8.8	---	---	---	---	---	---
	19.5	27	21.8	14.6	7.0	21.0	14.2	7.4	20.0	13.8	7.8	19.0	13.4	8.3	17.8	12.9	8.8	17.4	12.7	9.0	16.9	12.5	9.2	16.5	12.3	9.4
	22.0	30	23.8	14.9	7.2	22.7	14.5	7.6	21.7	14.1	8.1	20.7	13.7	8.6	19.3	13.2	9.2	18.8	13.0	9.4	18.4	12.9	9.6	18.0	12.7	9.8
	24.0	32	25.3	15.1	7.3	24.3	14.7	7.8	23.1	14.3	8.3	22.0	13.9	8.8	20.6	13.4	9.4	20.1	13.2	9.7	19.7	13.1	9.9	---	---	---
68 (0.14)	16.0	23	20.0	15.0	6.7	19.2	14.6	7.1	18.3	14.2	7.5	17.3	13.7	7.9	16.2	13.2	8.5	---	---	---	---	---	---	---	---	---
	18.0	25	21.4	15.4	6.9	20.5	15.0	7.3	19.6	14.6	7.7	18.6	14.1	8.2	17.4	13.6	8.7	16.9	13.4	8.9	---	---	---	---	---	---
	19.5	27	22.5	15.6	7.0	21.6	15.2	7.5	20.6	14.9	7.9	19.6	14.4	8.4	18.3	14.0	8.9	17.9	13.7	9.1	17.4	13.5	9.4	17.0	13.4	9.6
	22.0	30	24.5	16.0	7.3	23.4	15.6	7.7	22.4	15.2	8.2	21.3	14.8	8.7	19.9	14.3	9.3	19.4	14.1	9.5	19.0	13.9	9.7	18.5	13.8	9.9
	24.0	32	26.1	16.2	7.4	25.0	15.8	7.9	23.8	15.4	8.4	22.7	15.0	8.9	21.2	14.5	9.6	20.7	14.4	9.8	20.3	14.2	10.0	---	---	---
78 (0.16)	16.0	23	20.4	15.9	6.8	19.6	15.5	7.2	18.7	15.1	7.6	17.7	14.6	8.0	16.5	14.1	8.6	---	---	---	---	---	---	---	---	---
	18.0	25	21.9	16.3	7.0	20.9	15.9	7.4	20.0	15.5	7.8	19.0	15.1	8.3	17.8	14.6	8.8	17.3	14.3	9.0	---	---	---	---	---	---
	19.5	27	23.0	16.5	7.1	22.1	16.2	7.5	21.0	15.8	8.0	20.0	15.4	8.4	18.7	14.8	9.0	18.3	14.7	9.2	17.8	14.5	9.4	17.4	14.3	9.6
	22.0	30	25.0	17.0	7.3	23.9	16.6	7.8	22.9	16.2	8.3	21.8	15.8	8.7	20.3	15.3	9.4	19.8	15.1	9.6	19.4	14.9	9.8	18.9	14.8	10.0
	24.0	32	26.7	17.3	7.5	25.5	16.9	8.0	24.3	16.5	8.5	23.2	16.1	9.0	21.7	15.6	9.7	21.1	15.4	9.9	20.7	15.3	10.1	---	---	---

[FD10J + RU10J]

Evap. air			Entering air temp. to condenser (°CDB)																									
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
71 (0.12)	16.0	23	21.1	15.9	6.9	20.3	15.5	7.3	19.3	15.1	7.7	18.2	14.6	8.2	16.9	14.0	8.7	---	---	---	---	---	---	---	---	---
	18.0	25	22.7	16.4	7.0	21.7	15.9	7.5	20.6	15.5	7.9	19.6	15.0	8.4	18.2	14.4	8.9	17.7	14.2	9.1	---	---	---	---	---	---
	19.5	27	23.8	16.6	7.1	22.8	16.2	7.6	21.7	15.7	8.0	20.5	15.3	8.5	19.2	14.7	9.1	18.7	14.5	9.3	18.2	14.3	9.4	17.6	14.1	9.6
	22.0	30	25.8	17.0	7.3	24.8	16.6	7.8	23.6	16.1	8.3	22.3	15.7	8.7	20.8	15.1	9.3	20.3	14.9	9.5	19.8	14.7	9.7	19.3	14.6	9.9
	24.0	32	27.5	17.2	7.4	26.3	16.8	7.9	25.1	16.4	8.4	23.8	15.9	8.9	22.2	15.4	9.6	21.6	15.2	9.8	21.1	15.1	10.0	---	---	---
83 (0.14)	16.0	23	21.6	17.0	6.9	20.7	16.6	7.4	19.7	16.1	7.8	18.6	15.6	8.2	17.3	15.1	8.7	---	---	---	---	---	---	---	---	---
	18.0	25	23.2	17.5	7.1	22.2	17.0	7.5	21.1	16.6	8.0	20.0	16.1	8.4	18.6	15.6	9.0	18.1	15.4	9.1	---	---	---	---	---	---
	19.5	27	24.3	17.7	7.2	23.3	17.3	7.6	22.2	17.0	8.1	21.0	16.4	8.6	19.6	16.0	9.1	19.1	15.7	9.3	18.6	15.5	9.5	18.0	15.3	9.7
	22.0	30	26.4	18.2	7.3	25.3	17.8	7.8	24.1	17.4	8.3	22.8	16.9	8.8	21.3	16.4	9.4	20.7	16.2	9.6	20.2	16.0	9.8	19.7	15.8	10.0
	24.0	32	28.1	18.5	7.5	26.9	18.1	8.0	25.7	17.7	8.5	24.3	17.2	9.0	22.7	16.7	9.6	22.1	16.5	9.8	21.6	16.3	10.0	---	---	---
95 (0.16)	16.0	23	21.9	18.0	7.0	21.0	17.6	7.4	20.0	17.1	7.8	18.9	16.6	8.3	17.6	16.1	8.8	---	---	---	---	---	---	---	---	---
	18.0	25	23.6	18.5	7.1	22.5	18.1	7.6	21.4	17.6	8.0	20.3	17.2	8.5	18.9	16.6	9.0	18.4	16.4	9.2	---	---	---	---	---	---
	19.5	27	24.7	18.8	7.2	23.7	18.4	7.7	22.5	18.0	8.1	21.3	17.5	8.6	19.9	17.0	9.2	19.4	16.8	9.4	18.9	16.6	9.6	18.3	16.4	9.7
	22.0	30	26.8	19.3	7.4	25.7	18.9	7.9	24.5	18.5	8.4	23.2	18.0	8.9	21.6	17.5	9.5	21.0	17.3	9.7	20.5	17.1	9.9	20.0	17.0	10.0
	24.0	32	28.5	19.7	7.5	27.3	19.3	8.0	26.1	18.9	8.5	24.7	18.4	9.1	23.1	17.9	9.7	22.4	17.7	9.9	21.9	17.5	10.1	---	---	---

Symbols:

- AFR : Air flow rate (m^3/min.)
- BF : Bypass factor
- EWB : Entering wet bulb temp. (°CWB)
- EDB : Entering dry bulb temp. (°CDB)
- TC : Total cooling capacity (x1000 kcal/h)
- SHC : Sensible heat capacity (x1000 kcal/h)
- PI : Power input (kW) (Comp. + condenser fan motor)

Notes:

1. Rating shown is gross capacity which does not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB. Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

[50Hz]

[FD11J + RU10J]

Evap. air			Entering air temp. to condenser (°CDB)																				
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
79 (0.11)	16.0	23	22.2	17.1	7.0	21.1	16.6	7.4	20.0	16.1	7.8	18.9	15.7	8.3	17.7	15.1	8.8	---	---	---	---	---	---
	18.0	25	23.6	17.5	7.2	22.6	17.0	7.6	21.5	16.6	8.0	20.3	16.1	8.5	18.9	15.5	9.0	18.5	15.3	9.3	---	---	---
	19.5	27	24.8	17.8	7.3	23.7	17.3	7.8	22.6	16.9	8.2	21.4	16.4	8.7	19.9	15.8	9.2	19.4	15.7	9.5	18.8	15.4	9.7
	22.0	30	26.9	18.2	7.5	25.7	17.8	8.0	24.4	17.3	8.5	23.1	16.8	9.0	21.6	16.3	9.5	21.1	16.1	9.9	20.5	15.9	10.1
	24.0	32	28.6	18.5	7.7	27.3	18.1	8.2	26.1	17.6	8.7	24.7	17.2	9.3	23.0	16.6	9.7	22.5	16.4	10.2	---	---	---
93 (0.14)	16.0	23	22.7	18.4	7.1	21.6	17.9	7.5	20.5	17.4	7.9	19.4	16.9	8.4	18.1	16.3	8.9	---	---	---	---	---	---
	18.0	25	24.2	18.8	7.3	23.1	18.4	7.7	22.0	17.9	8.1	20.8	17.4	8.6	19.4	16.8	9.1	18.9	16.7	9.4	---	---	---
	19.5	27	25.4	19.1	7.4	24.3	18.7	7.8	23.1	18.4	8.3	21.9	17.8	8.8	20.4	17.3	9.3	19.9	17.0	9.6	19.3	16.8	9.8
	22.0	30	27.5	19.6	7.6	26.3	19.2	8.1	25.0	18.7	8.6	23.7	18.3	9.1	22.1	17.7	9.6	21.6	17.5	10.0	21.0	17.3	10.2
	24.0	32	29.3	20.0	7.8	28.0	19.6	8.3	26.7	19.1	8.8	25.3	18.7	9.4	23.6	18.1	9.8	23.0	17.9	10.3	---	---	---
107 (0.16)	16.0	23	23.1	19.5	7.1	22.0	19.0	7.5	20.8	18.5	8.0	19.7	18.1	8.4	18.4	17.5	9.0	---	---	---	---	---	---
	18.0	25	24.6	20.0	7.3	23.5	19.6	7.7	22.4	19.1	8.2	21.2	18.6	8.7	19.7	18.1	9.2	19.2	17.9	9.5	---	---	---
	19.5	27	25.8	20.4	7.4	24.7	20.0	7.9	23.5	19.5	8.4	22.3	19.0	8.8	20.7	18.5	9.3	20.2	18.3	9.7	19.6	18.1	9.9
	22.0	30	28.0	21.0	7.7	26.7	20.5	8.2	25.4	20.1	8.7	24.1	19.6	9.2	22.5	19.1	9.7	22.0	18.9	10.0	21.4	18.7	10.3
	24.0	32	29.8	21.4	7.9	28.5	20.9	8.4	27.2	20.5	8.9	25.7	20.1	9.4	24.0	19.5	10.9	23.4	19.3	10.3	---	---	---

[FD10J + RU11J]

Evap. air			Entering air temp. to condenser (°CDB)																									
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
71 (0.12)	16.0	23	22.1	16.4	7.5	21.2	16.0	7.9	20.3	15.6	8.4	19.4	15.1	8.9	18.1	14.5	9.5	---	---	---	---	---	---	---	---	---
	18.0	25	23.6	16.8	7.7	22.7	16.3	8.2	21.8	16.0	8.7	20.7	15.5	9.2	19.4	14.9	9.7	18.9	14.7	10.0	---	---	---	---	---	---
	19.5	27	24.8	17.0	7.9	23.8	16.6	8.4	22.9	16.2	8.9	21.8	15.8	9.4	20.4	15.2	9.9	20.0	15.0	10.3	19.4	14.8	10.5	18.9	14.6	10.7
	22.0	30	27.0	17.4	8.2	25.9	17.0	8.7	24.8	16.6	9.2	23.6	16.1	9.8	22.2	15.6	10.3	21.6	15.4	10.7	21.1	15.2	10.9	20.5	15.0	11.1
	24.0	32	28.7	17.7	8.5	27.6	17.3	9.0	26.5	16.9	9.5	25.2	16.4	10.1	23.6	15.9	10.6	23.1	15.7	11.0	22.5	15.5	11.3	---	---	---
83 (0.14)	16.0	23	22.7	17.5	7.6	21.8	17.1	8.0	20.9	16.7	8.5	19.9	16.2	9.0	18.6	15.6	9.6	---	---	---	---	---	---	---	---	---
	18.0	25	24.3	17.9	7.8	23.3	17.5	8.3	22.4	17.1	8.8	21.3	16.7	9.3	19.9	16.1	9.8	19.4	15.8	10.1	---	---	---	---	---	---
	19.5	27	25.5	18.2	8.0	24.5	17.8	8.5	23.5	17.5	9.0	22.4	17.0	9.5	20.9	16.5	10.1	20.5	16.2	10.4	19.9	16.0	10.6	19.4	15.8	10.8
	22.0	30	27.7	18.7	8.3	26.6	18.3	8.8	25.5	17.9	9.4	24.3	17.4	9.9	22.8	16.9	10.4	22.2	16.7	10.8	21.7	16.5	11.1	21.1	16.3	11.3
	24.0	32	29.5	19.0	8.6	28.4	18.6	9.1	27.2	18.2	9.7	25.9	17.7	10.3	24.3	17.2	10.8	23.7	17.0	11.2	23.1	16.8	11.4	---	---	---
95 (0.16)	16.0	23	23.2	18.5	7.7	22.2	18.1	8.1	21.3	17.7	8.6	20.3	17.3	9.1	19.0	16.7	9.7	---	---	---	---	---	---	---	---	---
	18.0	25	24.8	19.0	7.9	23.8	18.5	8.4	22.8	18.2	8.9	21.7	17.8	9.4	20.3	17.2	9.9	19.8	17.0	10.2	---	---	---	---	---	---
	19.5	27	26.0	19.3	8.1	25.0	18.9	8.6	24.0	18.5	9.1	22.8	18.1	9.6	21.4	17.5	10.2	20.9	17.4	10.5	20.3	17.1	10.7	19.8	16.9	11.0
	22.0	30	28.3	19.9	8.4	27.1	19.4	8.9	26.0	19.0	9.5	24.8	18.6	10.0	23.3	18.1	10.6	22.6	17.9	10.9	22.1	17.7	11.2	21.5	17.5	11.4
	24.0	32	30.1	20.2	8.7	29.0	19.8	9.2	27.7	19.4	9.8	26.4	19.0	10.4	24.8	18.5	10.9	24.2	18.3	11.3	23.6	18.1	11.6	---	---	---

[FD11J + RU11J]

Evap. air			Entering air temp. to condenser (°CDB)																									
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
79 (0.12)	16.0	23	24.5	18.2	7.8	23.3	17.6	8.2	22.2	17.1	8.7	21.0	16.6	9.1	19.5	15.9	9.8	---	---	---	---	---	---	---	---	---
	18.0	25	26.2	18.6	7.9	25.0	18.1	8.4	23.8	17.6	8.9	22.5	17.0	9.3	21.0	16.4	9.9	20.4	16.1	10.1	---	---	---	---	---	---
	19.5	27	27.5	18.9	8.1	26.3	18.4	8.6	25.0	17.8	9.1	23.7	17.3	9.5	22.1	16.7	10.1	21.5	16.4	10.3	21.0	16.2	10.5	20.4	16.0	10.7
	22.0	30	29.8	19.3	8.3	28.5	18.8	8.9	27.1	18.3	9.4	25.7	17.7	9.9	24.0	17.1	10.5	23.4	16.9	10.7	22.8	16.7	10.9	22.2	16.5	11.1
	24.0	32	31.7	19.6	8.5	30.3	19.1	9.1	28.9	18.6	9.7	27.4	18.1	10.2	25.6	17.5	10.8	25.0	17.3	11.0	24.3	17.0	11.5	---	---	---
93 (0.14)	16.0	23	25.1	19.4	7.8	23.9	18.9	8.3	22.8	18.4	8.8	21.5	17.8	9.2	20.0	17.2	9.9	---	---	---	---	---	---	---	---	---
	18.0	25	26.8	19.9	8.0	25.6	19.4	8.5	24.4	18.9	9.0	23.1	18.4	9.5	21.6	17.7	10.0	20.9	17.4	10.2	---	---	---	---	---	---
	19.5	27	28.2	20.3	8.2	26.9	19.7	8.7	25.6	19.3	9.2	24.3	18.7	9.7	22.8	18.2	10.3	22.0	17.8	10.5	21.5	17.6	10.7	20.9	17.4	10.9
	22.0	30	30.5	20.7	8.4	29.2	20.2	8.9	27.8	19.7	9.5	26.3	19.2	10.0	24.7	18.6	10.7	24.0	18.4	10.9	23.4	18.2	11.1	22.8	18.0	11.3
	24.0	32	32.5	21.1	8.6	31.0	20.6	9.2	29.6	20.1	9.8	28.1	19.6	10.3	26.3	19.0	11.0	25.6	18.8	11.2	24.9	18.5	11.6	---	---	---
107 (0.16)	16.0	23	25.5	20.6	7.9	24.3	20.1	8.4	23.2	19.6	8.8	21.9	19.0	9.3	20.3	18.3	10.0	---	---	---	---	---	---	---	---	---
	18.0	25	27.3	21.1	8.1	26.0	20.6	8.6	24.8	20.1	9.1	23.5	19.6	9.6	21.9	18.9	10.1	21.3	18.7	10.3	---	---	---	---	---	---
	19.5	27	28.7	21.5	8.2	27.4	21.0	8.7	26.0	20.5	9.3	24.7	20.0	9.8	23.0	19.3	10.4	22.4	19.1	10.6	21.9	18.9	10.8	21.3	18.7	11.0
	22.0	30	31.0	22.1	8.5	29.7	21.6	9.0	28.3	21.1	9.6	26.8	20.5	10.1	25.0	19.9	10.8	24.4	19.7	11.0	23.8	19.5	11.2	23.2	19.3	11.4
	24.0	32	33.1	22.5	8.7	31.5	22.0	9.2	30.1	21.5	9.8	28.6	21.0	10.5	26.7	20.4	11.1	26.0	20.2	11.3	25.3	19.9	11.7	---	---	---

[FD16JY1 + RU16JY1]

Evap. air			Entering air temp. to condenser (°CDB)																									
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
115 (0.08)	16.0	23	35.8	26.9	13.4	34.2	26.1	14.1	32.7	25.4	14.8	31.0	24.7	15.5	---	---	---	---	---	---	---	---	---	---	---	---
	18.0	25	38.1	27.4	13.7	36.6	26.8	14.4	34.8	26.0	15.1	33.1	25.3	15.9	30.9	24.4	16.9	30.1	24.0	17.3	---	---	---	---	---	---
	19.5	27	40.0	27.9	13.9	38.3	27.2	14.7	36.6	26.4	15.4	34.7	25.7	16.2	32.4	24.8	17.3	31.6	24.5	17.7	30.8	24.2	18.0	30.0	23.9	18.4
	22.0	30	43.2	28.4	14.3	41.4	27.8	15.1	39.5	27.0	15.9	37.5	26.3	16.8	35.1	25.4	17.9	34.2	25.1	18.3	33.3	24.8	18.7	32.5	24.5	19.1
	24.0	32	45.9	28.8	14.5	44.0	28.1	15.4	42.0	27.5	16.3	39.9	26.7	17.2	37.2	25.9	18.4	---	---	---	35.5	25.3	19.2	---	---	---
136 (0.11)	16.0	23	36.7	28.8	13.6	35.1	28.1	14.2	33.5	27.4	14.9	31.8	26.7	15.7	---	---	---	---	---	---	---	---	---	---	---	---
	18.0	25	39.1	29.5	13.9	37.5	28.8	14.6	35.7	28.1	15.3	33.9	27.3	16.1	31.7	26.4	17.1	30.9	26.1	17.5	---	---	---	---	---	---
	19.5	27	41.0	30.0	14.1	39.3	29.3	14.8	37.5	28.7	15.6	35.6	27.8	16.4	33.2	27.0	17.5	32.4	26.6	17.9	31.6	26.3	18.2	30.8	26.0	18.6
	22.0	30	44.3	30.7	14.4	42.5	30.0	15.2	40.5	29.3	16.1	38.5	28.6	17.0	36.0	27.7	18.1	35.1	27.4	18.5	34.2	27.1	18.9	33.3	26.8	19.3
	24.0	32	47.1	31.2	14.7	45.1	30.5	15.6	43.1	29.8	16.4	40.9	29.1	17.4	38.2	28.2	18.6	---	---	---	36.4	27.6	19.4	---	---	---
156 (0.13)	16.0	23	37.3	30.6	13.7	35.7	29.9	14.3	34.1	29.2	15.1	32.3	28.4	15.8	---	---	---	---	---	---	---	---	---	---	---	---
	18.0	25	39.8	31.3	14.0	38.1	30.7	14.7	36.3	29.9	15.4	34.5	29.2	16.2	32.2	28.3	17.3	31.4	28.0	17.6	---	---	---	---	---	---
	19.5	27	41.7	31.9	14.2	40.0	31.2	14.9	38.1	30.5	15.7	36.2	29.8	16.6	33.8	28.8	17.6	32.9	28.5	18.0	32.1	28.2	18.4	31.3	27.9	18.8
	22.0	30	45.0	32.7	14.5	43.2	32.0	15.3	41.2	31.3	16.2	39.1	30.6	17.1	36.6	29.7	18.2	35.7	29.4	18.6	34.8	29.1	19.0	33.9	28.8	19.4
	24.0	32	47.9	33.3	14.8	45.8	32.6	15.7	43.8	31.9	16.6	41.6	31.2	17.5	38.8	30.3	18.7	---	---	---	37.0	29.8	19.6	---	---	---

[50Hz]

[FD16J + RU16JA]

Evap. air			Entering air temp. to condenser (°CDB)																							
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
115 (0.08)	16.0	23	35.8	26.9	11.9	34.2	26.1	12.6	32.7	25.4	13.3	31.0	24.7	14.0	29.0	23.8	14.9	---	---	---	---	---	---	---	---	---
	18.0	25	38.2	27.5	12.2	36.6	26.8	12.9	34.9	26.0	13.7	33.2	25.3	14.4	30.9	24.4	15.4	30.2	24.1	15.8	---	---	---	---	---	---
	19.5	27	40.1	27.9	12.4	38.3	27.2	13.2	36.6	26.4	13.9	34.7	25.7	14.8	32.5	24.8	15.8	31.7	24.5	16.1	30.9	24.2	16.5	30.1	23.9	16.9
	22.0	30	43.2	28.4	12.8	41.4	27.8	13.6	39.5	27.0	14.4	37.5	26.3	15.3	35.2	25.5	16.4	34.3	25.2	16.8	33.6	24.9	17.1	32.7	24.6	17.5
	24.0	32	45.9	28.8	13.1	44.0	28.2	13.9	41.9	27.4	14.8	39.9	26.7	15.7	37.4	25.9	16.9	36.6	25.6	17.3	35.7	25.3	17.7	---	---	---
136 (0.11)	16.0	23	36.7	28.8	12.0	35.1	28.1	12.7	33.5	27.4	13.4	31.8	26.7	14.2	29.7	25.7	15.1	---	---	---	---	---	---	---	---	---
	18.0	25	39.2	29.5	12.3	37.5	28.8	13.1	35.8	28.1	13.8	34.0	27.4	14.6	31.7	26.4	15.6	31.0	26.2	15.9	---	---	---	---	---	---
	19.5	27	41.1	30.0	12.5	39.3	29.3	13.3	37.5	28.7	14.1	35.6	27.8	14.9	33.3	27.1	16.0	32.5	26.6	16.3	31.7	26.4	16.7	30.9	26.0	17.0
	22.0	30	44.3	30.7	12.9	42.5	30.0	13.7	40.5	29.3	14.6	38.5	28.6	15.5	36.1	27.7	16.6	35.2	27.4	17.0	34.4	27.1	17.3	33.5	26.8	17.7
	24.0	32	47.1	31.2	13.2	45.1	30.5	14.1	43.0	29.8	15.0	40.9	29.1	15.9	38.3	28.3	17.1	37.5	28.0	17.5	36.6	27.7	17.9	---	---	---
156 (0.13)	16.0	23	37.3	30.6	12.1	35.7	29.9	12.8	34.1	29.1	13.5	32.3	28.4	14.3	30.2	27.5	15.2	---	---	---	---	---	---	---	---	---
	18.0	25	39.9	31.4	12.4	38.1	30.7	13.2	36.4	30.0	13.9	34.6	29.2	14.7	32.2	28.3	15.7	31.5	28.0	16.1	---	---	---	---	---	---
	19.5	27	41.8	31.9	12.6	40.0	31.2	13.4	38.1	30.5	14.2	36.2	29.8	15.0	33.9	28.9	16.1	33.0	28.6	16.4	32.2	28.3	16.8	31.4	28.0	17.2
	22.0	30	45.0	32.7	13.0	43.2	32.0	13.8	41.2	31.3	14.7	39.1	30.6	15.6	36.7	29.7	16.7	35.8	29.4	17.1	35.0	29.2	17.5	34.1	28.9	17.9
	24.0	32	47.9	33.3	13.3	45.8	32.6	14.2	43.7	31.9	15.1	41.6	31.2	16.0	38.9	30.4	17.2	38.1	30.1	17.6	37.2	29.8	18.0	---	---	---

[FD22JY1 + RU22JY1]

Evap. air			Entering air temp. to condenser (°CDB)																							
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
192 (0.09)	16.0	23	49.2	40.0	17.4	47.4	39.2	18.2	45.3	38.3	19.1	43.1	37.3	20.1	40.2	36.1	21.3	---	---	---	---	---	---	---	---	---
	18.0	25	52.7	41.1	17.8	50.6	40.2	18.7	48.5	39.3	19.7	46.0	38.3	20.7	43.0	37.1	21.9	42.0	36.7	22.3	---	---	---	---	---	---
	19.5	27	55.4	41.8	18.2	53.3	41.0	19.1	50.9	40.0	20.1	48.4	39.1	21.1	45.2	37.9	22.4	44.1	37.4	22.8	43.0	37.0	23.3	41.8	36.6	23.7
	22.0	30	60.1	42.9	18.8	57.8	42.1	19.8	55.2	41.2	20.8	52.6	40.3	21.9	49.1	39.0	23.2	47.9	38.6	23.7	46.6	38.2	24.1	45.4	37.8	24.6
	24.0	32	64.0	43.7	19.3	61.5	42.9	20.3	58.8	42.0	21.4	56.0	41.1	22.5	52.3	39.9	23.9	51.0	39.5	24.4	49.7	39.1	24.9	---	---	---
226 (0.11)	16.0	23	50.3	43.2	17.6	48.4	42.4	18.4	46.3	41.5	19.3	44.0	40.5	20.3	41.1	39.2	21.5	---	---	---	---	---	---	---	---	---
	18.0	25	53.8	44.4	18.0	51.7	43.5	18.9	49.5	42.7	19.9	47.0	41.7	20.9	43.9	40.4	22.1	42.9	40.1	22.6	---	---	---	---	---	---
	19.5	27	56.6	45.3	18.4	54.4	44.4	19.3	52.0	43.7	20.3	49.4	42.5	21.3	46.2	41.5	22.6	45.0	40.9	23.1	43.9	40.5	23.5	42.7	40.1	24.0
	22.0	30	61.4	46.6	19.0	59.0	45.7	20.0	56.4	44.8	21.0	53.7	43.9	22.1	50.1	42.7	23.5	48.9	42.3	23.9	47.6	41.9	24.4	46.4	41.5	24.9
	24.0	32	65.4	47.5	19.5	62.8	46.7	20.6	60.1	45.8	21.6	57.2	44.9	22.8	53.4	43.7	24.2	52.1	43.3	24.6	50.8	42.9	25.1	---	---	---
260 (0.13)	16.0	23	51.0	46.1	17.7	49.1	45.3	18.6	47.0	44.4	19.5	44.7	43.4	20.5	41.7	41.7	21.7	---	---	---	---	---	---	---	---	---
	18.0	25	54.6	47.5	18.2	52.5	46.7	19.1	50.2	45.8	20.0	47.7	44.8	21.0	44.5	43.6	22.3	43.5	43.2	22.7	---	---	---	---	---	---
	19.5	27	57.4	48.5	18.5	55.2	47.7	19.5	52.8	46.7	20.4	50.1	45.8	21.5	46.9	44.6	22.8	45.7	44.2	23.2	44.5	43.8	23.7	43.3	43.3	24.1
	22.0	30	62.3	50.0	19.1	59.9	49.2	20.1	57.2	48.3	21.2	54.5	47.3	22.3	50.8	46.2	23.6	49.6	45.7	24.1	48.3	45.3	24.6	47.1	44.9	25.0
	24.0	32	66.4	51.1	19.7	63.7	50.3	20.7	61.0	49.4	21.8	58.0	48.5	22.9	54.2	47.3	24.3	52.9	46.9	24.8	51.6	46.5	25.3	---	---	---

[FD22J + RU22JA]

Evap. air			Entering air temp. to condenser (°CDB)																							
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
192 (0.09)	16.0	23	49.4	40.0	15.0	47.4	39.2	15.8	45.3	38.3	16.7	43.1	37.3	17.7	40.3	36.1	18.8	---	---	---	---	---	---	---	---	---
	18.0	25	52.8	41.1	15.4	50.7	40.2	16.3	48.5	39.3	17.3	46.1	38.4	18.3	43.1	37.1	19.5	42.1	36.7	19.9	---	---	---	---	---	---
	19.5	27	55.5	41.9	15.8	53.3	41.0	16.7	50.9	40.1	17.7	48.5	39.1	18.7	45.3	37.9	19.9	44.3	37.5	20.4	43.2	37.1	20.8	42.0	36.7	21.2
	22.0	30	60.1	42.8	16.5	57.8	42.1	17.4	55.2	41.2	18.5	52.5	40.2	19.5	49.2	39.1	20.8	48.0	38.6	21.2	46.8	38.3	21.7	45.6	37.9	22.1
	24.0	32	64.0	43.7	17.0	61.5	42.9	18.0	58.8	42.0	19.1	56.0	41.1	20.2	52.4	39.9	21.5	51.2	39.5	21.9	49.9	39.1	22.4	---	---	---
226 (0.11)	16.0	23	50.4	43.2	15.1	48.4	42.4	16.0	46.3	41.5	16.9	44.0	40.5	17.9	41.2	39.3	19.0	---	---	---	---	---	---	---	---	---
	18.0	25	53.9	44.4	15.6	51.8	43.6	16.5	49.5	42.7	17.5	47.1	41.7	18.4	44.0	40.5	19.7	43.0	40.1	20.1	---	---	---	---	---	---
	19.5	27	56.7	45.3	16.0	54.4	44.4	16.9	52.0	43.7	17.9	49.5	42.6	18.9	46.3	41.6	20.2	45.2	41.0	20.6	44.1	40.6	21.0	42.9	40.1	21.4
	22.0	30	61.4	46.6	16.6	59.0	45.7	17.6	56.4	44.8	18.7	53.6	43.9	19.7	50.2	42.7	21.0	48.0	42.3	21.4	47.8	41.9	21.9	46.6	41.5	22.3
	24.0	32	65.4	47.5	17.2	62.8	46.7	18.2	60.0	45.8	19.3	57.2	44.9	20.4	53.5	43.7	21.7	52.3	43.4	22.2	51.0	43.0	22.6	---	---	---
260 (0.13)	16.0	23	51.1	46.2	15.2	49.1	45.3	16.1	47.0	44.4	17.0	44.6	43.5	18.0	41.8	41.8	19.2	---	---	---	---	---	---	---	---	---
	18.0	25	54.7	47.6	15.7	52.6	46.7	16.6	50.2	45.8	17.6	47.8	44.9	18.6	44.6	43.7	19.8	43.6	43.3	20.2	---	---	---	---	---	---
	19.5	27	57.5	48.5	16.1	55.2	47.7	17.1	52.8	46.8	18.0	50.2	45.9	19.0	47.0	44.7	20.3	45.9	44.2	20.7	44.7	43.9	21.2	43.5	43.4	21.6
	22.0	30	62.3	50.0	16.8	59.9	49.2	17.8	57.2	48.3	18.8	54.4	47.3	19.9	50.9	46.2	21.2	49.7	45.8	21.6	48.5	45.4	22.0	47.3	45.0	22.5
	24.0	32	66.4	51.1	17.3	63.7	50.2	18.4	60.9	49.4	19.4	58.0	48.5	20.5	54.3	47.3	21.9	53.1	47.0	22.3	51.7	46.6	22.8	---	---	---

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW) (Comp. + condenser fan motor)

Notes:

1. Rating shown is gross capacity which does not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB. Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

[60Hz]

[FD03MVHL+R71BBVHL]

Indoor AFR (BF)	Indoor EWB (°C)	Indoor EDB (°C)	Outdoor temperature (°CDB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI	50 TC	50 SHC	50 PI
23 (0.07)	16.0	23	6.8	5.2	2.6	6.5	5.1	2.9	6.3	5.0	3.2	5.9	4.9	3.5	5.5	4.7	4.0	5.4	4.6	4.1	5.3	4.6	4.3
	18.0	25	7.2	5.4	2.7	6.9	5.2	3.0	6.6	5.1	3.3	6.3	5.0	3.6	5.9	4.8	4.1	5.8	4.7	4.2	5.6	4.7	4.4
	19.5	27	7.5	5.4	2.7	7.3	5.3	3.0	6.9	5.2	3.3	6.6	5.1	3.7	6.2	4.9	4.1	6.0	4.8	4.3	5.9	4.8	4.4
	22.0	30	8.1	5.5	2.8	7.8	5.4	3.1	7.5	5.3	3.4	7.1	5.2	3.8	6.6	5.0	4.2	6.5	4.9	4.4	6.3	4.9	4.6
	24.0	32	8.6	5.6	2.8	8.3	5.5	3.1	7.9	5.4	3.5	7.5	5.3	3.8	7.0	5.1	4.3	6.9	5.0	4.5	—	—	—
27 (0.07)	16.0	23	6.9	5.7	2.7	6.7	5.6	2.9	6.4	5.4	3.2	6.1	5.3	3.6	5.7	5.1	4.0	5.5	5.1	4.1	5.4	5.0	4.3
	18.0	25	7.4	5.8	2.7	7.1	5.7	3.0	6.8	5.6	3.3	6.5	5.4	3.6	6.0	5.3	4.1	5.9	5.2	4.2	5.7	5.2	4.4
	19.5	27	7.7	5.9	2.7	7.4	5.8	3.0	7.1	5.7	3.3	6.8	5.5	3.7	6.3	5.4	4.1	6.2	5.3	4.3	6.0	5.3	4.5
	22.0	30	8.3	6.1	2.8	8.0	5.9	3.1	7.6	5.8	3.4	7.3	5.7	3.8	6.8	5.5	4.3	6.6	5.5	4.4	6.5	5.4	4.6
	24.0	32	8.8	6.1	2.8	8.4	6.0	3.2	8.1	5.9	3.5	7.7	5.8	3.9	7.2	5.6	4.3	7.0	5.6	4.5	—	—	—
31 (0.07)	16.0	23	7.0	6.1	2.7	6.8	6.0	3.0	6.5	5.9	3.3	6.2	5.7	3.6	5.8	5.6	4.0	5.6	5.5	4.2	5.5	5.4	4.3
	18.0	25	7.5	6.3	2.7	7.2	6.1	3.0	6.9	6.0	3.3	6.6	5.9	3.7	6.1	5.7	4.1	6.0	5.7	4.3	5.8	5.6	4.4
	19.5	27	7.8	6.4	2.8	7.5	6.2	3.0	7.2	6.1	3.4	6.9	6.0	3.7	6.4	5.8	4.2	6.2	5.8	4.3	6.1	5.7	4.5
	22.0	30	8.4	6.5	2.8	8.1	6.4	3.1	7.8	6.3	3.4	7.4	6.2	3.8	6.9	6.0	4.3	6.7	6.0	4.4	6.6	5.9	4.6
	24.0	32	8.9	6.6	2.8	8.6	6.5	3.2	8.2	6.4	3.5	7.8	6.3	3.9	7.3	6.1	4.4	7.1	6.1	4.5	—	—	—

[FD03MVHL+R100BBVHL]

Indoor AFR (BF)	Indoor EWB (°C)	Indoor EDB (°C)	Outdoor temperature (°CDB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI	50 TC	50 SHC	50 PI
23 (0.07)	16.0	23	8.6	6.1	3.5	8.3	5.9	3.8	8.0	5.8	4.1	7.6	5.6	4.5	7.1	5.4	5.1	7.0	5.3	5.3	6.8	5.2	5.5
	18.0	25	9.2	6.2	3.5	8.8	6.1	3.8	8.5	5.9	4.2	8.1	5.7	4.6	7.6	5.5	5.2	7.4	5.4	5.3	7.2	5.3	5.5
	19.5	27	9.6	6.3	3.5	9.3	6.1	3.9	8.9	6.0	4.3	8.5	5.8	4.7	8.0	5.6	5.2	7.8	5.5	5.4	7.6	5.4	5.6
	22.0	30	10.3	6.4	3.6	10.0	6.2	4.0	9.6	6.1	4.4	9.2	5.9	4.8	8.6	5.7	5.3	8.4	5.6	5.5	8.2	5.6	5.7
	24.0	32	11.0	6.5	3.7	10.6	6.3	4.0	10.2	6.1	4.4	9.8	6.0	4.9	9.2	5.8	5.4	9.0	5.7	5.6	—	—	—
27 (0.10)	16.0	23	8.9	6.5	3.5	8.6	6.4	3.8	8.2	6.2	4.2	7.9	6.0	4.6	7.4	5.8	5.1	7.2	5.7	5.3	7.0	5.6	5.5
	18.0	25	9.5	6.6	3.5	9.1	6.5	3.9	8.8	6.3	4.2	8.4	6.2	4.7	7.9	5.9	5.2	7.7	5.9	5.4	7.5	5.8	5.6
	19.5	27	9.9	6.7	3.6	9.6	6.6	3.9	9.2	6.4	4.3	8.8	6.3	4.7	8.3	6.0	5.3	8.1	6.0	5.5	7.9	5.9	5.7
	22.0	30	10.7	6.9	3.7	10.3	6.7	4.0	9.9	6.6	4.4	9.5	6.4	4.8	8.9	6.2	5.4	8.7	6.1	5.6	8.5	6.0	5.8
	24.0	32	11.4	7.0	3.7	11.0	6.8	4.1	10.5	6.6	4.5	10.1	6.5	4.9	9.5	6.3	5.5	9.3	6.2	5.7	—	—	—
31 (0.12)	16.0	23	9.1	6.9	3.5	8.8	6.8	3.8	8.4	6.6	4.2	8.1	6.4	4.6	7.5	6.2	5.2	7.4	6.1	5.3	7.2	6.0	5.5
	18.0	25	9.7	7.0	3.6	9.4	6.9	3.9	9.0	6.7	4.3	8.6	6.6	4.7	8.1	6.3	5.2	7.9	6.3	5.4	7.7	6.2	5.6
	19.5	27	10.2	7.2	3.6	9.8	7.0	3.9	9.4	6.8	4.3	9.0	6.7	4.8	8.5	6.5	5.3	8.3	6.4	5.5	8.1	6.3	5.7
	22.0	30	11.0	7.3	3.7	10.6	7.1	4.0	10.2	7.0	4.4	9.7	6.8	4.9	9.1	6.6	5.4	8.9	6.5	5.6	8.7	6.5	5.8
	24.0	32	11.7	7.4	3.7	11.3	7.3	4.1	10.8	7.1	4.5	10.3	6.9	4.9	9.7	6.7	5.5	9.5	6.7	5.7	—	—	—

[FD04MVHL+R100BBVHL]

Indoor AFR (BF)	Indoor EWB (°C)	Indoor EDB (°C)	Outdoor temperature (°CDB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI	50 TC	50 SHC	50 PI
31 (0.08)	16.0	23	9.5	7.2	3.6	9.2	7.0	4.0	8.8	6.8	4.3	8.3	6.6	4.7	7.8	6.4	5.3	7.6	6.3	5.5	7.4	6.2	5.7
	18.0	25	10.2	7.4	3.7	9.8	7.2	4.0	9.3	7.0	4.4	8.9	6.8	4.8	8.3	6.6	5.4	8.1	6.5	5.6	7.9	6.4	5.8
	19.5	27	10.7	7.5	3.7	10.3	7.3	4.1	9.8	7.1	4.5	9.3	6.9	4.9	8.7	6.7	5.5	8.5	6.6	5.7	8.3	6.5	5.9
	22.0	30	11.5	7.6	3.8	11.1	7.5	4.2	10.6	7.3	4.6	10.1	7.1	5.0	9.4	6.8	5.6	9.2	6.8	5.8	8.9	6.7	6.0
	24.0	32	12.1	7.7	3.9	11.7	7.6	4.3	11.3	7.4	4.7	10.7	7.2	5.1	10.0	7.0	5.7	9.8	6.9	5.9	—	—	—
36 (0.09)	16.0	23	9.8	7.7	3.6	9.4	7.6	4.0	8.9	7.4	4.4	8.5	7.2	4.8	7.9	6.9	5.3	7.7	6.8	5.5	7.5	6.7	5.7
	18.0	25	10.4	7.9	3.7	10.0	7.7	4.1	9.5	7.6	4.4	9.1	7.4	4.9	8.5	7.1	5.4	8.3	7.0	5.6	8.0	6.9	5.8
	19.5	27	10.9	8.0	3.8	10.5	7.9	4.1	10.0	7.7	4.5	9.5	7.5	4.9	8.9	7.2	5.5	8.7	7.2	5.7	8.4	7.1	5.9
	22.0	30	11.7	8.2	3.8	11.3	8.1	4.2	10.8	7.9	4.6	10.3	7.7	5.1	9.6	7.5	5.6	9.4	7.4	5.8	9.1	7.3	6.1
	24.0	32	12.4	8.3	3.9	12.0	8.2	4.3	11.5	8.0	4.7	10.9	7.8	5.2	10.2	7.6	5.7	10.0	7.5	6.0	—	—	—
41 (0.10)	16.0	23	9.9	8.2	3.7	9.5	8.1	4.0	9.1	7.9	4.4	8.6	7.7	4.8	8.0	7.4	5.4	7.8	7.3	5.6	7.6	7.3	5.8
	18.0	25	10.5	8.4	3.7	10.1	8.3	4.1	9.7	8.1	4.5	9.2	7.9	4.9	8.6	7.7	5.5	8.4	7.6	5.7	8.2	7.5	5.9
	19.5	27	11.1	8.6	3.8	10.6	8.4	4.1	10.1	8.2	4.5	9.6	8.0	5.0	9.0	7.8	5.5	8.8	7.7	5.7	8.6	7.6	5.9
	22.0	30	11.9	8.8	3.9	11.5	8.6	4.2	11.0	8.5	4.6	10.4	8.3	5.1	9.7	8.0	5.7	9.5	8.0	5.9	9.3	7.9	6.1
	24.0	32	12.6	8.9	3.9	12.2	8.8	4.3	11.7	8.6	4.7	11.1	8.4	5.2	10.3	8.2	5.8	10.1	8.1	6.0	—	—	—

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW) (Comp. + condenser fan motor)

Notes:

1. Rating shown is gross capacity which does not include a deduction for evaporator fan motor heat.
2. ▨ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB. Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

[60Hz]

[FD05J + RU05J]

Evap. air			Entering air temp. to condenser (°CDB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
39 (0.07)	16.0	23	13.2	9.7	5.0	12.7	9.4	5.3	12.1	9.2	5.6	11.6	8.9	5.8	---	---	---	---	---	---
	18.0	25	14.1	9.9	5.1	13.6	9.7	5.4	13.0	9.4	5.7	12.3	9.1	6.0	11.5	8.7	6.3	11.2	8.6	6.5
	19.5	27	14.9	10.1	5.2	14.3	9.8	5.5	13.7	9.6	5.8	13.0	9.3	6.1	12.0	8.9	6.4	11.8	8.8	6.6
	22.0	30	16.1	10.3	5.3	15.5	10.0	5.7	14.9	9.8	6.0	14.1	9.5	6.4	13.1	9.1	6.6	12.7	9.0	6.9
	24.0	32	17.2	10.4	5.5	16.5	10.2	5.8	15.8	9.9	6.2	15.1	9.7	6.5	14.0	9.3	6.8	---	---	---
46 (0.09)	16.0	23	13.6	10.4	5.0	13.1	10.2	5.3	12.5	9.9	5.6	11.9	9.6	5.9	---	---	---	---	---	---
	18.0	25	14.5	10.6	5.2	14.0	10.4	5.5	13.4	10.2	5.8	12.7	9.9	6.1	11.8	9.5	6.4	11.5	9.4	6.6
	19.5	27	15.3	10.8	5.2	14.7	10.6	5.6	14.1	10.4	5.9	13.4	10.1	6.2	12.4	9.7	6.5	12.1	9.5	6.7
	22.0	30	16.6	11.1	5.4	16.0	10.9	5.7	15.3	10.6	6.1	14.5	10.3	6.4	13.5	9.9	6.7	13.1	9.8	7.0
	24.0	32	17.7	11.3	5.5	17.0	11.0	5.9	16.3	10.8	6.2	15.5	10.5	6.6	14.4	10.1	6.9	---	---	---
53 (0.11)	16.0	23	13.9	11.1	5.1	13.4	10.8	5.4	12.8	10.6	5.7	12.1	10.3	6.0	---	---	---	---	---	---
	18.0	25	14.8	11.3	5.2	14.3	11.1	5.5	13.7	10.9	5.8	13.0	10.6	6.1	12.0	10.2	6.5	11.7	10.1	6.6
	19.5	27	15.6	11.5	5.3	15.0	11.3	5.6	14.4	11.1	5.9	13.7	10.8	6.3	12.7	10.4	6.6	12.3	10.3	6.8
	22.0	30	16.9	11.8	5.4	16.3	11.6	5.8	15.6	11.4	6.1	14.8	11.1	6.5	13.8	10.7	6.8	13.4	10.6	7.0
	24.0	32	18.1	12.1	5.6	17.3	11.8	5.9	16.6	11.6	6.3	15.8	11.3	6.7	14.7	10.9	7.0	---	---	---

[FD07J + RU05J]

Evap. air			Entering air temp. to condenser (°CDB)														
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
51 (0.07)	16.0	23	14.3	11.2	5.2	13.7	11.0	5.5	13.1	10.7	5.8	12.3	10.4	6.1	---	---	---
	18.0	25	15.3	11.5	5.3	14.7	11.3	5.6	14.0	11.0	5.9	13.2	10.7	6.2	12.2	10.3	6.5
	19.5	27	16.0	11.7	5.4	15.3	11.5	5.7	14.7	11.2	6.0	13.9	10.9	6.4	12.8	10.5	6.7
	22.0	30	17.3	12.0	5.5	16.6	11.7	5.9	15.8	11.5	6.2	15.1	11.2	6.6	13.9	10.8	6.9
	24.0	32	18.5	12.2	5.7	17.7	11.9	6.0	16.9	11.7	6.4	16.0	11.4	6.7	---	---	---
60 (0.09)	16.0	23	14.6	12.1	5.2	14.0	11.9	5.5	13.4	11.6	5.8	12.6	11.3	6.1	---	---	---
	18.0	25	15.6	12.5	5.3	15.0	12.2	5.7	14.3	11.9	6.0	13.5	11.6	6.3	12.5	11.2	6.6
	19.5	27	16.4	12.7	5.4	15.7	12.4	5.8	15.0	12.2	6.1	14.2	11.9	6.4	13.1	11.5	6.7
	22.0	30	17.7	13.0	5.6	17.0	12.8	5.9	16.2	12.5	6.3	15.4	12.2	6.6	14.2	11.8	7.0
	24.0	32	18.9	13.3	5.7	18.1	13.0	6.1	17.3	12.8	6.5	16.4	12.5	6.8	---	---	---
69 (0.11)	16.0	23	14.8	13.0	5.2	14.2	12.7	5.6	13.6	12.4	5.9	12.8	12.1	6.2	---	---	---
	18.0	25	15.8	13.3	5.4	15.2	13.1	5.7	14.5	12.8	6.0	13.7	12.5	6.3	12.7	12.1	6.7
	19.5	27	16.7	13.6	5.5	16.0	13.3	5.8	15.2	13.1	6.1	14.4	12.8	6.5	13.3	12.4	6.8
	22.0	30	18.0	14.0	5.6	17.3	13.7	6.0	16.5	13.4	6.3	15.6	13.2	6.7	14.4	12.8	7.0
	24.0	32	19.2	14.3	5.7	18.4	14.0	6.1	17.6	13.8	6.5	16.7	13.5	6.9	---	---	---

[FD05J + RU07J]

Evap. air			Entering air temp. to condenser (°CDB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
39 (0.07)	16.0	23	14.3	10.2	5.5	13.9	10.0	5.8	13.4	9.8	6.0	12.7	9.4	6.3	---	---	---	---	---	---
	18.0	25	15.4	10.5	5.6	14.8	10.2	5.9	14.3	10.0	6.2	13.7	9.7	6.5	12.7	9.3	6.9	12.4	9.1	7.0
	19.5	27	16.2	10.6	5.7	15.6	10.4	6.0	15.0	10.1	6.3	14.3	9.8	6.6	13.4	9.4	7.0	13.1	9.3	7.2
	22.0	30	17.5	10.8	5.9	17.0	10.6	6.2	16.3	10.3	6.5	15.5	10.0	6.8	14.5	9.7	7.3	14.2	9.5	7.4
	24.0	32	18.7	11.0	6.0	18.1	10.8	6.4	17.4	10.5	6.7	16.6	10.2	7.0	15.5	9.8	7.4	---	---	---
46 (0.09)	16.0	23	14.8	11.0	5.6	14.3	10.7	5.8	13.8	10.5	6.1	13.1	10.2	6.4	---	---	---	---	---	---
	18.0	25	15.9	11.2	5.7	15.3	11.0	6.0	14.7	10.7	6.3	14.1	10.5	6.6	13.1	10.0	7.0	12.8	9.9	7.1
	19.5	27	16.7	11.4	5.8	16.1	11.2	6.1	15.5	11.0	6.4	14.8	10.6	6.7	13.8	10.3	7.1	13.5	10.1	7.3
	22.0	30	18.1	11.7	6.0	17.5	11.4	6.3	16.8	11.2	6.6	16.0	10.9	6.9	15.0	10.5	7.3	14.6	10.3	7.5
	24.0	32	19.3	11.8	6.1	18.7	11.6	6.4	17.9	11.3	6.8	17.1	11.1	7.1	16.0	10.7	7.5	---	---	---
53 (0.11)	16.0	23	15.1	11.6	5.6	14.6	11.4	5.9	14.1	11.2	6.2	13.4	10.8	6.5	---	---	---	---	---	---
	18.0	25	16.2	11.9	5.8	15.6	11.7	6.0	15.0	11.4	6.3	14.4	11.2	6.6	13.4	10.7	7.0	13.1	10.6	7.2
	19.5	27	17.1	12.1	5.9	16.5	11.9	6.2	15.8	11.6	6.5	15.1	11.4	6.8	14.1	10.9	7.2	13.8	10.8	7.3
	22.0	30	18.5	12.4	6.0	17.9	12.2	6.3	17.2	11.9	6.7	16.4	11.6	7.0	15.3	11.3	7.4	14.9	11.1	7.6
	24.0	32	19.7	12.6	6.2	19.1	12.4	6.5	18.3	12.1	6.8	17.5	11.9	7.2	16.4	11.5	7.6	---	---	---

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW) (Comp. + condenser fan motor)

Notes:

1. Rating shown is gross capacity which does not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB. Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

[60Hz]

[FD07J + RU07J]

Evap. air			Entering air temp. to condenser (°CDB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
51 (0.07)	16.0	23	15.7	11.9	5.7	15.1	11.6	6.0	14.5	11.4	6.3	13.8	11.0	6.6	---	---	---	---	---	---
	18.0	25	16.8	12.2	5.8	16.2	11.9	6.1	15.5	11.6	6.4	14.7	11.3	6.7	13.8	10.9	7.1	13.4	10.7	7.3
	19.5	27	17.7	12.4	5.9	17.0	12.1	6.2	16.3	11.8	6.5	15.5	11.5	6.9	14.4	11.1	7.3	14.1	10.9	7.4
	22.0	30	19.1	12.7	6.1	18.4	12.4	6.4	17.7	12.1	6.7	16.8	11.8	7.1	15.6	11.4	7.5	15.2	11.2	7.6
	24.0	32	20.4	12.9	6.2	19.6	12.6	6.6	18.8	12.3	6.9	17.9	12.0	7.2	16.7	11.6	7.7	---	---	---
60 (0.09)	16.0	23	16.1	12.8	5.7	15.5	12.5	6.0	14.9	12.3	6.3	14.1	11.9	6.6	---	---	---	---	---	---
	18.0	25	17.2	13.1	5.9	16.6	12.9	6.2	15.9	12.6	6.5	15.1	12.3	6.8	14.1	11.8	7.2	13.7	11.7	7.3
	19.5	27	18.1	13.4	6.0	17.4	13.1	6.3	16.7	12.8	6.5	15.9	12.5	6.9	14.8	12.2	7.3	14.4	11.9	7.5
	22.0	30	19.6	13.7	6.2	18.9	13.4	6.5	18.1	13.2	6.8	17.2	12.8	7.1	16.0	12.4	7.6	15.6	12.3	7.7
	24.0	32	20.9	13.9	6.3	20.1	13.7	6.6	19.3	13.4	7.0	18.3	13.1	7.3	17.1	12.7	7.7	---	---	---
69 (0.11)	16.0	23	16.4	13.6	5.8	15.8	13.4	6.1	15.2	13.1	6.4	14.3	12.8	6.7	---	---	---	---	---	---
	18.0	25	17.5	14.0	5.9	16.9	13.8	6.2	16.2	13.5	6.5	15.4	13.1	6.8	14.3	12.7	7.2	13.9	12.6	7.4
	19.5	27	18.4	14.3	6.0	17.7	14.0	6.3	17.0	13.7	6.6	16.2	13.4	7.0	15.1	13.0	7.4	14.6	12.9	7.5
	22.0	30	19.9	14.7	6.2	19.2	14.4	6.5	18.4	14.1	6.8	17.5	13.8	7.2	16.3	13.4	7.6	15.9	13.2	7.7
	24.0	32	21.3	14.9	6.3	20.4	14.7	6.7	19.6	14.4	7.0	18.6	14.1	7.4	17.4	13.7	7.8	---	---	---

[FD08J + RU07J]

Evap. air			Entering air temp. to condenser (°CDB)														
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
58 (0.12)	16.0	23	16.3	12.6	5.9	15.8	12.3	6.2	15.1	12.0	6.5	14.3	11.6	6.8	---	---	---
	18.0	25	17.5	12.9	6.0	16.8	12.6	6.3	16.1	12.3	6.6	15.3	12.0	6.9	14.2	11.5	7.3
	19.5	27	18.4	13.1	6.1	17.7	12.8	6.4	16.9	12.5	6.7	16.0	12.2	7.1	15.0	11.7	7.5
	22.0	30	20.0	13.4	6.3	19.2	13.1	6.6	18.3	12.8	6.9	17.4	12.5	7.3	16.2	12.1	7.7
	24.0	32	21.2	13.6	6.4	20.4	13.3	6.8	19.5	13.0	7.1	18.5	12.7	7.5	---	---	---
68 (0.14)	16.0	23	16.7	13.5	5.9	16.1	13.2	6.2	15.4	12.9	6.5	14.6	12.5	6.8	---	---	---
	18.0	25	17.9	13.8	6.1	17.2	13.5	6.4	16.5	13.3	6.7	15.6	12.9	7.0	14.5	12.4	7.4
	19.5	27	18.8	14.1	6.2	18.1	13.8	6.5	17.3	13.6	6.8	16.4	13.1	7.1	15.3	12.8	7.5
	22.0	30	20.4	14.5	6.4	19.6	14.2	6.7	18.7	13.8	7.0	17.8	13.5	7.3	16.6	13.1	7.8
	24.0	32	21.7	14.7	6.5	20.8	14.4	6.8	19.9	14.1	7.2	18.9	13.8	7.5	---	---	---
78 (0.16)	16.0	23	17.0	14.3	6.0	16.3	14.0	6.2	15.6	13.7	6.5	14.8	13.4	6.9	---	---	---
	18.0	25	18.2	14.7	6.1	17.5	14.4	6.4	16.8	14.1	6.7	15.8	13.8	7.0	14.7	13.3	7.4
	19.5	27	19.1	15.0	6.2	18.4	14.7	6.5	17.6	14.4	6.8	16.7	14.1	7.2	15.5	13.6	7.6
	22.0	30	20.7	15.4	6.4	19.9	15.1	6.7	19.0	14.8	7.0	18.1	14.5	7.4	16.9	14.1	7.8
	24.0	32	22.0	15.7	6.5	21.1	15.4	6.9	20.2	15.1	7.2	19.2	14.8	7.6	---	---	---

[FD07J + RU08J]

Evap. air			Entering air temp. to condenser (°CDB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
51 (0.07)	16.0	23	18.8	13.4	6.5	17.9	13.0	6.7	17.1	12.6	7.1	16.3	12.2	7.4	---	---	---	---	---	---
	18.0	25	20.0	13.7	6.6	19.2	13.3	7.0	18.3	12.9	7.3	17.4	12.5	7.7	16.5	12.0	8.1	16.2	11.9	8.4
	19.5	27	21.1	13.9	6.8	20.1	13.5	7.1	19.3	13.1	7.5	18.4	12.7	7.9	17.3	12.3	8.3	17.0	12.1	8.6
	22.0	30	22.8	14.1	7.0	21.9	13.7	7.4	20.9	13.4	7.8	19.9	13.0	8.2	18.9	12.6	8.7	18.5	12.4	9.0
	24.0	32	24.3	14.3	7.2	23.2	13.9	7.6	22.3	13.5	8.0	21.3	13.2	8.5	20.1	12.8	9.0	---	---	---
60 (0.09)	16.0	23	19.4	14.3	6.6	18.5	13.9	6.9	17.7	13.5	7.2	16.8	13.1	7.5	---	---	---	---	---	---
	18.0	25	20.7	14.7	6.7	19.8	14.3	7.1	18.9	13.9	7.4	18.0	13.5	7.8	17.0	13.0	8.3	16.7	12.9	8.5
	19.5	27	21.8	14.9	6.9	20.8	14.5	7.2	19.9	14.2	7.6	19.0	13.7	8.0	17.9	13.4	8.5	17.6	13.2	8.7
	22.0	30	23.6	15.2	7.1	22.6	14.8	7.5	21.6	14.4	7.9	20.6	14.1	8.4	19.5	13.7	8.9	19.1	13.5	9.2
	24.0	32	25.1	15.4	7.3	24.0	15.0	7.7	23.0	14.7	8.1	22.0	14.3	8.6	20.8	13.9	9.1	---	---	---
69 (0.11)	16.0	23	19.8	15.2	6.6	18.9	14.8	6.9	18.1	14.4	7.3	17.2	14.0	7.6	---	---	---	---	---	---
	18.0	25	21.2	15.6	6.8	20.3	15.2	7.1	19.3	14.8	7.5	18.4	14.4	7.9	17.4	14.0	8.4	17.1	13.8	8.6
	19.5	27	22.3	15.8	7.0	21.3	15.4	7.3	20.4	15.1	7.7	19.4	14.7	8.1	18.3	14.2	8.6	18.0	14.1	8.8
	22.0	30	24.1	16.2	7.2	23.1	15.8	7.6	22.1	15.4	8.0	21.1	15.1	8.5	20.0	14.7	9.0	19.5	14.5	9.3
	24.0	32	25.7	16.5	7.4	24.8	16.1	7.8	23.5	15.7	8.2	22.5	15.4	8.7	21.3	15.0	9.3	---	---	---

Symbols:

- AFR : Air flow rate (m^3/min.)
- BF : Bypass factor
- EWB : Entering wet bulb temp. (°CWB)
- EDB : Entering dry bulb temp. (°CDB)
- TC : Total cooling capacity (x1000 kcal/h)
- SHC : Sensible heat capacity (x1000 kcal/h)
- PI : Power input (kW) (Comp. + condenser fan motor)

Notes:

1. Rating shown is gross capacity which does not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB. Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

[60Hz]

[FD08J + RU08J]

Evap. air			Entering air temp. to condenser (°CDB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
58 (0.12)	16.0	23	19.8	14.2	6.6	18.9	13.8	6.9	18.0	13.3	7.3	17.1	12.9	7.6	---	---	---	---	---	---
	18.0	25	21.2	14.5	6.8	20.2	14.1	7.1	19.3	13.7	7.5	18.4	13.3	7.9	17.3	12.8	8.4	17.0	12.7	8.6
	19.5	27	22.2	14.8	6.9	21.3	14.3	7.3	20.3	13.9	7.7	19.3	13.5	8.1	18.3	13.1	8.6	17.9	12.9	8.9
	22.0	30	24.1	15.0	7.2	23.0	14.6	7.6	22.0	14.2	8.0	21.1	13.9	8.5	19.9	13.4	9.0	19.5	13.3	9.3
	24.0	32	25.5	15.2	7.4	24.5	14.8	7.8	23.5	14.5	8.2	22.4	14.1	8.7	21.2	13.6	9.3	---	---	---
68 (0.14)	16.0	23	20.4	15.2	6.7	19.5	14.8	7.0	18.5	14.3	7.4	17.6	13.9	7.7	---	---	---	---	---	---
	18.0	25	21.8	15.5	6.9	20.8	15.1	7.2	19.9	14.7	7.6	18.9	14.3	8.0	17.8	13.8	8.5	17.5	13.7	8.7
	19.5	27	22.9	15.8	7.0	21.5	15.3	7.4	20.5	15.0	7.8	19.9	14.5	8.2	18.8	14.2	8.7	18.4	13.9	9.0
	22.0	30	24.8	16.1	7.3	23.7	15.7	7.7	22.7	15.3	8.1	21.7	14.9	8.6	20.5	14.5	9.1	20.1	14.3	9.4
	24.0	32	26.3	16.3	7.5	25.2	15.9	7.9	24.2	15.6	8.4	23.1	15.2	8.9	21.8	14.7	9.4	---	---	---
78 (0.16)	16.0	23	20.8	16.0	6.8	19.9	15.6	7.1	18.9	15.2	7.4	18.0	14.7	7.8	---	---	---	---	---	---
	18.0	25	22.3	16.4	7.0	21.2	16.0	7.3	20.3	15.6	7.7	19.3	15.2	8.1	18.2	14.7	8.6	17.9	14.6	8.8
	19.5	27	23.4	16.7	7.1	22.4	16.3	7.5	21.3	15.9	7.9	20.3	15.5	8.3	19.2	15.0	8.8	18.8	14.9	9.1
	22.0	30	25.3	17.1	7.4	24.2	16.7	7.8	23.2	16.3	8.2	22.2	15.9	8.7	20.9	15.5	9.2	20.5	15.3	9.5
	24.0	32	26.8	17.3	7.5	25.7	16.9	8.0	24.7	16.6	8.4	23.6	16.2	9.0	22.3	15.8	9.5	---	---	---

[FD10J + RU08J]

Evap. air			Entering air temp. to condenser (°CDB)														
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
71 (0.12)	16.0	23	20.9	15.8	6.8	19.9	15.4	7.1	19.0	14.9	7.5	18.1	14.5	7.9	---	---	---
	18.0	25	22.4	16.2	7.0	21.4	15.8	7.3	20.3	15.3	7.7	19.3	14.9	8.1	18.3	14.4	8.6
	19.5	27	23.4	16.4	7.1	22.5	16.0	7.5	21.4	15.6	7.9	20.4	15.2	8.3	19.2	14.7	8.8
	22.0	30	25.4	16.8	7.4	24.2	16.4	7.8	23.1	16.0	8.2	22.1	15.6	8.7	20.9	15.1	9.2
	24.0	32	26.9	17.0	7.5	25.8	16.6	8.0	24.6	16.2	8.5	23.5	15.9	9.0	---	---	---
83 (0.14)	16.0	23	21.4	16.9	6.9	20.4	16.4	7.2	19.5	16.0	7.6	18.5	15.6	8.0	---	---	---
	18.0	25	22.9	17.3	7.1	21.9	16.9	7.4	20.8	16.5	7.8	19.8	16.0	8.2	18.7	15.6	8.7
	19.5	27	24.0	17.6	7.2	23.0	17.2	7.6	21.9	16.8	8.0	20.9	16.4	8.4	19.7	16.0	8.9
	22.0	30	26.0	18.0	7.4	24.8	17.6	7.9	23.7	17.2	8.3	22.6	16.8	8.8	21.4	16.4	9.3
	24.0	32	27.6	18.3	7.6	26.4	17.9	8.1	25.2	17.5	8.6	24.1	17.2	9.1	---	---	---
95 (0.16)	16.0	23	21.8	17.9	6.9	20.8	17.5	7.3	19.8	17.1	7.6	18.8	16.6	8.0	---	---	---
	18.0	25	23.3	18.4	7.1	22.3	18.0	7.5	21.2	17.5	7.9	20.1	17.1	8.3	19.0	16.7	8.8
	19.5	27	24.4	18.7	7.3	23.4	18.3	7.7	22.3	17.9	8.1	21.3	17.5	8.5	20.0	17.0	9.0
	22.0	30	26.4	19.2	7.5	25.2	18.8	7.9	24.1	18.4	8.4	23.0	18.0	8.9	21.8	17.6	9.4
	24.0	32	28.1	19.5	7.7	26.9	19.1	8.1	25.6	18.7	8.6	24.5	18.4	9.2	---	---	---

[FD08J + RU10J]

Evap. air			Entering air temp. to condenser (°CDB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
58 (0.12)	16.0	23	22.0	15.4	8.4	21.2	14.9	8.8	20.3	14.5	9.3	19.4	14.0	9.8	---	---	---	---	---	---
	18.0	25	23.6	15.7	8.7	22.7	15.3	9.1	21.8	14.8	9.6	20.8	14.4	10.1	19.6	13.8	10.7	19.2	13.7	10.9
	19.5	27	24.9	15.9	8.8	23.9	15.5	9.3	22.9	15.0	9.8	21.9	14.6	10.4	20.7	14.1	10.9	20.2	13.9	11.2
	22.0	30	26.9	16.2	9.2	25.9	15.8	9.7	24.9	15.4	10.2	23.8	14.9	10.8	22.4	14.4	11.4	21.9	14.2	11.7
	24.0	32	28.6	16.4	9.4	27.7	16.0	10.0	26.5	15.6	10.6	25.3	15.1	11.2	24.0	14.6	11.8	---	---	---
68 (0.14)	16.0	23	22.8	16.3	8.5	21.9	15.9	9.0	21.0	15.5	9.4	20.1	15.0	9.9	---	---	---	---	---	---
	18.0	25	24.4	16.7	8.8	23.5	16.3	9.3	22.5	15.8	9.8	21.5	15.4	10.3	20.3	14.9	10.9	19.9	14.7	11.1
	19.5	27	25.7	17.0	9.0	24.7	16.5	9.5	23.7	16.2	10.0	22.7	15.7	10.5	21.4	15.2	11.1	20.9	14.9	11.4
	22.0	30	27.8	17.3	9.3	26.8	16.9	9.9	25.7	16.5	10.4	24.6	16.0	11.0	23.2	15.5	11.6	22.7	15.3	11.9
	24.0	32	29.6	17.5	9.6	28.6	17.1	10.2	27.4	16.7	10.7	26.2	16.3	11.3	24.8	15.8	12.0	---	---	---
78 (0.16)	16.0	23	23.4	17.2	8.6	22.4	16.8	9.1	21.5	16.4	9.6	20.6	15.9	10.0	---	---	---	---	---	---
	18.0	25	25.0	17.6	8.9	24.1	17.2	9.4	23.0	16.8	9.9	22.0	16.3	10.4	20.8	15.8	11.0	20.4	15.6	11.3
	19.5	27	26.3	17.9	9.1	25.3	17.5	9.6	24.3	17.1	10.1	23.3	16.7	10.7	21.9	16.1	11.3	21.4	15.9	11.6
	22.0	30	28.5	18.3	9.5	27.5	17.9	10.0	26.3	17.5	10.5	25.2	17.0	11.1	23.8	16.5	11.8	23.3	16.3	12.1
	24.0	32	30.3	18.6	9.7	29.3	18.2	10.3	28.1	17.8	10.9	26.8	17.3	11.5	25.4	16.8	12.1	---	---	---

Symbols:

- AFR : Air flow rate (m^3/min.)
- BF : Bypass factor
- EWB : Entering wet bulb temp. (°CWB)
- EDB : Entering dry bulb temp. (°CDB)
- TC : Total cooling capacity (x1000 kcal/h)
- SHC : Sensible heat capacity (x1000 kcal/h)
- PI : Power input (kW) (Comp. + condenser fan motor)

Notes:

1. Rating shown is gross capacity which does not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB. Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

[60Hz]

[FD10J + RU10J]

Evap. air			Entering air temp. to condenser (°CDB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
71 (0.12)	16.0	23	24.4	17.5	8.7	23.2	16.9	9.1	22.0	16.3	9.6	21.0	15.8	10.1	---	---	---	---	---	---
	18.0	25	26.0	17.9	8.9	24.9	17.3	9.4	23.7	16.8	9.9	22.5	16.3	10.4	21.2	15.7	10.9	20.8	15.5	11.1
	19.5	27	27.3	18.1	9.1	26.0	17.5	9.6	24.9	17.0	10.1	23.7	16.5	10.7	22.3	16.0	11.1	21.8	15.8	11.3
	22.0	30	29.5	18.4	9.3	28.3	17.9	9.8	26.9	17.4	10.4	25.7	16.9	11.1	24.3	16.4	11.6	23.8	16.2	11.8
	24.0	32	31.4	18.6	9.5	30.0	18.1	10.1	28.7	17.6	10.7	27.4	17.2	11.4	25.8	16.6	12.0	---	---	---
83 (0.14)	16.0	23	25.0	18.6	8.8	23.8	18.0	9.2	22.6	17.5	9.7	21.5	17.0	10.2	---	---	---	---	---	---
	18.0	25	26.7	19.0	9.0	25.5	18.5	9.5	24.3	17.9	10.0	23.1	17.4	10.5	21.7	16.8	11.0	21.3	16.7	11.3
	19.5	27	28.0	19.3	9.2	26.7	18.7	9.7	25.5	18.3	10.2	24.3	17.7	10.8	22.9	17.3	11.3	22.4	17.0	11.5
	22.0	30	30.3	19.7	9.4	29.0	19.2	10.0	27.6	18.6	10.5	26.4	18.2	11.2	24.9	17.6	11.8	24.4	17.5	12.0
	24.0	32	32.2	19.9	9.6	30.8	19.4	10.2	29.4	18.9	10.8	28.1	18.5	11.5	26.5	17.9	12.1	---	---	---
95 (0.16)	16.0	23	25.5	19.6	8.9	24.2	19.0	9.3	23.0	18.5	9.8	21.9	18.0	10.3	---	---	---	---	---	---
	18.0	25	27.2	20.0	9.1	26.0	19.5	9.6	24.7	19.0	10.1	23.5	18.5	10.6	22.1	17.9	11.2	21.7	17.7	11.4
	19.5	27	28.5	20.3	9.2	27.2	19.8	9.7	26.0	19.3	10.3	24.7	18.8	10.9	23.3	18.3	11.4	22.8	18.1	11.7
	22.0	30	30.9	20.8	9.5	29.5	20.3	10.0	28.1	19.8	10.6	26.9	19.4	11.3	25.4	18.8	11.9	24.8	18.6	12.1
	24.0	32	32.8	21.1	9.7	31.4	20.6	10.3	29.9	20.1	10.9	28.6	19.7	11.6	27.0	19.2	12.3	---	---	---

[FD11J + RU10J]

Evap. air			Entering air temp. to condenser (°CDB)														
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
79 (0.12)	16.0	23	25.0	18.4	8.8	24.0	18.0	9.2	23.0	17.5	9.7	21.9	17.0	10.2	---	---	---
	18.0	25	26.8	18.9	9.0	25.7	18.4	9.5	24.5	17.9	10.0	23.4	17.4	10.5	22.0	16.8	11.1
	19.5	27	28.0	19.1	9.2	27.0	18.7	9.7	25.8	18.2	10.3	24.6	17.7	10.8	23.1	17.1	11.4
	22.0	30	30.4	19.5	9.6	29.2	19.1	10.1	27.9	18.6	10.7	26.7	18.1	11.3	25.1	17.5	11.8
	24.0	32	32.3	19.8	9.8	31.0	19.3	10.4	29.7	18.9	11.0	28.4	18.4	11.6	---	---	---
93 (0.14)	16.0	23	25.7	19.7	8.9	24.7	19.3	9.3	23.6	18.8	9.8	22.5	18.3	10.3	---	---	---
	18.0	25	27.5	20.2	9.1	26.4	19.7	9.6	25.2	19.2	10.2	24.0	18.7	10.7	22.6	18.1	11.3
	19.5	27	28.8	20.5	9.4	27.7	20.1	9.9	26.5	19.7	10.4	25.3	19.1	11.0	23.7	18.6	11.5
	22.0	30	31.2	21.0	9.7	30.0	20.5	10.2	28.7	20.1	10.8	27.4	19.6	11.4	25.8	19.0	12.0
	24.0	32	33.2	21.3	10.0	31.9	20.9	10.6	30.5	20.4	11.2	29.2	20.0	11.8	---	---	---
107 (0.16)	16.0	23	26.2	20.9	9.0	25.2	20.4	9.4	24.1	20.0	9.9	22.9	19.5	10.4	---	---	---
	18.0	25	28.0	21.5	9.2	26.9	21.0	9.7	25.7	20.5	10.3	24.5	20.0	10.8	23.0	19.4	11.4
	19.5	27	29.4	21.8	9.4	28.2	21.4	10.0	27.0	20.9	10.5	25.8	20.4	11.1	24.2	19.8	11.7
	22.0	30	31.8	22.3	9.8	30.6	21.9	10.3	29.3	21.4	10.9	27.9	21.0	11.5	26.3	20.4	12.1
	24.0	32	33.8	22.7	10.1	32.5	22.3	10.7	31.1	21.8	11.3	29.8	21.4	11.9	---	---	---

[FD10J + RU11J]

Evap. air			Entering air temp. to condenser (°CDB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
71 (0.12)	16.0	23	25.3	18.0	9.5	24.5	17.5	9.9	23.4	17.0	10.5	22.3	16.5	11.0	---	---	---	---	---	---
	18.0	25	27.1	18.3	9.8	26.0	17.9	10.3	25.0	17.4	10.8	23.9	16.9	11.4	22.5	16.3	12.0	22.0	16.1	12.4
	19.5	27	28.4	18.6	10.0	27.3	18.1	10.5	26.2	17.6	11.1	25.1	17.1	11.7	23.6	16.5	12.3	23.1	16.3	12.7
	22.0	30	30.6	18.9	10.4	29.5	18.4	11.0	28.4	18.0	11.6	27.1	17.5	12.2	25.5	16.9	12.9	25.1	16.7	13.3
	24.0	32	32.5	19.1	10.7	31.4	18.6	11.3	30.1	18.2	12.0	28.8	17.7	12.7	27.2	17.1	13.3	---	---	---
83 (0.14)	16.0	23	26.1	19.1	9.6	25.2	18.7	10.1	24.1	18.2	10.6	23.0	17.6	11.2	---	---	---	---	---	---
	18.0	25	27.9	19.5	9.9	26.8	19.0	10.5	25.7	18.5	11.0	24.6	18.1	11.6	23.2	17.5	12.2	22.7	17.3	12.6
	19.5	27	29.2	19.8	10.2	28.1	19.3	10.7	27.0	19.0	11.3	25.8	18.4	11.9	24.3	17.9	12.5	23.8	17.5	12.9
	22.0	30	31.5	20.1	10.6	30.4	19.7	11.2	29.2	19.2	11.8	27.9	18.8	12.4	26.3	18.2	13.1	25.8	18.0	13.5
	24.0	32	33.5	20.4	10.9	32.3	20.0	11.5	31.0	19.5	12.2	29.7	19.1	12.9	28.0	18.5	13.5	---	---	---
95 (0.16)	16.0	23	26.7	20.1	9.7	25.7	19.7	10.2	24.6	19.2	10.8	23.5	18.7	11.3	---	---	---	---	---	---
	18.0	25	28.5	20.6	10.0	27.4	20.1	10.6	26.3	19.6	11.1	25.1	19.2	11.7	23.7	18.6	12.4	23.2	18.3	12.7
	19.5	27	29.8	20.9	10.3	28.7	20.4	10.8	27.6	20.0	11.4	26.4	19.5	12.0	24.8	18.9	12.7	24.3	18.7	13.1
	22.0	30	32.2	21.3	10.7	31.1	20.8	11.3	29.8	20.4	11.9	28.5	19.9	12.6	26.9	19.3	13.3	26.4	19.2	13.7
	24.0	32	34.2	21.6	11.0	33.0	21.2	11.7	31.7	20.7	12.3	30.3	20.3	13.0	28.6	19.7	13.7	---	---	---

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW) (Comp. + condenser fan motor)

Notes:

1. Rating shown is gross capacity which does not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB. Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

[60Hz]

[FD11J + RU11J]

Evap. air			Entering air temp. to condenser (°CDB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
79 (0.12)	16.0	23	27.0	19.4	9.7	26.0	18.9	10.2	24.8	18.3	10.7	23.6	17.8	11.3	---	---	---	---	---	---
	18.0	25	28.9	19.8	10.0	27.7	19.3	10.5	26.5	18.8	11.1	25.3	18.2	11.7	23.8	17.6	12.2	23.2	17.3	12.4
	19.5	27	30.3	20.1	10.2	29.2	19.6	10.8	27.9	19.1	11.3	26.6	18.5	12.0	25.0	17.9	12.5	24.5	17.7	12.8
	22.0	30	32.9	20.5	10.5	31.6	20.0	11.1	30.2	19.5	11.8	28.9	19.0	12.4	27.2	18.3	13.1	26.6	18.1	13.3
	24.0	32	34.9	20.8	10.8	33.5	20.3	11.5	32.2	19.8	12.1	30.7	19.2	12.8	29.0	18.6	13.5	---	---	---
93 (0.14)	16.0	23	27.8	20.7	9.8	26.7	20.2	10.4	25.5	19.6	10.9	24.3	19.1	11.5	---	---	---	---	---	---
	18.0	25	29.7	21.2	10.1	28.5	20.7	10.7	27.3	20.1	11.2	26.0	19.6	11.8	24.5	18.9	12.4	23.9	18.7	12.7
	19.5	27	31.2	21.5	10.3	30.0	21.0	10.9	28.7	20.6	11.5	27.4	19.9	12.1	25.8	19.4	12.8	25.2	19.1	13.0
	22.0	30	33.8	22.0	10.7	32.5	21.5	11.3	31.1	20.9	11.9	29.7	20.4	12.6	28.0	19.8	13.3	27.4	19.6	13.6
	24.0	32	35.9	22.3	11.0	34.5	21.8	11.6	33.1	21.3	12.3	31.6	20.8	13.0	29.8	20.2	13.8	---	---	---
107 (0.16)	16.0	23	28.4	21.9	9.9	27.2	21.4	10.5	26.0	20.8	11.0	24.8	20.3	11.6	---	---	---	---	---	---
	18.0	25	30.3	22.4	10.2	29.1	21.9	10.8	27.9	21.4	11.3	26.5	20.8	12.0	25.0	20.2	12.6	24.4	19.9	12.8
	19.5	27	31.8	22.8	10.4	30.6	22.3	11.0	29.3	21.8	11.6	28.0	21.2	12.2	26.2	20.5	12.9	25.7	20.3	13.2
	22.0	30	34.5	23.3	10.8	33.2	22.8	11.4	31.7	22.3	12.1	30.3	21.8	12.7	28.6	21.2	13.5	28.0	21.0	13.7
	24.0	32	36.6	23.7	11.1	35.2	23.2	11.7	33.8	22.7	12.4	32.2	22.2	13.1	30.4	21.6	13.9	---	---	---

[FD16J + RU16JA]

Evap. air			Entering air temp. to condenser (°CDB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
115 (0.09)	16.0	23	38.7	28.2	14.9	37.2	27.5	15.7	35.6	26.8	16.6	34.0	26.0	17.5	---	---	---	---	---	---
	18.0	25	41.4	28.9	15.3	39.7	28.1	16.2	38.1	27.4	17.1	36.4	26.7	18.1	34.3	25.8	19.3	33.5	25.4	19.7
	19.5	27	43.4	29.3	15.6	41.8	28.6	16.6	40.0	27.9	17.5	38.3	27.1	18.5	36.0	26.2	19.8	35.3	25.9	20.3
	22.0	30	47.0	29.9	16.2	45.2	29.2	17.2	43.3	28.5	18.2	41.5	27.8	19.3	39.0	26.9	20.7	38.3	26.6	21.2
	24.0	32	50.0	30.3	16.7	48.1	29.6	17.7	46.1	28.9	18.8	44.1	28.2	20.0	41.6	27.3	21.4	---	---	---
136 (0.11)	16.0	23	39.8	30.3	15.1	38.3	29.6	15.9	36.7	28.8	16.8	35.0	28.1	17.7	---	---	---	---	---	---
	18.0	25	42.6	31.0	15.5	40.9	30.3	16.4	39.2	29.5	17.4	37.5	28.8	18.4	35.3	27.9	19.6	34.5	27.6	20.0
	19.5	27	44.7	31.5	15.9	43.0	30.8	16.8	41.2	30.2	17.8	39.4	29.4	18.8	37.1	28.5	20.1	36.3	28.1	20.6
	22.0	30	48.4	32.2	16.4	46.5	31.5	17.5	44.6	30.8	18.5	42.7	30.1	19.6	40.2	29.2	21.0	39.4	28.9	21.5
	24.0	32	51.5	32.7	16.9	49.5	32.0	18.0	47.5	31.3	19.1	45.4	30.6	20.3	42.8	29.7	21.7	---	---	---
156 (0.13)	16.0	23	40.6	32.1	15.3	39.0	31.4	16.1	37.4	30.6	17.0	35.7	29.9	17.9	---	---	---	---	---	---
	18.0	25	43.4	32.9	15.7	41.7	32.2	16.6	40.0	31.4	17.6	38.2	30.7	18.5	36.0	29.8	19.8	35.2	29.5	20.2
	19.5	27	45.6	33.4	16.0	43.8	32.8	17.0	42.0	32.0	18.0	40.2	31.3	19.0	37.8	30.4	20.3	37.0	30.1	20.8
	22.0	30	48.3	34.3	16.6	47.4	33.5	17.6	45.5	32.9	18.7	43.5	32.1	19.8	41.0	31.3	21.2	40.2	31.0	21.7
	24.0	32	52.5	34.8	17.1	50.5	34.1	18.2	48.4	33.4	19.3	46.3	32.7	20.5	43.6	31.9	22.0	---	---	---

[FD22J + RU22JA]

Evap. air			Entering air temp. to condenser (°CDB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
192 (0.09)	16.0	23	54.5	42.4	19.7	52.3	41.4	20.7	50.1	40.4	21.8	47.8	39.4	22.8	---	---	---	---	---	---
	18.0	25	58.0	43.3	20.3	55.7	42.4	21.4	53.4	41.4	22.5	50.9	40.4	23.7	48.0	39.2	25.1	46.9	38.7	25.6
	19.5	27	60.7	44.0	20.8	58.4	43.0	21.9	55.9	42.0	23.1	53.4	41.0	24.3	50.3	39.8	25.8	49.3	39.4	26.3
	22.0	30	65.4	44.9	21.7	62.9	44.0	22.9	60.3	43.0	24.1	57.7	42.1	25.4	54.4	40.9	27.0	53.3	40.5	27.5
	24.0	32	69.3	45.5	22.4	66.7	44.6	23.6	64.0	43.7	24.9	61.2	42.8	26.3	57.8	41.7	27.9	---	---	---
226 (0.11)	16.0	23	55.7	45.5	19.9	53.5	44.6	21.0	51.3	43.6	22.0	48.9	42.6	23.1	---	---	---	---	---	---
	18.0	25	59.3	46.7	20.6	57.0	45.7	21.7	54.6	44.7	22.8	52.1	43.7	24.0	49.1	42.5	25.4	48.0	42.1	25.9
	19.5	27	62.1	47.4	21.1	59.7	46.5	22.2	57.2	45.7	23.4	54.6	44.5	24.6	51.5	43.5	26.1	50.4	42.9	26.6
	22.0	30	66.9	48.5	21.9	64.3	47.6	23.2	61.7	46.7	24.4	59.0	45.7	25.7	55.6	44.6	27.3	54.5	44.2	27.8
	24.0	32	70.9	49.3	22.6	68.2	48.4	23.9	65.5	47.6	25.2	62.6	46.6	26.6	59.1	45.5	28.3	---	---	---
260 (0.13)	16.0	23	56.6	48.5	20.1	54.3	47.5	21.2	52.1	46.6	22.2	49.7	45.5	23.4	---	---	---	---	---	---
	18.0	25	60.2	49.8	20.8	57.9	48.8	21.9	55.5	47.9	23.0	52.9	46.8	24.2	49.9	45.6	25.6	48.8	45.2	26.1
	19.5	27	63.1	50.6	21.3	60.6	49.7	22.4	58.1	48.8	23.6	55.5	47.8	24.8	52.3	46.6	26.4	51.2	46.2	26.9
	22.0	30	68.0	52.0	22.1	65.3	51.0	23.4	62.7	50.1	24.6	59.9	49.2	25.9	56.5	48.0	27.6	55.4	47.6	28.1
	24.0	32	72.0	52.9	22.9	69.3	52.0	24.1	66.5	51.1	25.5	63.6	50.2	26.9	60.0	49.1	28.5	---	---	---

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW) (Comp. + condenser fan motor)

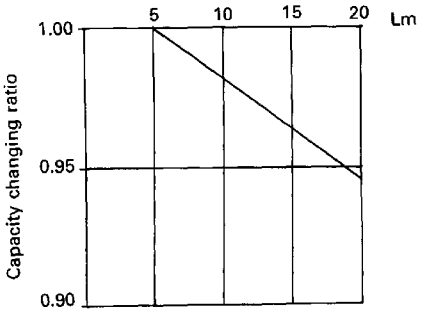
Notes:

1. Rating shown is gross capacity which does not include a deduction for evaporator fan motor heat.
2. ▒▒▒ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB. Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

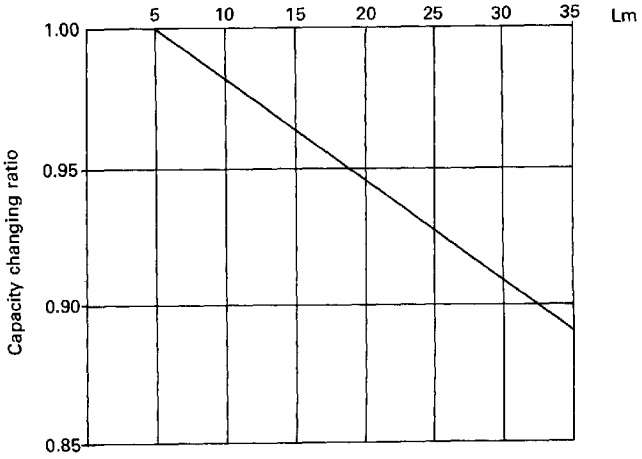
8. Changing in capacity

[Cooling]

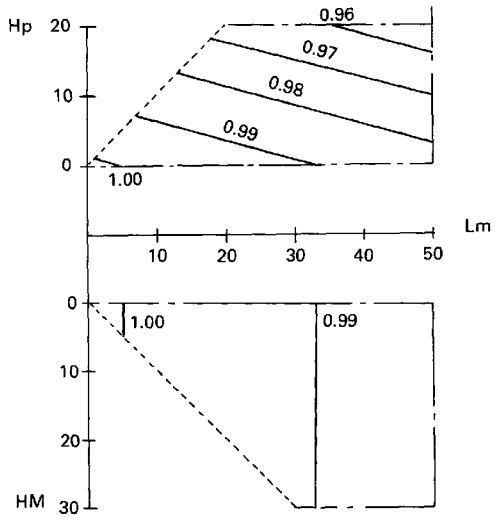
FD03M



FD04M



FD05J, FD07J, FD08J, FD10J, FD11J



Numerics in the table show capacity changing ratio.

Symbols:

Hp : Difference in height between indoor unit and outdoor unit. (m)
(Indoor unit is installed lower than outdoor unit).

HM: Difference in height between indoor unit and outdoor unit. (m)
(Indoor unit is installed higher than outdoor unit).

Lm : Equivalent piping length (m)

9. Fan performance

(1) Performance data

Model	Air flow (m^3/min.)		External static pressure (mm H_2O)										
			0	5	10	15	20	25	30	35	40	45	50	55
FD03M	23	r.p.m.	820	990	1140	1275	1395	1505	–	–	–	–	–	–
		kW	0.10	0.16	0.22	0.29	0.36	0.44						
	27	r.p.m.	940	1090	1225	1350	1465	1575	–	–	–	–	–	–
		kW	0.16	0.22	0.29	0.36	0.44	0.53						
	31	r.p.m.	1065	1195	1320	1435	1545	–	–	–	–	–	–	–
		kW	0.23	0.30	0.37	0.45	0.54							
FD04M	31	r.p.m.	900	1045	1180	1305	1420	1530	–	–	–	–	–	–
		kW	0.16	0.22	0.29	0.36	0.44	0.53						
	36	r.p.m.	1025	1155	1275	1385	1495	1600	–	–	–	–	–	–
		kW	0.24	0.31	0.38	0.46	0.55	0.64						
	41	r.p.m.	1145	1260	1370	1475	1575	–	–	–	–	–	–	–
		kW	0.35	0.42	0.50	0.59	0.68							
FD05J	39	r.p.m.	725	885	1035	1175	1290	1400	1500	1600	–	–	–	–
		kW	0.14	0.21	0.28	0.36	0.44	0.52	0.60	0.68				
	46	r.p.m.	850	990	1115	1240	1360	1485	1565	–	–	–	–	–
		kW	0.24	0.30	0.38	0.46	0.56	0.66	0.76					
	53	r.p.m.	980	1100	1215	1330	1440	1540	–	–	–	–	–	–
		kW	0.34	0.42	0.50	0.60	0.71	0.82						
FD07J	51	r.p.m.	800	930	1055	1175	1295	1415	1510	–	–	–	–	–
		kW	0.24	0.29	0.37	0.46	0.55	0.66	0.76					
	60	r.p.m.	915	1035	1145	1250	1350	1450	1540	–	–	–	–	–
		kW	0.35	0.43	0.52	0.61	0.70	0.81	0.92					
	69	r.p.m.	1040	1150	1250	1340	1435	1520	–	–	–	–	–	–
		kW	0.52	0.62	0.72	0.82	0.92	1.03						
FD08J	58	r.p.m.	585	705	820	925	1025	1120	–	–	–	–	–	–
		kW	0.17	0.26	0.34	0.45	0.58	0.72						
	68	r.p.m.	700	815	910	1000	1085	1175	1255	1335	–	–	–	–
		kW	0.30	0.39	0.50	0.63	0.76	0.90	1.04	1.20				
	78	r.p.m.	825	920	1005	1080	1160	1240	1315	1390	1455	1510	–	–
		kW	0.46	0.60	0.72	0.85	0.99	1.14	1.29	1.45	1.61	1.77		
FD10J	71	r.p.m.	675	790	885	980	1060	1145	1225	1310	1390	–	–	–
		kW	0.30	0.38	0.50	0.62	0.75	0.88	1.03	1.18	1.35			
	83	r.p.m.	775	870	960	1040	1115	1190	1260	1340	1410	1465	1525	1580
		kW	0.44	0.56	0.69	0.82	0.96	1.10	1.25	1.41	1.57	1.73	1.89	2.05
	95	r.p.m.	875	965	1050	1120	1195	1260	1325	1390	1450	1500	–	–
		kW	0.67	0.81	0.97	1.11	1.26	1.41	1.56	1.71	1.88	2.05		
FD11J	79	r.p.m.	700	805	900	990	1065	1145	1220	1295	1365	1435	1495	1555
		kW	0.36	0.46	0.57	0.69	0.82	0.96	1.10	1.25	1.40	1.57	1.75	1.92
	93	r.p.m.	805	900	990	1065	1135	1210	1275	1340	1405	1460	1515	–
		kW	0.53	0.69	0.83	0.96	1.12	1.27	1.42	1.57	1.73	1.89	2.06	
	107	r.p.m.	910	1000	1075	1150	1220	1280	1345	1405	1460	–	–	–
		kW	0.83	0.98	1.14	1.30	1.46	1.62	1.78	1.94	2.12			
FD16J	110	r.p.m.	540	650	750	840	930	1010	1090	1160	1220	1280	1340	–
		kW	0.42	0.56	0.73	0.91	1.12	1.33	1.56	1.78	2.01	2.24	2.48	
	120	r.p.m.	590	690	780	870	950	1040	1110	1180	1240	1300	1360	–
		kW	0.54	0.70	0.87	1.07	1.28	1.51	1.74	1.98	2.23	2.47	2.72	
	130	r.p.m.	640	730	820	900	980	1060	1130	1200	1260	1320	1380	–
		kW	0.69	0.86	1.04	1.24	1.46	1.70	1.95	2.21	2.46	2.73	3.00	
	136	r.p.m.	660	760	840	920	1000	1070	1140	1210	1280	1340	1390	–
		kW	0.79	0.96	1.15	1.36	1.59	1.83	2.08	2.35	2.62	2.89	3.16	
	150	r.p.m.	730	810	890	970	1040	1110	1180	1240	1310	1370	–	
		kW	1.06	1.25	1.46	1.69	1.91	2.17	2.43	2.71	3.00	3.30		
	160	r.p.m.	780	860	930	1000	1070	1140	1200	1270	1330	1390	–	–
		kW	1.28	1.49	1.70	1.93	2.18	2.44	2.71	3.00	3.30	3.61		
	170	r.p.m	830	900	970	1040	1100	1170	1230	1290	1350	–	–	–
		kW	1.54	1.76	1.98	2.22	2.48	2.75	3.03	3.32	3.63			
FD22J	190	r.p.m.	720	790	850	920	990	1050	1110	1170	1230	1280	1340	–
		kW	1.48	1.68	1.89	2.12	2.36	2.61	2.87	3.14	3.43	3.72	4.03	
	200	r.p.m.	750	820	890	950	1010	1070	1130	1190	1240	1300	1350	–
		kW	1.73	1.93	2.16	2.39	2.64	2.90	3.17	3.45	3.74	4.03	4.35	
	210	r.p.m.	790	850	920	980	1040	1100	1150	1210	1260	1320	1370	–
		kW	2.00	2.22	2.45	2.69	2.93	3.22	3.49	3.78	4.08	4.38	4.70	
	226	r.p.m.	850	910	970	1030	1080	1140	1190	1240	1300	1350	1400	–
		kW	2.49	2.72	2.97	3.23	3.50	3.78	4.07	4.37	4.68	5.00	5.32	
	240	r.p.m.	900	960	1010	1070	1120	1170	1230	1280	1330	–	–	–
		kW	2.98	3.23	3.49	3.76	4.04	4.33	4.64	4.95	5.26			
	250	r.p.m.	940	990	1050	1100	1150	1200	1250	1300	–	–	–	–
		kW	3.37	3.63	3.90	4.18	4.47	4.77	5.08	5.40				
	260	r.p.m.	980	1030	1080	1130	1180	1230	–	–	–	–	–	–
		kW	3.79	4.06	4.34	4.63	4.93	5.24						

Notes:

1. ▭ shows the operating range of the fan motor based on factory setting. In case the fan motor is used out of the range, change motor size.
2. kW in the table shows motor output.

(2) Operating range

Model	FD03M	FD04M	FD05J	FD07J	FD08J	FD10J	FD11J	FD16J	FD22J
Air flow rate (m^3/min.)	23~31	31~41	39~53	51~69	58~78	71~95	79~107	110~170	190~260
Fan speed (r.p.m.)	600~1,600							500~1,400	700~1,400
Max. replaceable motor (kW)	*1 0.75		1.5		2.2			3.7	*2 5.5

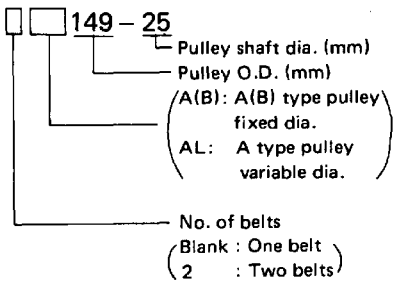
*1 : In case of FD03JV1, VH, max. deplaceable motor is 0.4 kW.
*2 : In case of 5.5 kW motor, 2 pcs. of V belts are required (1 additional).

(3) Specification (Factory set)

Model		FD03M	FD04M
Motor pulley size	Y1	AL134~109-14	AL144~119-14
	V1	AL134~109-14	AL114~119-14
	VHL	AL119~94-14	AL124~99-14
Fan pulley size		A149-25 (fixed dia.)	
Belt	Y1	A-37	A-37
	V1	A-37	A-37
	VHL	A-36	A-36

Model		FD05J	FD07J	FD08J	FD10J	FD11J	FD16J	FD22J
Motor pulley size	Y1	AL129~104-19	AL134~109-19	AL124~99-19	AL129~104-24	AL134~109-24	B143-28(fixed dia.)	2B171-28(fixed dia.)
	TH, YH	AL109~84-19	AL114~89-19	AL109~84-19	AL114~89-24	AL119~94-24		
Fan pulley size		A149-25(fixed size)		A169-25(fixed dia.)			B235-35(fixed dia.)	2B235-35(fixed dia.)
Belt	Y1	A-38	A-39	A-41	A-42	A-43	B-39	B-48 x 2
	TH, YH	A-37	A-38	A-40	A-41	A-42		

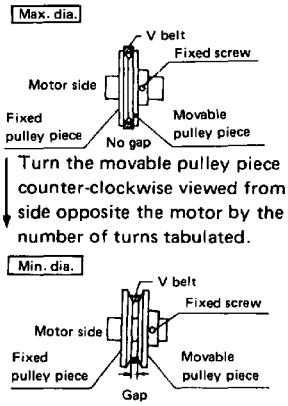
(4) Nomenclature



(5) How to adjust the variable pitch pulley

- After stopping, loosen the belt, remove the screw from the movable pulley piece and turn the movable piece in the direction shown by the required number of times (tabulated in the Table).
- Insert the screw into one of two holes, from which it can contact with the flat face of the fixed-pulley piece when it is tightened up.
- Retighten up the screw.
- Align the pulleys of the fan and the motor and adjust the tension of V belts.
- Refer to (2) Operating range.

Pulley adjusting method



Model	No. of turns	Gap (mm)	Pitch dia. (mm) TH,YH,VHL	Pitch dia. (mm) V1,Y1	Fan speed (r.p.m.) TH,YH,VHL 50Hz	Fan speed (r.p.m.) TH,YH,VHL 60Hz	Fan speed (r.p.m.) V1,Y1 50Hz
FD03M	0	0	110	125	1165	1400	1315
	1	1.5	105	120	1120	1340	1265
	2	3	100	115	1070	1280	1215
	3	4.5	95	110	1020	1225	1165
	4	6	90	105	970	1165	1120
	5	7.5	85	*100	920	1105	*1070
FD04M	0	0	115	135	1200	1440	1390
	1	1.5	110	130	1150	1380	1345
	2	3	105	125	1100	1320	1295
	3	4.5	100	120	1055	1265	1245
	4	6	95	115	1005	1205	1200
	5	7.5	*90	*110	955	*1150	*1150
FD05J	0	0	100	120	1075	1290	1275
	1	1.5	95	115	1025	1230	1225
	2	3.0	90	110	975	1170	1175
	3	4.5	85	105	925	1110	1125
	4	6.0	80	100	880	1055	1075
	5	7.5	* 75	* 95	830	* 995	*1025
FD07J	0	0	105	125	1115	1340	1310
	1	1.5	100	120	1065	1280	1260
	2	3.0	95	115	1020	1220	1215
	3	4.5	90	110	970	1165	1165
	4	6.0	85	105	920	1105	1115
	5	7.5	* 80	*100	870	*1045	*1065
FD08J	0	0	100	115	935	1125	1065
	1	1.5	95	110	895	1070	1020
	2	3.0	90	105	850	1020	980
	3	4.5	85	100	810	970	935
	4	6.0	80	95	765	915	895
	5	7.5	* 75	* 90	720	* 865	* 850

Model	No. of turns	Gap (mm)	Pitch dia. (mm) TH, YH	Pitch dia. (mm) Y1	Fan speed (r.p.m.) TH, YH 50Hz	Fan speed (r.p.m.) TH, YH 60Hz	Fan speed (r.p.m.) Y1 50Hz
FD10J	0	0	105	120	995	1195	1125
	1	1.5	100	115	950	1140	1080
	2	3.0	95	110	910	1090	1040
	3	4.5	90	105	865	1035	995
	4	6.0	85	100	820	985	950
	5	7.5	* 80	* 95	775	* 930	* 910
FD11J	0	0	110	125	1035	1240	1165
	1	1.5	105	120	990	1190	1120
	2	3.0	100	115	950	1140	1080
	3	4.5	95	110	905	1085	1035
	4	6.0	90	105	860	1035	990
	5	7.5	* 85	*100	820	* 980	* 950
FD16J	–	–	*132	*132	840	1010	840
FD22J	–	–	*160	*160	890	1070	1015

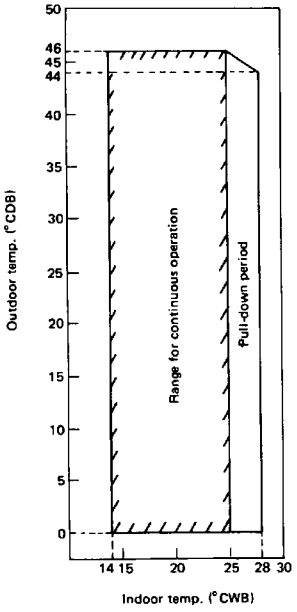
* Factory set

10. Operation limit

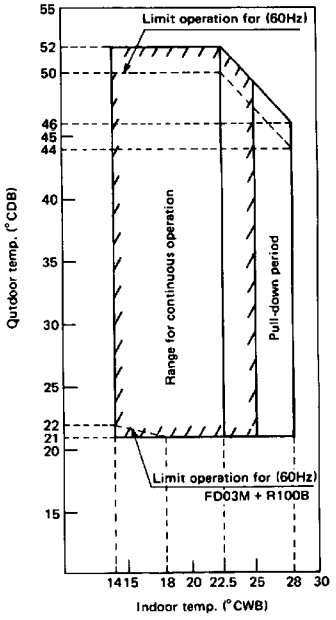
Combinations [Max. ambient temp. 52/50, 46°C]

FD03M+R71BB
FD03M+R100BB
FD04M+R100BB

50Hz (V1, Y1 Models)



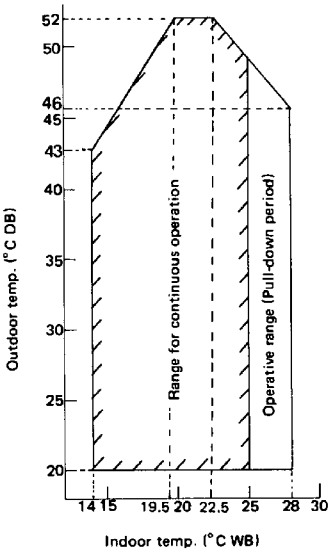
50/60Hz (VHL Models)



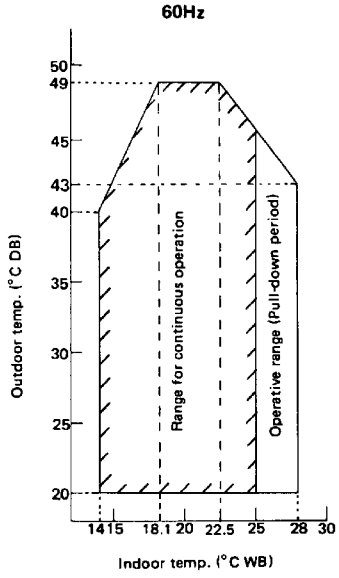
Combinations [Max. ambient temp. 52/49°C]

FD05J + RU05J
FD05J + RU07J
FD07J + RU07J
FD07J + RU08J
FD08J + RU08J
FD08J + RU10J
FD10J + RU10J
FD10J + RU11J
FD11J + RU11J

50Hz



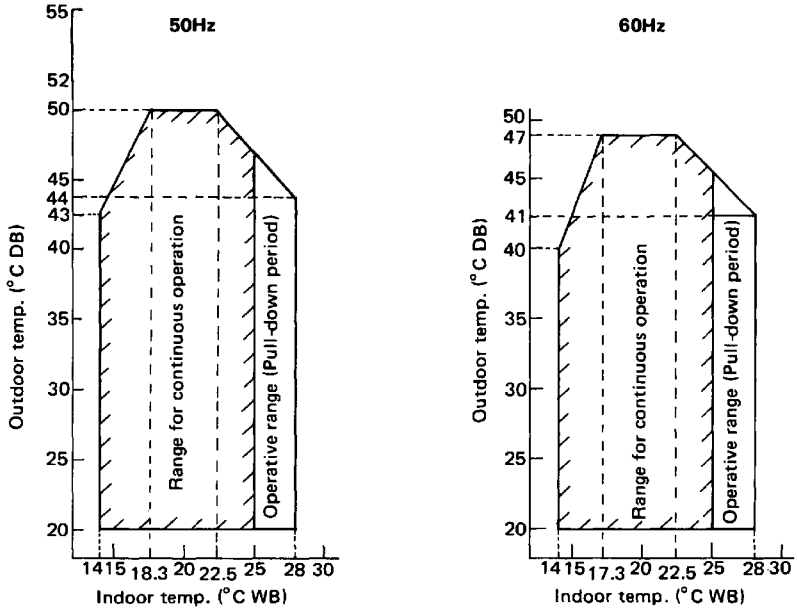
60Hz



Note: The graph is based on the following operative conditions.
* Equivalent piping length . . . 5 m
* Level difference . . . . . 0 m
* Refrigerant piping . . . . . Standard size
* Air flow rate . . . . . Standard air flow rate

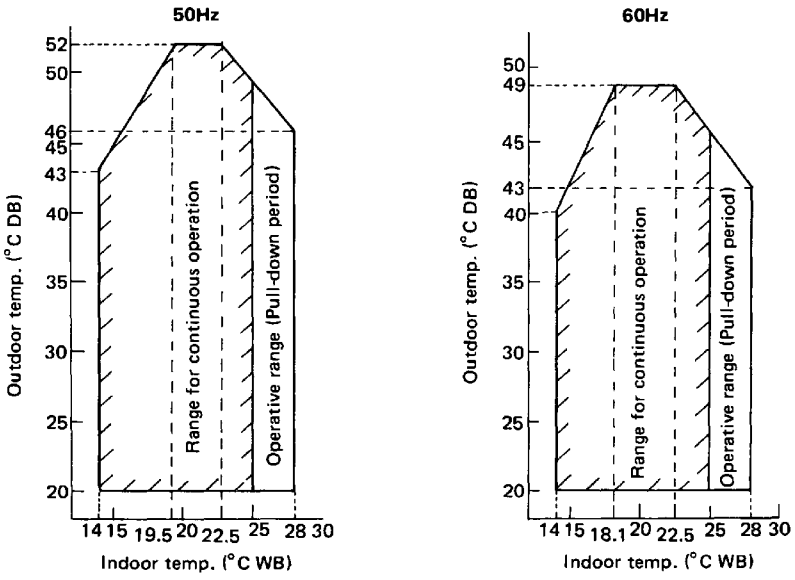
Combinations [Max. ambient temp. 50/47°C]

FD07J + RU05J
FD08J + RU07J
FD10J + RU08J
FD11J + RU10J



Combinations [Max. ambient temp. 52/49°C]

FD16J + RU16J(A)
FD22J + RU22J(A)

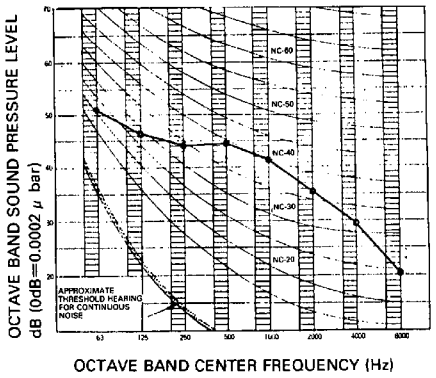


Note: The graph is based on the following operative conditions.

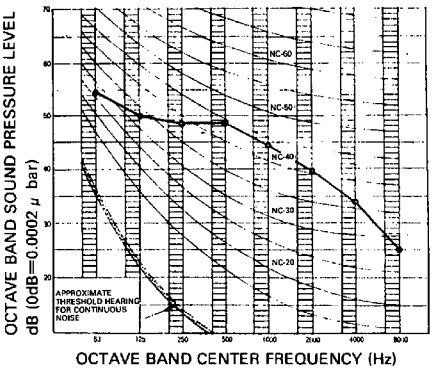
* Equivalent piping length . . . 5 m
* Level difference . . . . . 0 m
* Refrigerant piping . . . . . Standard size
* Air flow rate . . . . . Standard air flow rate

11. Operation noise

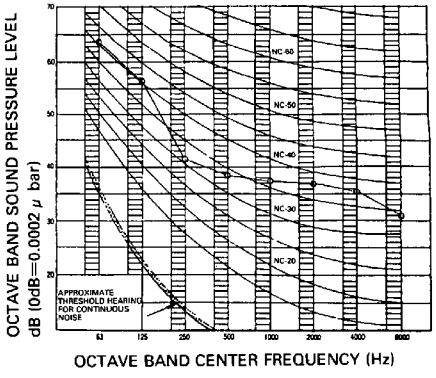
FD03M



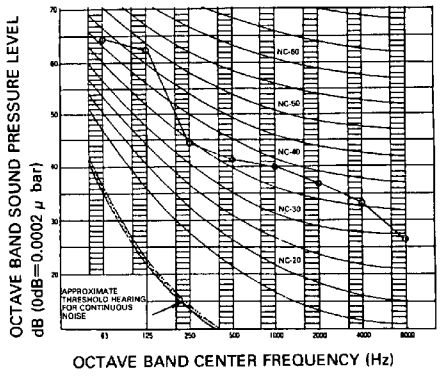
FD04M



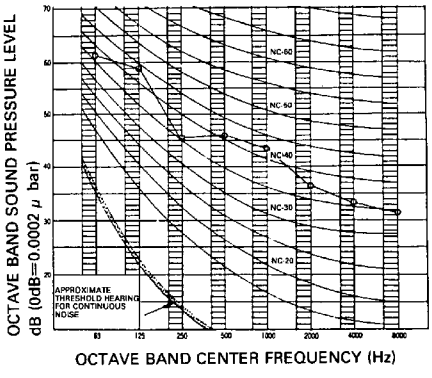
FD05J



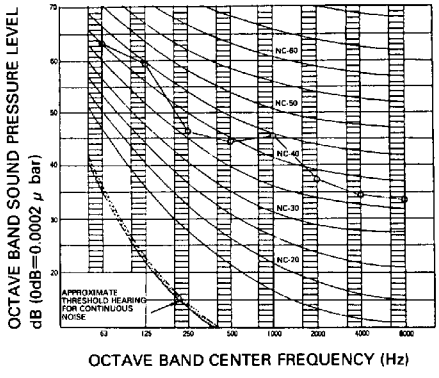
FD07J



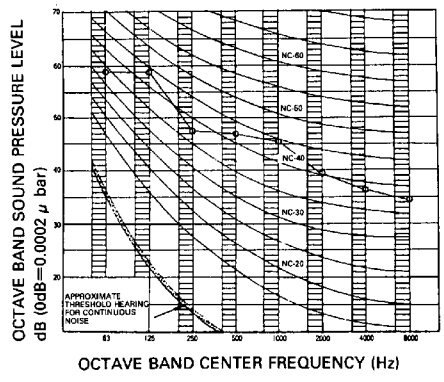
FD08J



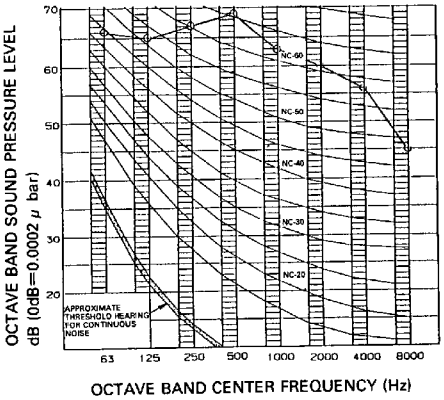
FD10J



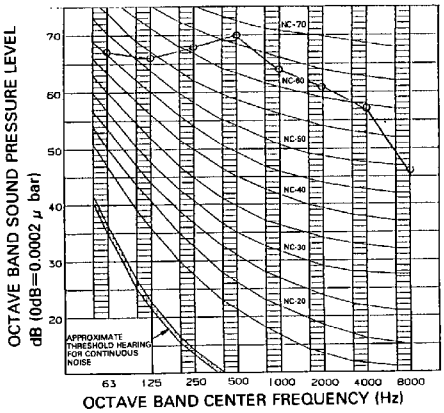
FD11J



FD16J



FD22J



12. Electric characteristics

(1) Fan coil units

Model	Unit			Power supply			EFM	
	Type	Volts–Ph–Hz	Voltage range	MCA	TOCA	MFA	kW	FLA
FD03M FD04M	V1	220–1–50 230–1–50 240–1–50	Max. 264V Min. 198V	5.0	4.1	15	0.4	4.0
FD03M FD04M	VHL	200–1–50 220–1–60	Max. 50Hz 220V 60Hz 242V Min. 50Hz 180V 60Hz 198V	5.1	4.1	15	0.4	4.1
FD03M	Y1	380–3–50 400–3–50 415–3–50	Max. 456V Min. 342V	1.5	1.2	15	0.4	1.2
FD04M				1.5	1.2	15	0.4	1.2
FD05J				2.3	1.8	15	0.75	1.8
FD07J				2.3	1.8	15	0.75	1.8
FD08J				2.3	1.8	15	0.75	1.8
FD10J				4.0	3.2	15	1.5	3.2
FD11J				4.0	3.2	15	1.5	3.2
FD16J				5.7	4.6	15	2.2	4.5
FD22J				9.3	7.2	25	3.7	7.4
FD05J	YH	346–3–50 380–3–50 380–3–60 400–3–60	Max. 50Hz 418V 60Hz 440V Min. 50Hz 311V 60Hz 342V	2.8	2.1	15	0.75	2.2
FD07J				2.8	2.1	15	0.75	2.2
FD08J				2.8	2.1	15	0.75	2.2
FD10J				4.6	3.6	15	1.5	3.7
FD11J				4.6	3.6	15	0.4	2.0
FD16J				6.4	5.0	20	2.2	5.1
FD22J				10.5	8.0	30	3.7	8.4
FD05J	TH	220–3–50 220–3–60 230–3–60 240–3–60	Max. 50Hz 242V 60Hz 264V Min. 50Hz 198V 60Hz 198V	4.1	3.2	15	0.75	3.3
FD07J				4.1	3.2	15	0.75	3.3
FD08J				4.1	3.2	15	0.75	3.3
FD10J				7.3	6.0	20	1.5	5.8
FD11J				7.3	6.0	20	1.5	5.8
FD16J				10.3	8.0	30	2.2	8.2
FD22J				17.5	14.0	50	3.7	14.0

Symbols:

MCA: Min. Ckt (Circuit) Amps
TOCA: Total Overcurrent Amps
MFA: Max. Fuse Amps (See note 4)
EFM: Evaporator Fan Motor
FLA: Full Load Amps
kW: Fan Motor Rated Output

Notes:

1. TOCA means the total value of each OC set.
2. Voltage range
   Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.
3. Maximum allowable voltage unbalance between phases is 2%.
4. MCA/MFA (FD)
   MCA = 1.25 x FLA
   MFA $\leqq$ 4 x FLA (Min. 15A) (Next lower standard fuse rating)
5. Selected wire size based on the value of MCA.

(2) Condensing units

Model	Unit			Starting method	Power supply			Comp. (each)		CFM (each)	
	Type	Volts—Ph—Hz	Voltage range		MCA	TOCA	MFA	LRA	RLA	kW	FLA
R71BB	V1	220—1—50 230—1—50 240—1—50	Max. 50Hz 264V Min. 50Hz 198V	Direct	19.2	23.2	35	83 87 90	14.1 14.3 14.4	0.095	1.2
R100BB					22.7	26.4	39.2	86 90 94	16.5 16.1 15.7	0.095+0.075	1.2+0.9
R71BB	VHL	200—1—50 220—1—60	Max. 50Hz 220V 60Hz 242V Min. 50Hz 180V 60Hz 198V	Direct	18.1	19.2	30	72 75	11.5 13.5	0.095	1.2
R100BB					25.9	26.4	45	98 100	16.5 18.8	0.095+0.075	1.2+1.2
R71BB	Y1	380—3—50 400—3—50 415—3—50	Max. 456V Min. 342V	Direct	7.3	8.7	15	35 36 38	4.9 4.8 4.7	0.095	1.2
R100BB		380—3—50 400—3—50 415—3—50			9.5	12.1	15	33 35 36	5.9 5.7 5.6	0.095+0.075	1.2+0.9
RU05J		380—3—50 400—3—50 415—3—50			10.8	13	15	52 54 56	8.0 7.7 7.5	0.12	0.8
RU07J		380—3—50 400—3—50 415—3—50			12.0	13	20	74 78 81	9.1 8.9 8.9	0.22	0.6
RU08J		380—3—50 400—3—50 415—3—50			14.7	15	25	93 98 102	11.1 10.9 11.1	0.12	0.8
RU10J		380—3—50 400—3—50 415—3—50			18.4	18	30	121 127 132	14.1 14.0 14.1	0.21	0.8
RU11J		380—3—50 400—3—50 415—3—50			19.9	20	35	121 127 132	15.2 15.0 15.0	0.21	0.9
RU16J		380—3—50 400—3—50 415—3—50		Sequence Direct	31.9	36.6	45	93 98 102	11.7 11.5 11.7	1.0	2.8
RU22J		380—3—50 400—3—50 415—3—50			40.7	47.2	60	121 127 132	14.5 14.5 14.6	1.5	3.9
RU05J	YH	346—3—50 380—3—50 380—3—60 400—3—60	Max. 50Hz 418V 60Hz 440V Min. 50Hz 311V 60Hz 342V	Direct	12.8	13	20	52 57 52 54	8.8 8.2 9.4 8.9	0.19	1.0
RU07J		346—3—50 380—3—50 380—3—60 400—3—60			14.0	15	20	75 82 73 77	9.8 9.4 10.6 10.1	0.25	0.7
RU08J		346—3—50 380—3—50 380—3—60 400—3—60			17.0	18	25	88 97 83 87	11.8 11.4 12.8 12.2	0.19	1.0
RU10J		346—3—50 380—3—50 380—3—60 400—3—60			21.5	22	35	121 133 115 121	14.9 14.4 16.4 15.6	0.28	1.0
RU11J		346—3—50 380—3—50 380—3—60 400—3—60			23.6	24	40	121 133 115 121	16.3 15.6 18.0 17.1	0.28	1.1

Model	Unit			Starting method	Power supply			Comp. (each)		CFM (each)	
	Type	Volts—Ph—Hz	Voltage range		MCA	TOCA	MFA	LRA	RLA	kW	FLA
RU16JA	YH	346—3—50	Max. 50Hz 418V 60Hz 440V Min. 50Hz 311V 60Hz 342V	Sequence Direct	33	40	45	88	12.6	0.19	1.0
		380—3—50						97	12.1		
		380—3—60						83	13.7		
		400—3—60						87	13.2		
RU22JA		346—3—50			42	48	60	121	15.7	0.28	1.1
		380—3—50						133	15.0		
		380—3—60						115	17.9		
		400—3—60						121	17.2		
RU05J	TH	220—3—50	Max. 50Hz 242V 60Hz 264V Min. 50Hz 198V 60Hz 198V	Direct	22.0	22	35	96	14.1	0.19	1.5
		220—3—60						87	16.4		
		230—3—60						92	15.5		
		240—3—60						93	15.0		
RU07J		220—3—50			24.1	25	40	141	16.1	0.25	1.3
		220—3—60						125	18.2		
		230—3—60						130	17.6		
		240—3—60						136	17.0		
RU08J		220—3—50			29.0	30	50	176	19.7	0.19	1.5
		220—3—60						152	22.0		
		230—3—60						159	21.2		
		240—3—60						166	20.6		
RU10J		220—3—50			37.6	38	60	224	25.2	0.28	1.7
		220—3—60						195	28.7		
		230—3—60						204	27.6		
		240—3—60						213	26.8		
RU11J		220—3—50			41.0	42	70	224	27.2	0.28	1.7
		220—3—60						195	31.4		
		230—3—60						204	30.2		
		240—3—60						213	29.2		
RU16JA		220—3—50		Sequence Direct	57	66	80	176	20.8	0.19	1.5
		220—3—60						152	23.8		
		230—3—60						159	22.8		
		240—3—60						166	22.1		
RU22JA		220—3—50			74	84	100	224	26.2	0.28	1.7
		220—3—60						195	31.2		
		230—3—60						204	30.0		
		240—3—60						213	29.0		

Symbols:

MCA: Min. Ckt (Circuit) Amps
TOCA: Total Overcurrent Amps
MFA: Max. Fuse Amps (See note 5)
LRA: Locked Rotor Amps
RLA: Rated Load Amps
CFM: Condenser Fan Motor
FLA: Full Load Amps
kW: Fan Motor Rated Output

Notes:

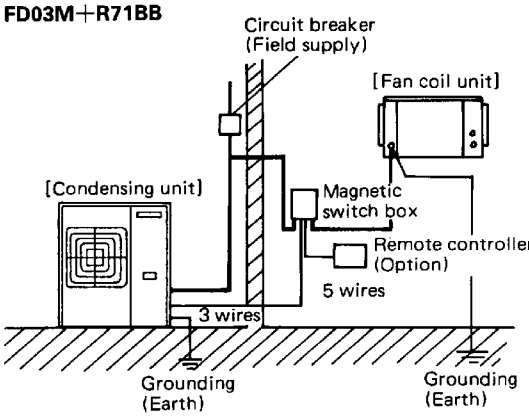
1. RLA is based on the following conditions.
   Indoor temp. 27°CDB/19.5°CWB
   Outdoor temp. 35°CDB
2. TOCA means the total value of each OC set.
3. Voltage range
   Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.
4. Maximum allowable voltage unbalance phase is 2%.
5. MCA/MFA (RU)
   MCA = 1.25 x RLA + ea. FLA
   MFA ≦ 2.25 x RLA + ea. FLA
   (Next lower standard fuse rating)
6. Selected wire size based on the value of MCA.

13. Wiring connection

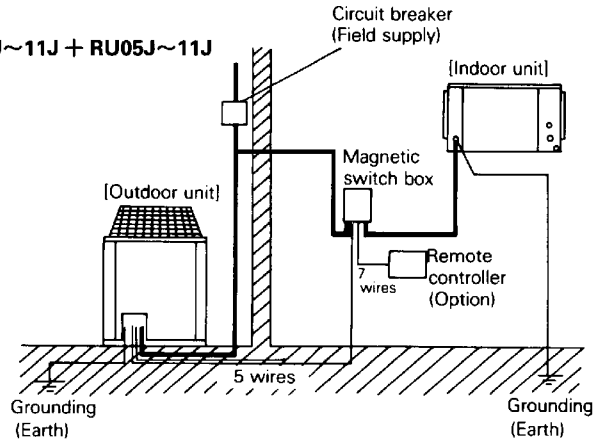
- Wiring connection is made according to the wiring diagram which is stuck on the service panel for switch box of the fan coil unit.
- When the evaporator fan motor and the fan rotor rotate reversely, change the two wires out of three.
- Fan rotation direction is pointed by the arrow mark stuck on the fan pulley.
- Accord with your local code, when wiring is provided on the spot.

Typical wiring diagram

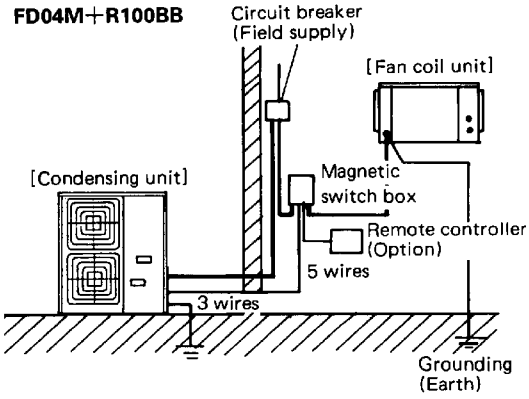
FD03M+R71BB



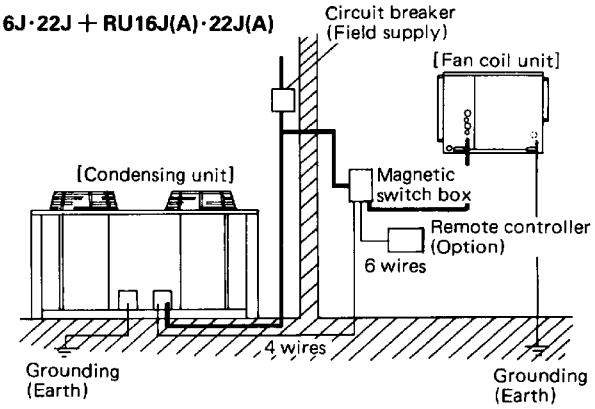
FD05J~11J + RU05J~11J



FD04M+R100BB



FD16J·22J + RU16J(A)·22J(A)

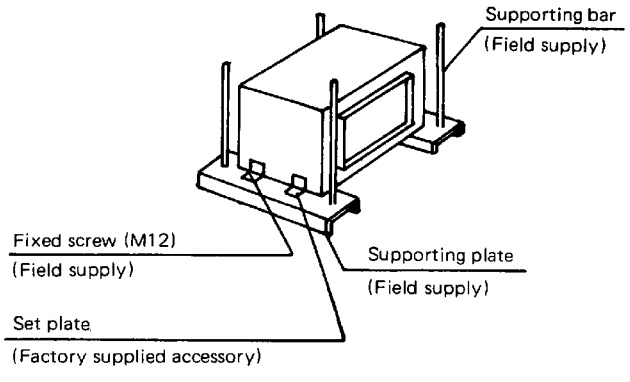


Notes:

1. ▬▬: Line voltage wiring
   ——: 24V wiring
2. All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
3. Use copper conductors only.
4. As for details, see wiring diagrams.
5. Install circuit breakers for safety.
6. All field wiring and components must be provided by a licensed electrician.
7. Unit shall be grounded in compliance with the applicable local and national codes.
8. Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
9. The condensing unit (R71BBY1) for 3 phase, is equipped with a reverse phase protector to protect the compressor. If the compressor does not operate during the test run, exchange two phase connections out of three.

- **Caution**

When the unit is installed, use set plate as shown on the right.



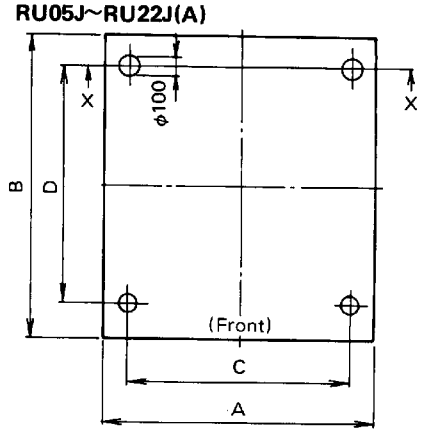
14. Foundation

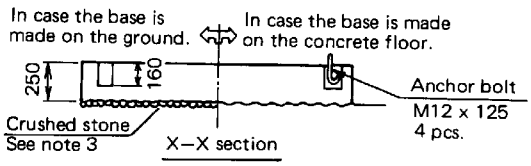
(Unit: mm)

Model	A	B	C	D	E
RU05J	1000	900	810	405	210
RU07J					
RU08J	1200	1100	1020	520	230
RU10J					
RU11J					
RU16J	1960	1050	825	900	75
RU22J	2060	1160	825	1010	75
RU16JA	2160	1160	825	1010	75
RU22JA	2660	1260	1025	1110	75

(Unit: mm)

RU05J~RU22J(A)



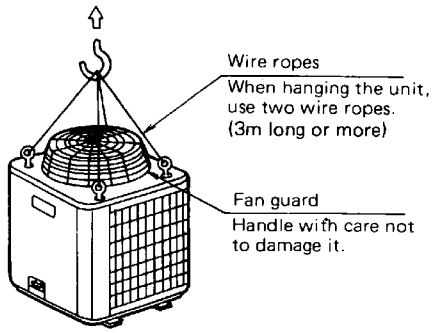


Notes:
1. Provide a flat and level concrete base.
2. Provide a drainage around the unit.
3. In case of roof-top installation, check strength and water-proof of the roof.

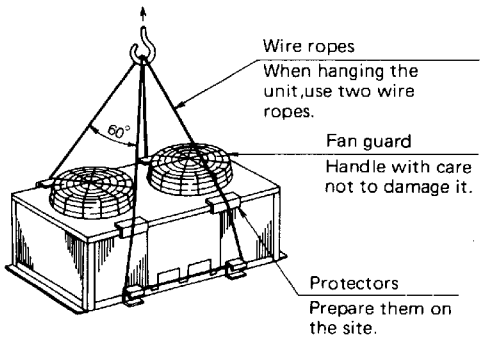
15. Bringing in

- For safety's sake, bring in the unit as shown in the figures. Then, fix the unit firmly with anchor bolts.

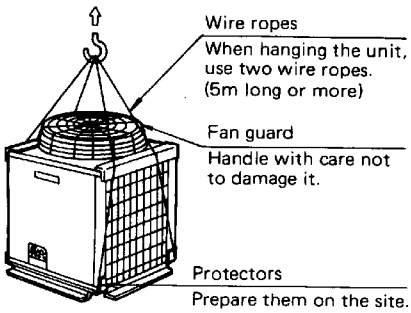
RU05J·07J



RU16J(A)·22J(A)



RU08J~11J



Note:
R3LA can be lifted up by two persons.

16. Refrigerant piping

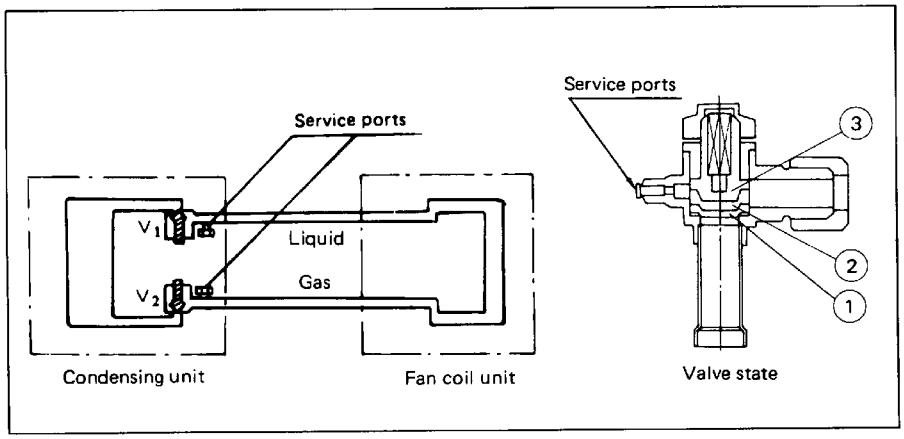
Refrigerant is not charged in RU05J~22J. Charge them on the spot by the amount tabulabed below.
Before charging the refrigerant, check the piping work as stated below.

Check the piping work

- After piping work, charge nitrogen gas and fluorocarbon refrigerant (R22) from the service ports of V_1 and V_2 valves and check the refrigeration circuit for gas tightness and gas leakage.
  [Valve state: V_1, V_2 ... ①]
- Regarding test pressure and test method, follow the installation manual which is encased in the accessory pouch attached to the FD units.
- Then accomplish vacuum drying.
  [V_1, V_2 ... ①]

Refrigerant charge

- Liquid refrigerant is charged from V_1 port.
  At this stage, unit is not operated yet.
  [V_1 ... ②, V_2 ... ①]
- In case pre-designed amount of the refrigerant cannot be charged from V_1 port, charge the refrigerant in gas state from V_2 port up to pre-designed amount while the unit is in operation.
  [V_1 ... ③, V_2 ... ②]
- After completion of the work, fully open those valves. [V_1, V_2 ... ③]



Condensing units		R71BB	R100BB	RU05J	RU07J	RU08J	RU10J	RU11J	RU16J	RU16JA	RU22J	RU22JA
Fan coil units		FD03M	FD03M FD04M	FD05J FD07J	FD05J FD07J FD08J	FD07J FD08J FD10J	FD08J FD10J FD11J	FD10J FD11J	FD16J		FD22J	
Piping connections	Liquid	Dia. 9.5		Dia. 12.7		Dia. 15.9		Dia. 15.9 x 2				
	Gas	Dia. 15.9	Dia. 19.1			Dia. 25.4	Dia. 31.8	Dia. 25.4 x 2			Dia. 31.8 x 2	
*1 Refrigerant (R22) charge (kg)	AF factory	2.6	2.2	–	–	–	–	–	–	–	–	–
	on the spot	–	–	4.3	5.6	6.9	8.2	9.0	2x(5.6)	2x(7.2)	2x(6.3)	2x(9.0)
Additional refrigerant charge (kg/m)		0.025	0.025	0.03	0.03	0.06	0.06	0.06	2x(0.17)		2x(0.18)	
Max. level difference		15 m	Condensing unit is higher than fan coil unit by 20 m									
			Condensing unit is lower than fan coil unit by 30 m									
Max. piping length		20 m	Actual piping length 35 m									
			Equivalent piping length 50 m									

Notes: *1 If the piping length is longer than 5m in case of RU05J~11J and 10m in case of RU16J(A)·22J(A), additionally charge the refrigerant.

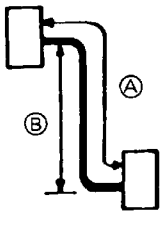
2. How to calculate equivalent piping length: Equivalent piping length means the total piping length of a pipe line in which L joints and traps provided in actual piping are converted to the length of straight pipe and added to actual piping length.
   Equivalent piping length = Actual piping length + Numbers of L joints x an equivalent length of pipe per L joint + Numbers of trap bends x an equivalent length of pipe per trap bend.

- o Calculation of equivalent piping length on the gas piping alone is enough.
- o Actual piping length Ⓐ is the total piping length of gas pipe line, including level difference Ⓑ.
- o In case two condensing units are connected, obtain equivalent piping length per condensing unit, and examine each equivalent piping length.
- o 90° bend of piping is equivalent to L joint.

Equivalent length of pipe for various fittings (Unit: m)

Pipe dia. (mm)	L joint	Trap bend
9.5	0.18	1.3
12.7	0.20	1.5
15.9	0.25	2.0
19.1	0.35	2.4
22.2	0.40	3.0
25.4	0.45	3.4
31.8	0.55	4.0

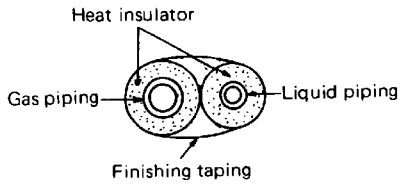
Condensing unit or fan coil unit



Fan coil unit or condensing unit

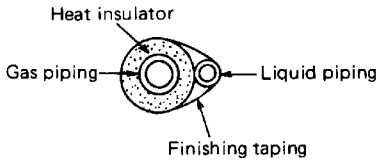
Heat insulation for the refrigerant piping

- Heat insulation is necessary both for the liquid pipe and gas pipe respectively since the capillary tube is attached to the condensing unit.



FD03J~11J + R3LB~RU11J

- Heat insulation is necessary only for gas pipe, in case that the expansion valve is attached to the fan coil units.



FD16J·22J + RU16J(A)·22J(A)

17. Piping connections — structure of stop valve

- In case of R71BB
  New ball type stop valves are used in R71BB. Open and close the stop valve with two wrenches, one on the hexagon part and the other on the union nut. (Refer to Fig. 1)

How to open the ball valve:

① Turn the stem counterclockwise by 1/4 of a turn.

② Stop turning the stem when the pin is in contact with the stopper. The valve is open.

How to close the ball valve:

① Turn the stem clockwise by 1/4 of a turn.

② Stop turning the stem when the pin is in contact with the stopper. The valve is closed.

Cautions for attachment of the cap

The valve is sealed at the part pointed by the arrow mark. So carefully place the cap not to impair it.

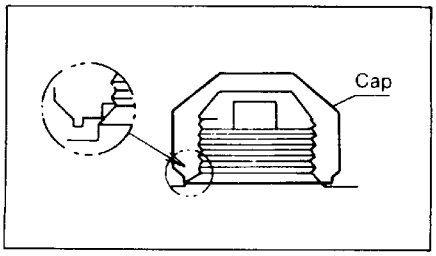


Fig. 1

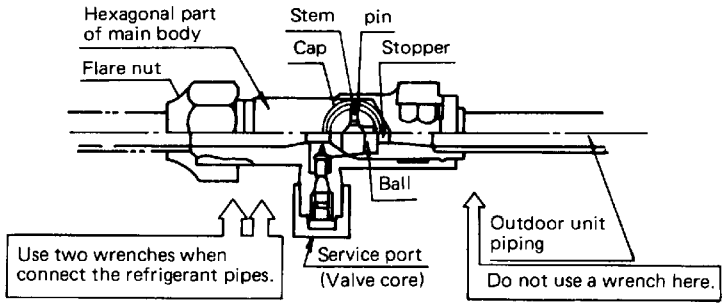
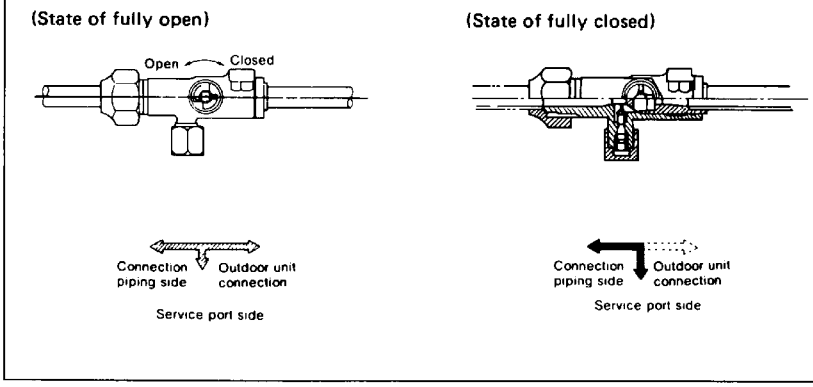


Fig. 2



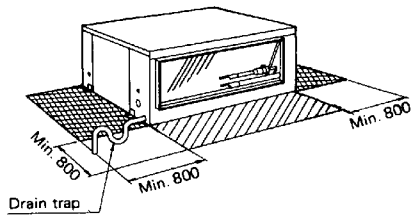
18. Service space

- Be certain that service spacing is sufficiently secured as shown in the figure. If any obstancles are placed around the unit, cooling capacity is reduced, and it is also difficult to do after-sales service smoothly.
- Be certain that the unit has been installed on such a place where the floor is flat and strong enough to support its weight. If the location is not suitable, it may cause noise and vibration.
- Be certain that the unit has been installed in such a place where there is no danger of fire due to leakage of inflammable gas.
  Avoid installing the unit in such a place which is subject to inflammable gas.

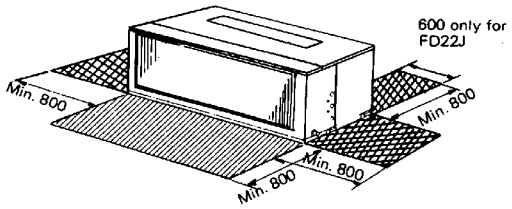
(Unit: mm)

- **Fan coil units**

FD03M~11J



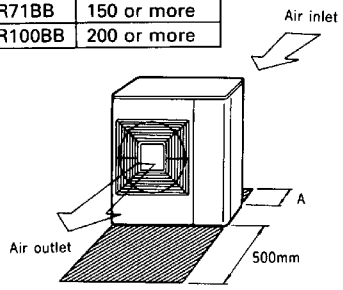
FD16J·22J



- **Condensing units**

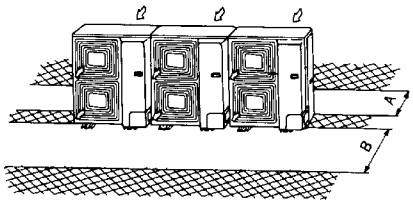
R71BB·100BB

	A
R71BB	150 or more
R100BB	200 or more



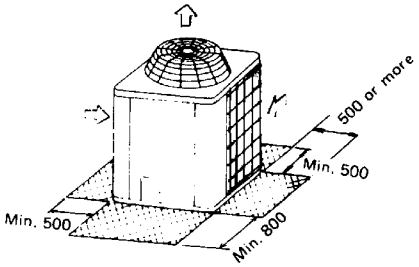
R71BB·100BB (Side by side arrangement)

Model	A	B
R71BB	150	500
R100BB	200	500

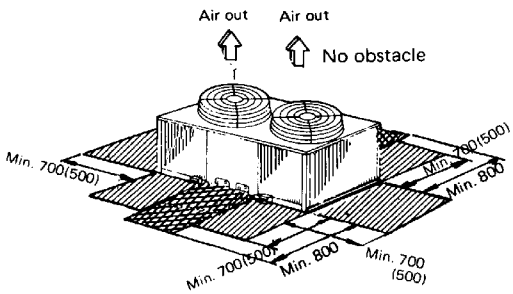


Side by side arrangement

RU05J~22J(A)

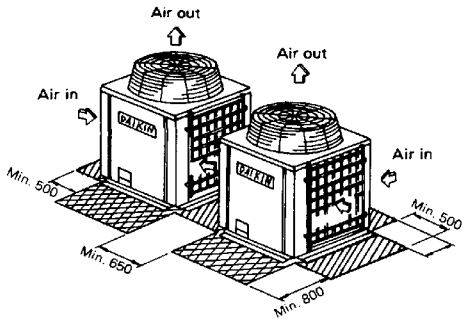


RU16J(A)·22J(A)



Note: The figures inside ( ) show the case of JA type.

(RU05J~11J)x2



⇦ : Air flow

Space for air flow
Space for service

1-2 Air Cooled Split System Air Conditioners-Heat Pump Duct Connection Type FDY-J+RY-L Series

1. Features

The Daikin Air Cooled Heat Pump Split System Air Conditioners in FDY-J+RY-L Series are specially designed to be installed in a ceiling or suspended from the ceiling with air distribution ducting. They are available in 3 models from 12,800 kcal/h to 22,000 kcal/h for cooling and from 13,500 kcal/h to 23,000 kcal/h for heating. Both indoor units (FDY) and outdoor units (RY) are specifically designed for extremely low noise operation. They are ideally used for air conditioning of residences, offices, shops, schools and any type of buildings in almost every part of the world, as they are designed to be operative in a wide ambient temperature range from 20°C to 43°C for cooling and from −7°C to 15.5°C for heating.

Easy and economical installation
The units are internally wired and are subject to stringent tests at the factory before delivery. All that is required is to provide ducting, refrigerant piping and main power supply on the spot, which reduces installation work and costs greatly. In addition, since the units are particularly compact and light, they can be easily brought in and installed, and space required for installation is small.

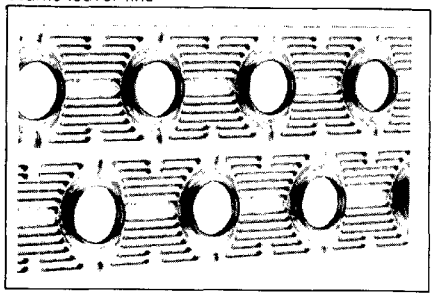
Indoor unit (FDY):

- **The indoor coil** is of the unique cross fin coil type. Waffle louver fins and Hi-X copper tubes (internal tube surface is modified by serration) are adopted to improve heat exchange greatly.
- **Dual suction indoor fans** are adopted to reduce operation noise extremely, and are of the dual suction multi-blade type and driven by the V belt. Since the variable pitch pulley is attached to FDY05J~10J, the accurate air flow rate is obtained by adjusting the pulley diameter from the front service panel even after the unit is installed and the ducting is provided.
- **The indoor fan motor** is equipped with an overcurrent relay for safe operation.

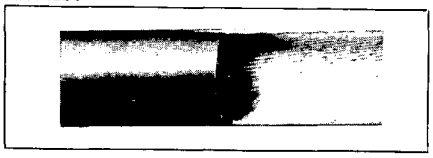
Outdoor unit (RY):

- **The compressor** is a compact and powerful hermetically sealed reciprocating compressor which has been developed with Daikin's own technique. The 2-pole reciprocating type compressor is held by springs in the compressor casing to minimize operation vibration. In addition, the whole compressor is installed with vibration isolation rubber to reduce vibration from going outside.
  A complete set of the safety devices such as crankcase heater, overcurrent relay, compressor thermal protector encased in the motor coil, etc. are equipped, ensuring a long life and trouble-free operation.
- **The outdoor coil** is of the unique cross fin coil type. Waffle louver fins and Hi-X copper tubes are adopted to increase heat exchange coefficient (E.E.R.) greatly.

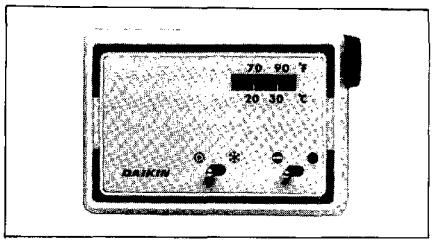
Waffle louver fins



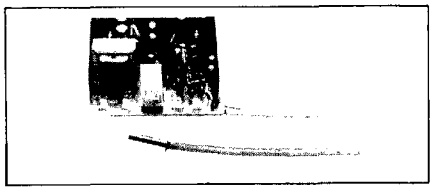
Hi-X tube



- **The outdoor fan** is a direct drive propeller fan and draws the air from both sides and rear of the unit and discharges it upwards together with operation noise, which ensures quiet operation.
- **The outdoor fan motor** is of the 8-pole for RY10L (6-pole for RY6·8L) water proof induction type and is equipped with thermal protector for safe operation. Non-lubrication bearings are used for maintenance-free operation.
- **The remote controller (Option):**
  The remote controller for operation with 24V low voltage. It encases a sensible thermostat to ensure accurate temperature control.



- **The microcomputer type deicer:**
  The microcomputer deicer constantly senses the frost on the outdoor coil during heating operation. The deicer then starts the defrosting cycle only when the volume of the frost attains to the predesigned degree. Therefore, the deicer maintains the comfortable heating, eliminating the unnessary use of power.



2. Specifications

[50Hz]

Model				FDY05J+RY6L	FDY08J+RY8L	FDY10J+RY10L
*1 cooling capacity			kcal/h	12,800	16,500	22,000
			Btu/h	50,800	65,500	87,300
			kW	14.9	19.2	25.6
*1 Heating capacity			kcal	13,500	17,000	23,000
			Btu/h	53,600	67,500	91,300
			kW	15.7	19.8	26.7
Capacity step			%	100—0	100—0	100—0
No.of refrigerant circuit				1	1	1
Connections	Refrigerant piping (Dia)	Liquid	mm	12.7	15.9	15.9
		Gas	mm	19.1	25.4	31.8
	Drain piping (Indoor unit)			FPS3/4B	FPS3/4B	FPS3/4B
	Ducting	Return (HXW)	mm	320X750	370X980	370X1,180
		Supply (HXW)	mm	315X695	350X870	350X870
Heat insulation (for field piping)				Both liquid and gas piping		
Indoor unit				**FDY05J**	**FDY08J**	**FDY10J**
Casing/color				Cold rolled steel plate/Ivory white		
Coil	Type			Cross fin coil (Aluminum waffle louver fins and Hi-X copper tubes)		
	No.of rows			3	3	3
	No.of stages			18	20	20
	Fin pitch		mm	2.0	2.5	2.5
	Face area		m^2	0.329	0.483	0.584
Fan	Type			Dual suction bulti-blade		
	Drive			Adjustable belt drive		
	Air flow rate		m^3/min	46	68	83
			cfm	1,620	2,400	2,930
	Motor speed		r.p.m	1,420	1,420	1,420
	Motor type (3 phase)		pole	4	4	4
	Motor output		kW	0.75	0.75	1.5
Dimensions	(HXWXD)		mm	450X900X800	500X1,130X850	500X1,330X850
Weight			kg	90	110	125
Outdoor unit				**RY6L**	**RY8L**	**RY10L**
Casing/color				Painted galvanized steel plate/Ivory white		
Compressor	Type			Hermetically sealed reciprocating		
	Model×No.			2T55QGX1	3T55KGX1	3T55VGX1
	No.of cylinders			2	3	3
	Speed		r.p.m	2,900	2,900	2,900
Refrigeration oil	Model			SUNISO 3GSD		
	Charge		ℓ	2.6	3.2	3.2
Refrigerant	Model			R22 (Factory charged)		
	Charge		kg	5.7	6.0	8.5
Coil	Type			Cross fin coil (Aluminum waffle louver fins and Hi-X copper tubes)		
	No.of rows			2	2	2
	No.of stages			34	34	40
	Fin pitch		mm	2.0	1.8	2.0
	Face area		m^2	1.55	1.55	2.52
Refrigerant control				Cappillary tube (Cooling and heating)		
Fan	Type			Propeller		
	Drive			Direct drive		
	Air flow rate		m^3/min	110	110	190
			cfm	3,880	3,880	6,710
	Motor output		W	220	220	210
Dimensions (HXWXD)			mm	1,150X770X770	1,150X770X770	1,275X980X980
Weight			kg	155	170	230
Safety devices				High pressure switch, crankcase heater, fuse, overcurrent relays for compressor and indoor fan motor, thermal protector for compressor and outdoor fan motor.		

Notes:

*1. Nominal capacities are based on the following conditions.
Cooling: Indoor temp. 27℃DB/19.5℃WB (80°F DB/67°F WB),
outdoor temp. 35℃DB (95°F DB)
Heating: Indoor temp. 21℃DB (70°F DB),
outdoor temp. 7℃DB/6℃WB (45°F DB/43°F WB)

2. The above cooling capacities are gross capacities which do not include a deduction for indoor fan motor heat.
3. The above heating capacities are net capacities which include an addition for indoor fan motor heat.

Conversion formulae		
Btu/h	=	kcal/h x 3.97
kW	=	kcal/h x 0.001163
Inches	=	mm x 0.0394
Pounds	=	kg x 2.205
Psi	=	kg/cm^2 x 14.22
KPa	=	kg/cm^2 x 98.07
Cfm	=	m^3/min x 35.3
US Gallons	=	Liter x 0.264
UK Gallons	=	Liter x 0.220

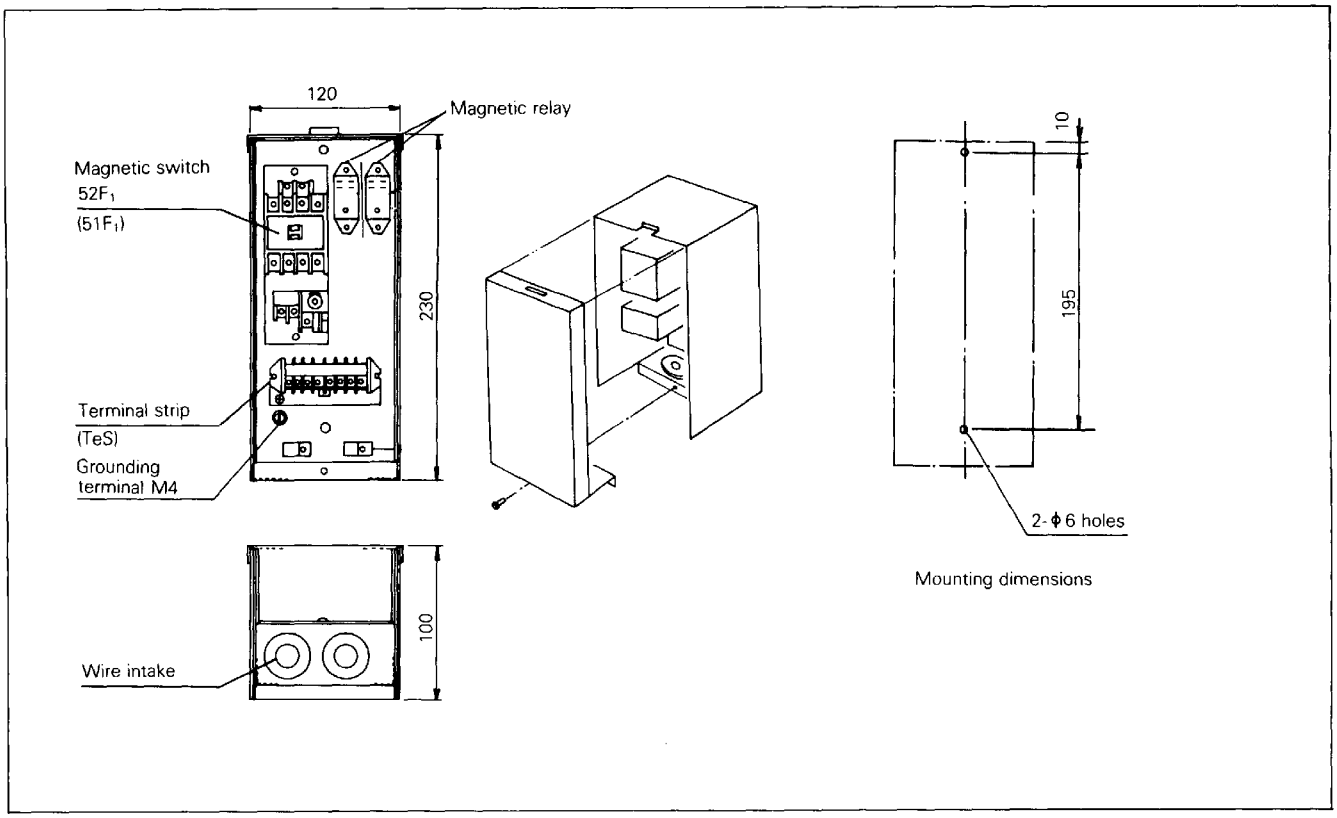
e.g. 12,800 kcal/h = 12,800 X 3.97
= 50,800 Btu/h

■ Power supply

SYMBOL	Power supply	Condensing unit	Fan coil unit
Y1	3 ϕ, 380~415V, 50Hz (4 wires)	RY6LY1	FDY05JY1
		RY8LY1	FDY08JY1
		RY10LY1	FDY10JY1

3. Standard accessories ... Switch box

The magnetic switch box for indoor fan motor is encased in the casing of FDY unit as a standard accessory.
Take it out of the casing before installation and attach it anywhere it is convenient for maintenance.

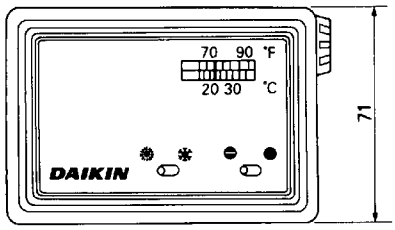


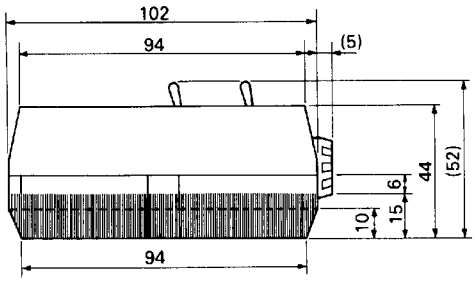
4. Optional accessories

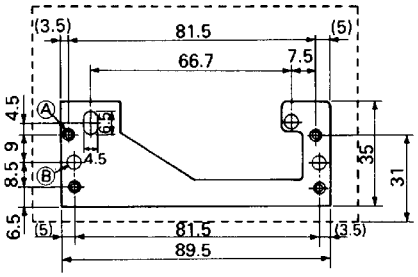
(These options should be attached in DAIKIN factory. Field modifications are not available.)

1. **Anti-corrosion treatment for outdoor units** ※
   { E [Standard anti-corrosion model]
   { E2 [Stronger anti-corrosion model]
2. **Fan motor pulley change for indoor units** ☆
3. **Fan motor 1 size larger for indoor units** ☆
4. **Remote controller ... KRC17-2B**

KRC17-2B







Ⓐ Screw hole for remote controller (2-M4)
Ⓑ Screw hole for wall mounting (φ4.4)

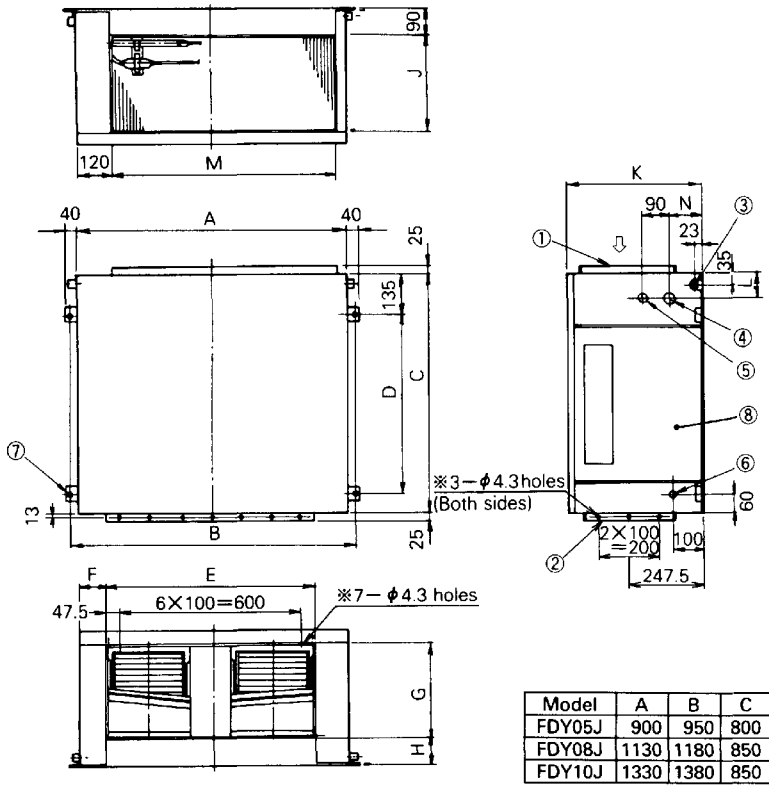
Note: The screws for remote controller and terminal for connecting wires (11 pcs) are attached.

Note ※ For the detail specification of "Anti-corrosion treatment" , refer to Appendix-1 (Last chapter of this catalog.)
☆ In case ordering these modifications, inform "Air flow rate (m^3/min)" & "External static pressure (mmH_2O)".

5. Dimensions

(Unit:mm)

FDY05J·08J·10J (Indoor units)



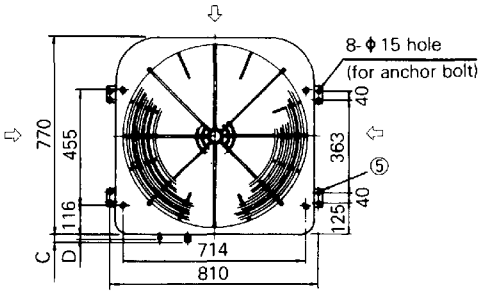
① Air inlet conn. (for return duct)
② Air outlet conn. (for supply duct)
③ Drain conn. FPS 3/4B (both sides)
④ Gas pipe conn. φ19.1 Brazing (FDY05J)
φ25.4 Brazing (FDY08J)
φ31.8 Brazing (FDY10J)
⑤ Liquid pipe conn. φ12.7 Brazing (FDY05J)
φ15.9 Brazing (FDY08J·10J)
⑥ Power supply intake φ15 hole
⑦ Set plate φ15 hole
⑧ Grounding terminal (in the casing) M4

Note: Holes marked ※ are located only in FDY05J.

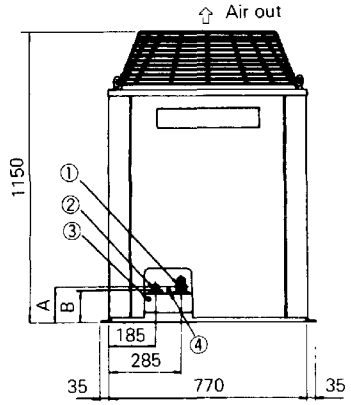
Model	A	B	C	D	E	F	G	H	J	K	L	M	N
FDY05J	900	950	800	600	695	90	315	90	320	450	80	750	110
FDY08J	1130	1180	850	650	870	115	350	100	370	500	46	980	130
FDY10J	1330	1380	850	650	870	215	350	100	370	500	46	1180	130

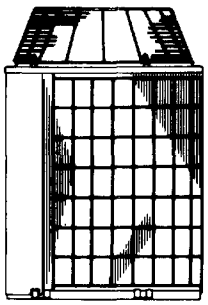
(Unit:mm)

RY6L·8L (Outdoor units)



① Gas pipe conn. E
② Liquid pipe conn. F
③ Grounding terminal M6
④ Power supply and control wire intake
⑤ Anchor bolt set plates
(Use one of the two holes of each for set plates and fix the unit with 4 holes.)

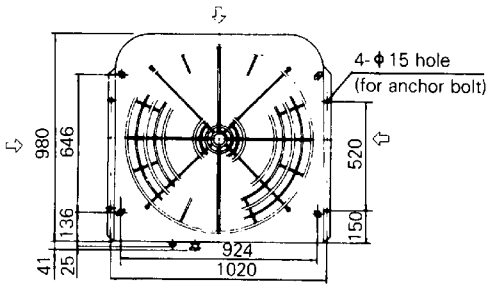


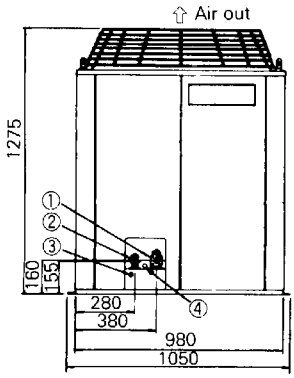


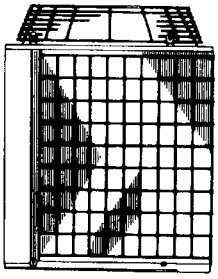
	A	B	C	D	E	F
RY6L	130	125	24	19	φ19.1 Flare	φ12.7 Flare
RY8L	135	130	20	20	φ25.4 Brazing	φ15.9 Flare

(Unit:mm)

RY10L (Outdoor unit)

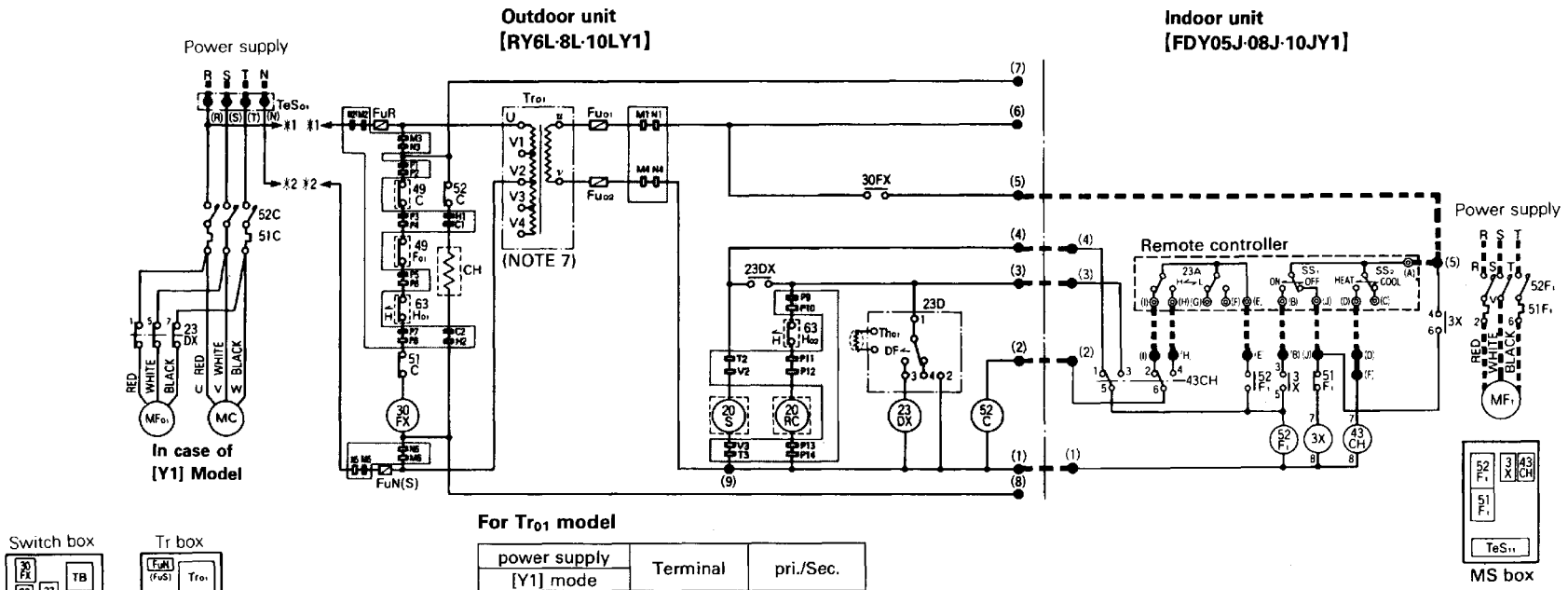






① Gas pipe conn. φ31.8 Brazing
② Liquid pipe conn. φ15.9 Flare
③ Grounding terminal M6 (in switch box)
④ Power supply and control wire intake

1



For Tr_{01} model

power supply [Y1] mode	Terminal	pri./Sec.
	$U-V_1$	
*380V	$U-V_2$	220V/24V
400V	$U-V_3$	230V/24V
415V	$U-V_4$	240V/24V

Symbols:

3X	Magnetic relay
20RC	Solenoid valve
20S	4 way valve
23D	Deicer
23DX	Magnetic relay
30FX	Magnetic relay
43CH	Magnetic relay
49C	Thermal protector (MC)
$49F_{01}$	Thermal protector (MF_{01})
51C	Overcurrent relay (MC)
$51F_1$	Overcurrent relay (MF_1)
52C	Magnetic switch (MC)
$52F_1$	Magnetic switch (MF_1)
$63H_{01}$	High press. switch
$63H_{02}$	High press. switch (control)
CH	Crankcase heater
Fu_0	Fuse (250V 10A)
FuR,S,N	Fuse (600V 5A)
MC	Motor (compressor)
MF_{01}	Motor (outdoor unit)
MF_1	Motor (indoor unit)
TeS_{01}	Terminal strip
Th_{01}	Thermistor (ref. temp−23D)
Tr_{01}	Transformer (100VA)

Remote controller (option)

23A	Thermostat
SS_1	Selector switch (ON-OFF)
SS_2	Selector switch (COOL-HEAT)

Notes:

1. ——: Jumper
2. - - -: Field wiring
3. —●—: Terminal of TeS
4. □: Printed circuit board
   —|—: Tab
5. —◎—: Terminal of remote controller
6. Insulate each terminal on remote controller with a sleeve.
7. Change the transformer connection according to the table.
   (※ Factory connection)
8. Power supply
   Y1 : 3 phase, 380~415V, 50Hz, 4 wires

7. Capacity tables

● Cooling capacity [50Hz]

[FDY05J+RY6L]

Indoor air AFR (BF)	EWB (°C)	Outdoor temperature (°CDB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	43 TC	43 SHC	43 PI
39 (0.07)	16.0	12.2	11.8	4.7	11.6	11.5	4.9	11.0	11.0	5.2	—	—	—	—	—	—
	18.0	13.0	10.5	4.8	12.4	10.3	5.0	11.9	10.0	5.3	11.2	9.7	5.6	—	—	—
	19.5	13.7	9.6	4.8	13.0	9.3	5.1	12.4	9.1	5.4	11.8	8.8	5.8	11.4	8.6	6.0
	20.0	13.9	9.3	4.9	13.3	9.0	5.2	12.6	8.7	5.5	12.0	8.5	5.8	11.6	8.3	6.0
	22.0	14.9	8.0	5.0	14.2	7.7	5.3	13.5	7.5	5.6	12.8	7.2	6.0	12.4	7.1	6.2
	24.0	15.9	6.7	5.1	15.2	6.4	5.4	14.5	6.2	5.8	13.7	5.9	6.1	13.3	5.8	6.4
46 (0.09)	16.0	12.5	12.5	4.7	11.9	11.9	5.0	11.3	11.3	5.2	—	—	—	—	—	—
	18.0	13.4	11.5	4.8	12.8	11.2	5.1	12.2	11.0	5.4	11.5	10.7	5.7	—	—	—
	19.5	14.1	10.4	4.9	13.4	10.1	5.2	12.8	9.9	5.5	12.1	9.6	5.8	11.7	9.4	6.0
	20.0	14.3	10.0	4.9	13.7	9.8	5.2	13.0	9.5	5.5	12.3	9.2	5.9	11.9	9.1	6.1
	22.0	15.3	8.5	5.1	14.6	8.3	5.4	13.9	8.0	5.7	13.2	7.8	6.0	12.8	7.6	6.3
	24.0	16.3	7.0	5.2	15.6	6.8	5.5	14.9	6.5	5.8	14.1	6.3	6.2	13.7	6.1	6.4
53 (0.11)	16.0	12.7	12.7	4.7	12.1	12.1	5.0	11.5	11.5	5.3	—	—	—	—	—	—
	18.0	13.7	12.3	4.9	13.1	12.1	5.1	12.4	11.8	5.4	11.7	11.6	5.8	—	—	—
	19.5	14.4	11.1	4.9	13.7	10.8	5.2	13.1	10.6	5.5	12.3	10.3	5.9	11.9	10.2	6.1
	20.0	14.6	10.7	5.0	14.0	10.4	5.3	13.3	10.2	5.6	12.5	9.9	5.9	12.1	9.7	6.1
	22.0	15.6	9.0	5.1	14.9	8.8	5.4	14.2	8.5	5.7	13.5	8.3	6.1	13.1	8.1	6.3
	24.0	16.6	7.3	5.2	15.9	7.1	5.5	15.2	6.8	5.9	14.4	6.6	6.3	14.0	6.4	6.5

[FDY08J+RY8L]

Indoor air AFR (BF)	EWB (°C)	Outdoor temperature (°CDB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	43 TC	43 SHC	43 PI
58 (0.12)	16.0	15.8	15.8	5.7	15.1	15.1	6.0	14.3	14.3	6.3	—	—	—	—	—	—
	18.0	17.0	14.3	5.8	16.2	14.0	6.2	15.3	13.6	6.5	14.5	13.2	6.8	—	—	—
	19.5	17.9	12.9	5.9	17.0	12.6	6.3	16.1	12.2	6.6	15.1	11.9	7.0	14.6	11.6	7.2
	20.0	18.2	12.5	6.0	17.3	12.1	6.3	16.4	11.8	6.7	15.4	11.4	7.0	14.8	11.2	7.3
	22.0	19.3	10.7	6.1	18.5	10.3	6.5	17.5	10.0	6.9	16.5	9.6	7.2	15.8	9.4	7.5
	24.0	20.5	8.8	6.3	19.6	8.5	6.7	18.7	8.1	7.0	17.6	7.8	7.4	16.9	7.6	7.7
68 (0.14)	16.0	16.2	16.2	5.7	15.5	15.5	6.1	14.6	14.6	6.4	—	—	—	—	—	—
	18.0	17.4	15.5	5.9	16.6	15.1	6.2	15.7	14.8	6.6	14.8	14.4	6.9	—	—	—
	19.5	18.3	13.9	6.0	17.4	13.6	6.3	16.5	13.2	6.7	15.5	12.8	7.1	14.9	12.6	7.3
	20.0	18.6	13.4	6.0	17.7	13.1	6.4	16.8	12.7	6.7	15.8	12.4	7.1	15.2	12.1	7.3
	22.0	19.8	11.3	6.2	18.9	11.0	6.6	17.9	10.6	6.9	16.9	10.3	7.3	16.2	10.1	7.5
	24.0	21.0	9.2	6.3	20.1	8.9	6.7	19.1	8.6	7.1	18.0	8.2	7.5	17.3	8.0	7.7
78 (0.16)	16.0	16.5	16.5	5.8	15.8	15.8	6.1	14.8	14.8	6.4	—	—	—	—	—	—
	18.0	17.7	16.6	5.9	16.9	16.2	6.3	16.0	15.9	6.6	15.0	15.0	7.0	—	—	—
	19.5	18.6	14.8	6.0	17.7	14.5	6.4	16.8	14.1	6.7	15.8	13.8	7.1	15.1	13.5	7.3
	20.0	18.9	14.3	6.1	18.0	13.9	6.4	17.1	13.6	6.8	16.1	13.2	7.2	15.5	13.0	7.4
	22.0	20.1	11.9	6.2	19.2	11.6	6.6	18.2	11.3	7.0	17.2	10.9	7.4	16.5	10.7	7.6
	24.0	21.4	9.6	6.4	20.4	9.3	6.8	19.4	9.0	7.2	18.3	8.6	7.6	17.6	8.4	7.8

[FDY10J+RY10L]

Indoor air AFR (BF)	EWB (°C)	Outdoor temperature (°CDB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	43 TC	43 SHC	43 PI
71 (0.12)	16.0	20.7	20.3	7.3	19.9	19.8	7.8	19.0	19.0	8.2	—	—	—	—	—	—
	18.0	22.2	18.1	7.6	21.3	17.7	8.0	20.4	17.3	8.5	19.4	16.9	9.0	—	—	—
	19.5	23.4	16.5	7.7	22.4	16.1	8.2	21.4	15.7	8.7	20.4	15.2	9.2	19.7	15.0	9.5
	20.0	23.8	15.9	7.8	22.8	15.5	8.3	21.8	15.1	8.8	20.7	14.7	9.3	20.1	14.4	9.6
	22.0	25.3	13.7	8.0	24.4	13.3	8.5	23.3	12.9	9.0	22.1	12.5	9.6	21.4	12.2	9.9
	24.0	27.0	11.4	8.3	26.0	11.1	8.8	24.8	10.6	9.3	23.7	10.2	9.9	22.9	10.0	10.2
83 (0.14)	16.0	21.3	21.3	7.4	20.4	20.4	7.9	19.5	19.5	8.3	—	—	—	—	—	—
	18.0	22.8	19.5	7.7	21.9	19.2	8.1	20.9	18.7	8.6	19.9	18.3	9.1	—	—	—
	19.5	24.0	17.7	7.8	23.0	17.3	8.3	22.0	16.9	8.8	20.9	16.4	9.3	20.2	16.2	9.6
	20.0	24.4	17.1	7.9	23.4	16.7	8.4	22.4	16.3	8.9	21.3	15.8	9.4	20.6	15.6	9.7
	22.0	26.0	14.5	8.2	25.0	14.1	8.6	23.9	13.7	9.2	22.7	13.3	9.7	22.0	13.0	10.0
	24.0	27.7	11.9	8.4	26.7	11.6	8.9	25.5	11.2	9.5	24.3	10.8	10.0	23.5	10.5	10.4
95 (0.16)	16.0	21.7	21.7	7.5	20.8	20.8	7.9	19.9	19.9	8.4	—	—	—	—	—	—
	18.0	23.2	20.9	7.7	22.3	20.5	8.2	21.3	20.1	8.7	20.3	19.7	9.2	—	—	—
	19.5	24.5	18.8	7.9	23.4	18.4	8.4	22.4	18.0	8.9	21.3	17.6	9.4	20.6	17.3	9.7
	20.0	24.9	18.1	8.0	23.8	17.7	8.5	22.8	17.3	9.0	21.7	16.9	9.5	21.0	16.6	9.8
	22.0	26.5	15.3	8.2	25.5	14.9	8.7	24.4	14.5	9.2	23.1	14.1	9.8	22.4	13.8	10.1
	24.0	28.2	12.4	8.5	27.2	12.1	9.0	26.0	11.7	9.5	24.8	11.3	10.1	23.9	11.0	10.5

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
TC : Total capacity (×1,000 kcal/h)
SHC : Sensible heat capacity (×1,000 kcal/h)
PI : Power input (kW)
(Comp. + Outdoor fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. ▭ shows nominal capacities.
3. SHC is based on 27°C dry bulb temp. of air entering indoor coil.
Below 27°CDB, subtract △SCC from SHC.
Above 27°CDB, add △SCC to SHC.
△SCC = Capacity correction for SHC for other dry bulb than 27°C.
= 0.29 × 60 × AFR (m^3/min.) × (1 −BF) × (DB−27°C)
4. Direct interpolation is permissible. Do not extrapolate.

● Heating capacity

[50Hz]

[FDY05J+RY6L]

Indoor air		Outdoor temperature (°CWB)									
AFR	EDB	−5		0		6		10		15	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
39	16	9.9	4.7	11.7	5.0	13.8	5.3	15.2	5.6	—	—
	18	9.8	4.7	11.5	5.0	13.6	5.4	14.9	5.7	—	—
	20	9.6	4.8	11.3	5.1	13.4	5.5	14.7	5.8	16.6	6.2
	21	9.5	4.8	11.2	5.1	13.3	5.5	14.6	5.9	16.5	6.3
	22	9.5	4.8	11.1	5.2	13.2	5.6	14.5	5.9	16.4	6.4
	24	9.3	4.9	11.0	5.2	13.0	5.7	14.3	6.0	16.2	6.5
46	16	10.1	4.6	11.9	4.8	14.0	5.2	15.5	5.5	—	—
	18	9.9	4.6	11.7	4.9	13.8	5.3	15.2	5.6	—	—
	20	9.8	4.7	11.5	5.0	13.6	5.4	15.0	5.7	16.9	6.1
	21	9.7	4.7	11.4	5.0	13.5	5.4	14.9	5.7	16.8	6.1
	22	9.6	4.7	11.3	5.0	13.4	5.4	14.8	5.8	16.7	6.2
	24	9.5	4.8	11.2	5.1	13.2	5.5	14.6	5.9	16.5	6.3
53	16	10.2	4.5	12.1	4.8	14.2	5.1	15.7	5.4	—	—
	18	10.1	4.5	11.9	4.8	14.0	5.2	15.4	5.5	—	—
	20	9.9	4.6	11.7	4.9	13.8	5.3	15.2	5.6	17.1	6.0
	21	9.8	4.6	11.6	4.9	13.7	5.3	15.1	5.6	17.0	6.0
	22	9.7	4.6	11.4	4.9	13.6	5.3	15.0	5.7	16.9	6.1
	24	9.6	4.7	11.3	5.0	13.4	5.4	14.8	5.8	16.7	6.2

[FDY10J+RY10L]

Indoor air		Outdoor temperature (°CWB)									
AFR	EDB	−5		0		6		10		15	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
71	16	16.1	7.5	19.2	8.0	23.2	8.7	26.3	9.3	—	—
	18	16.0	7.6	19.1	8.2	23.0	8.9	26.1	9.4	—	—
	20	15.9	7.7	18.9	8.3	22.8	9.0	25.8	9.6	30.0	10.4
	21	15.9	7.8	18.8	8.4	22.7	9.1	25.7	9.7	29.8	10.5
	22	15.8	7.9	18.8	8.4	22.6	9.2	25.5	9.8	29.6	10.6
	24	15.7	8.0	18.6	8.6	22.3	9.4	25.2	10.0	29.3	10.8
83	16	16.3	7.4	19.4	7.8	23.5	8.5	26.6	9.0	—	—
	18	16.2	7.5	19.3	8.0	23.3	8.7	26.4	9.2	—	—
	20	16.1	7.6	19.1	8.1	23.1	8.8	26.1	9.4	30.3	10.2
	21	16.1	7.6	19.0	8.2	23.0	8.9	26.0	9.5	30.1	10.3
	22	16.0	7.7	19.0	8.2	22.9	9.0	25.8	9.6	29.9	10.4
	24	15.9	7.8	18.8	8.4	22.6	9.1	25.5	9.7	29.6	10.6
95	16	16.4	7.2	19.6	7.7	23.7	8.4	26.8	8.9	—	—
	18	16.3	7.3	19.5	7.8	23.5	8.5	26.6	9.0	—	—
	20	16.2	7.4	19.3	8.0	23.3	8.7	26.3	9.2	30.5	10.0
	21	16.2	7.5	19.2	8.0	23.2	8.7	26.2	9.3	30.3	10.1
	22	16.1	7.5	19.2	8.1	23.1	8.8	26.0	9.4	30.1	10.2
	24	16.0	7.6	18.9	8.2	22.8	9.0	25.7	9.6	29.8	10.4

[FDY08J+RY8L]

Indoor air		Outdoor temperature (°CWB)									
AFR	EDB	−5		0		6		10		15	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
58	16	12.3	5.0	14.6	5.4	17.3	5.9	19.1	6.2	—	—
	18	12.2	5.0	14.4	5.5	17.1	6.0	18.9	6.3	—	—
	20	12.1	5.1	14.3	5.5	16.9	6.1	18.7	6.4	20.8	6.9
	21	12.0	5.1	14.2	5.6	16.8	6.1	18.5	6.5	20.7	7.0
	22	12.0	5.2	14.1	5.6	16.7	6.2	18.4	6.6	20.6	7.0
	24	11.8	5.2	13.9	5.7	16.5	6.3	18.2	6.7	20.3	7.2
68	16	12.5	4.9	14.8	5.3	17.5	5.7	19.3	6.1	—	—
	18	12.3	4.9	14.6	5.4	17.3	5.8	19.1	6.2	—	—
	20	12.2	5.0	14.5	5.4	17.1	5.9	18.9	6.3	21.1	6.8
	21	12.1	5.0	14.4	5.5	17.0	6.0	18.7	6.4	21.0	6.8
	22	12.1	5.1	14.3	5.5	16.9	6.1	18.6	6.4	20.9	6.9
	24	11.9	5.1	14.1	5.6	16.7	6.2	18.4	6.5	20.6	7.0
78	16	12.6	4.8	14.9	5.2	17.6	5.7	19.5	6.0	—	—
	18	12.4	4.9	14.7	5.3	17.4	5.8	19.3	6.1	—	—
	20	12.3	4.9	14.6	5.4	17.2	5.9	19.1	6.2	21.3	6.7
	21	12.2	5.0	14.5	5.4	17.1	5.9	18.9	6.3	21.2	6.7
	22	12.2	5.0	14.4	5.4	17.0	6.0	18.8	6.3	21.1	6.8
	24	12.0	5.1	14.2	5.5	16.8	6.1	18.6	6.4	20.8	6.9

Symbols:

AFR : Air flow rate (m^3/min)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (×1,000 kcal/h)
PI : Power input (kW)
(Comp. + Outdoor fan motor + Indoor fan motor)

Notes:

1. Ratings shown are net capacities which include an addition for indoor fan motor heat.
2. [ ] shows nominal capacities.
3. Capacities are based on the following conditions.
   Outdoor air: 85% RH. However, when outdoor temperature is 7°CDB wet bulb temperature is 6°CWB.
4. Direct interpolation is permissible.
   Do not extarapolate.

● Heating capacity at low outdoor temperature.

The heating capacities tabulated do not include capacity drop during frosting period and defrosting operation. Namely, the intergrated heating capacities in consideration with capacity drop during frosting period and defrosting operation are obtained from the following formula.

Integrated heating capacity = (Capacity tabulated) ×
(Integrated correction factor during frosting period) (kcal/h)

● Correction factor for obtaining integrated heating capacity

Entering air temp. to air cooled heat exchanger (°CWB RH=85%)	−6	−4	−2	0	2	4	6
Integrated correction factor during frosting period	0.75	0.89	0.87	0.87	0.89	0.91	1.00

Note:

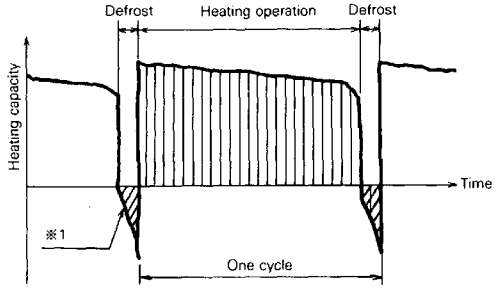
Integrated heating capacity means that heating capacity during one cycle (between defrosting period and defrosting period) as shown on the right, which is integrated and converted to heating capacity per hour.

● Cool air discharge

During defrosting in the zone marked with ※1, the unit is under cooling operation, discharging the cool air from the indoor side.

It is advisable to attach a duct heater on the spot to heat the air for constant heating or make heating temperature higher.

Defrosting time changes depending on the outdoor air temperature. At normal conditions, it takes 6~8 minutes or at most 10 minutes before heating operation restarts.

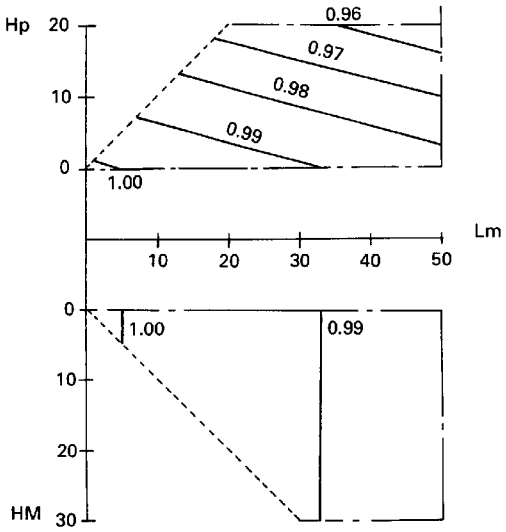


Note:

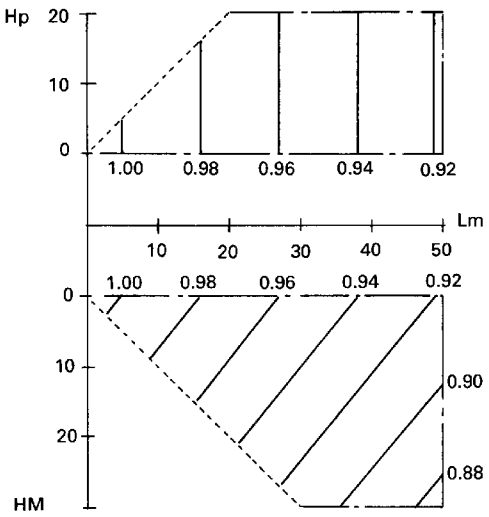
In case the surface of the heat exchanger is covered with snow, heating capacity drops temporarily although it differs with outdoor temperature (°CWB), relative humidity (RH) and frosting volume.

8. Change in capacity

[Cooling] **FDY05J**
FDY08J
FDY10J



[Heating]



Numerics in the table show capacity changing ratio.

Symbols
Hp : Difference in height between indoor unit and outdoor unit (m).
(Indoor unit is installed lower than outdoor unit.)
HM: Difference in height between indoor unit and outdoor unit (m).
(Indoor unit is installed heigher than outdoor unit.)
Lm : Equivalent piping length (m).

9. Fan performance

(1) Performance data

Model	Air flow (m^3/min)		External static pressure (mmH_2O)										
			0	5	10	15	20	25	30	35	40	45	50	55
FDY05J	39	r.p.m.	725	885	1035	1175	1290	1400	1500	1600	—	—	—	—
		kW	0.14	0.21	0.28	0.36	0.44	0.52	0.60	0.68	—	—	—	—
	46	r.p.m.	850	990	1115	1240	1360	1465	1565	—	—	—	—	—
		kW	0.24	0.30	0.38	0.46	0.56	0.66	0.76	—	—	—	—	—
	53	r.p.m.	980	1100	1215	1330	1440	1540	—	—	—	—	—	—
		kW	0.34	0.42	0.50	0.60	0.71	0.82	—	—	—	—	—	—
FDY08J	58	r.p.m.	—	705	820	925	1025	1120	—	—	—	—	—	—
		kW	—	0.25	0.34	0.45	0.58	0.72	—	—	—	—	—	—
	68	r.p.m.	700	815	910	1000	1085	1175	1255	1335	—	—	—	—
		kW	0.30	0.39	0.50	0.63	0.76	0.90	1.04	1.20	—	—	—	—
	78	r.p.m.	825	920	1005	1080	1160	1240	1315	1390	1455	1510	—	—
		kW	0.46	0.60	0.72	0.85	0.99	1.14	1.29	1.45	1.61	1.77	—	—
FDY10J	71	r.p.m.	675	790	885	980	1060	1145	1225	1310	1390	—	—	—
		kW	0.30	0.38	0.50	0.62	0.75	0.88	1.03	1.18	1.35	—	—	—
	83	r.p.m.	775	870	960	1040	1115	1190	1260	1340	1410	1465	1525	1580
		kW	0.44	0.56	0.69	0.82	0.96	1.10	1.25	1.41	1.57	1.73	1.89	2.05
	95	r.p.m.	875	965	1050	1120	1195	1260	1325	1390	1450	1500	—	—
		kW	0.67	0.81	0.97	1.11	1.26	1.41	1.56	1.71	1.88	2.05	—	—

Symbols:
r.p.m. : Fan speed (r.p.m.)
kW : Brake horsepower input to fan (kW)

Note:
▭ shows the operating range of the standard fan motor.
In case the fan motor is used out of the range, change motor size.

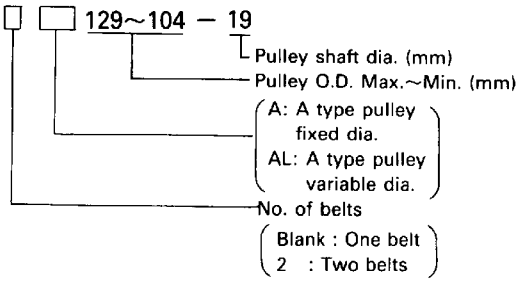
(2) Operating range

Model	FDY05J	FDY08J	FDY10J
Air flow rate (m^3/min.)	39~53	58~78	71~95
Fan speed (r.p.m.)	600~1600		

(3) Specifications (Factory set)

Model	Type	FDY05J	FDY08J	FDY10J
Motor pulley size	Y1	AL129~104-19	AL124~99-19	AL129~104-24
Fan pulley size		A149-25	A169-25	
Belt size	Y1	A-38	A-41	A-42

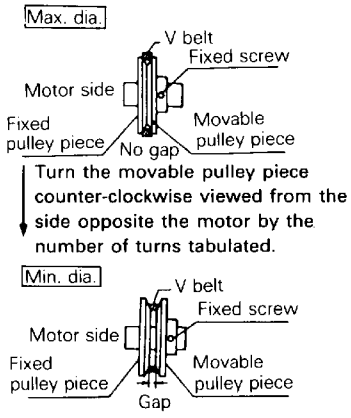
(4) Nomenclature



(5) How to adjust the variable pitch pulley

- After stopping, loosen the belt, remove the screw from the movable pulley piece and turn the movable piece in the direction shown by the required number of turns (tabulated in the Table).
- Insert the screw into one of two holes, from which it can contact with the flat face of the fixed-pulley piece when it is tightened up.
- Retighten up the screw.
- Align the pulleys of the fan and the motor and adjust the tension of V belts.

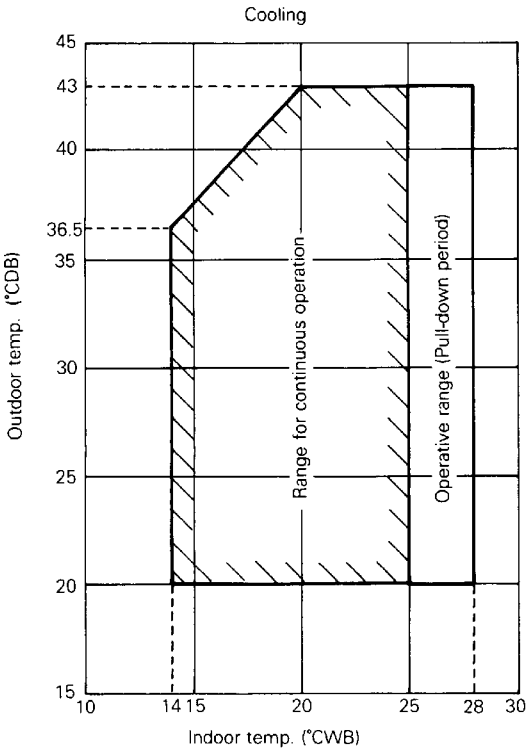
Pulley adjusting method

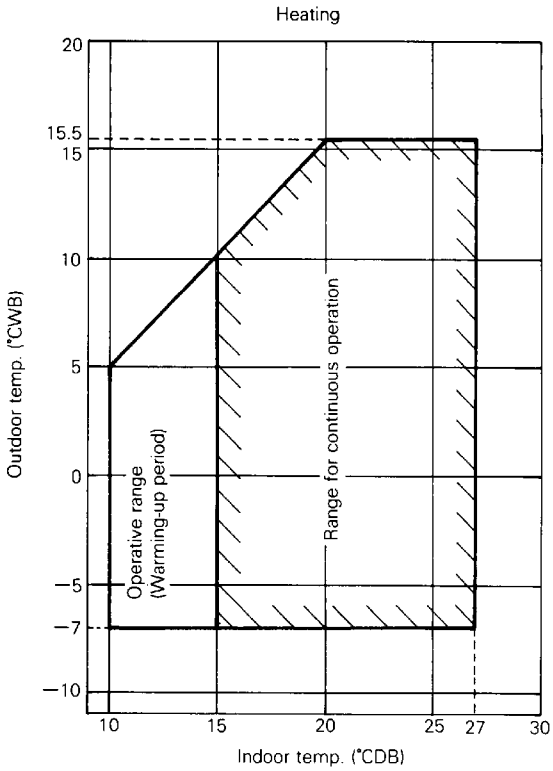


Model	No.of turns	Gap (mm)	Pitch dia. (mm) Y1	Fan speed (r.p.m) Y1 50Hz
FDY05J	0	0	120	1275
	1	1.5	115	1225
	2	3.0	110	1175
	3	4.5	105	1125
	4	6.0	100	1075
	5	7.5	※ 95	※ 1025
FDY08J	0	0	115	1065
	1	1.5	110	1020
	2	3.0	105	980
	3	4.5	100	935
	4	6.0	95	895
	5	7.5	※ 90	※ 850
FDY10J	0	0	120	1125
	1	1.5	115	1080
	2	3.0	110	1040
	3	4.5	105	995
	4	6.0	100	950
	5	7.5	※ 95	※ 910

※Factory set

10. Operation limit



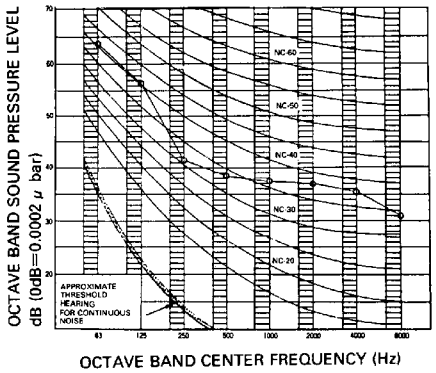


Note:
The graphs are made based on the following operative conditions.

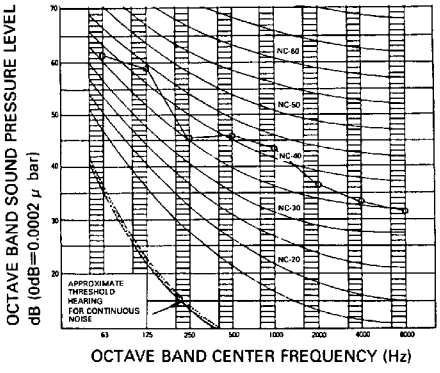
- Equivalent piping length 5m
- Level difference 0m
- Air flow rate Standard

11. Operation noise

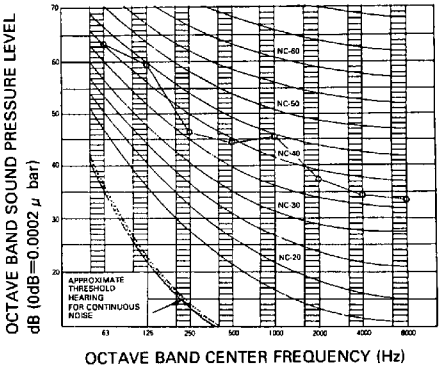
FDY05J



FDY08J



FDY10J



12. Electric characteristics

● Indoor units

Model	Unit				Power supply			IFM	
	Type	Hz −Volts	Phase	Voltage range	MCA	MOCP	MFA	kW	FLA
FDY05J	Y1	50 −380 50 −400 50 −415	3	Max. 456V Min. 342V	2.3	1.8	15	0.75	1.8
FDY08J	Y1	50 −380 50 −400 50 −415			2.3	1.8	15	0.75	1.8
FDY10J	Y1	50 −380 50 −400 50 −415			4.0	3.2	15	1.5	3.2

Symbols:
MCA : Min. circuit amps
MOCP : Max. overcurrent protection (amps)
MFA : Max. fuse amps (See note 6)
LRA : Locked rotor amps
RLA : Rated load amps
IFM : Indoor fan motor
OFM : Outdoor fan motor
FLA : Full load amps
kW : Fan motor rated output

● Outdoor units

Model	Unit				Power supply			Comp.		OFM	
	Type	Hz −Volts	Phase	Voltage range	MCA	MOCP	MFA	LRA	RLA	kW	FLA
RY 6L	Y1	50 −380 50 −400 50 −415	3	Max. 456V Min. 342V	14.0	15.4	20	74 78 81	8.8 8.7 8.7	0.22	0.5
RY 8L	Y1	50 −380 50 −400 50 −415			18.3	19.2	25	93 98 102	10.5 10.5 10.7	0.22	0.7
RY10L	Y1	50 −380 50 −400 50 −415			23.6	24.4	35	121 127 132	14.5 14.4 14.6	0.21	0.9

Notes:
1. RLA is based on the following conditions.
   Indoor temp. 27℃DB/19.5℃WB
   Outdoor temp. 35℃DB
2. MOCP means the total value of each OC set.
3. Voltage range
   Units are suitable for use on electrical system where voltage supplied to unit terminals is not below or above listed range limits.
4. Maximum allowable voltage unbalance between phases is 2%.
5. MCA/MFA (FDY)
   MCA=1.25×FLA
   MFA≒4×FLA (Min. 15A)
6. MCA/MFA (RY)
   MCA=1.25×RLA+ea.FLA
   MFA≦2.25×RLA+ea.FLA
   (Next lower standard fuse rating.)
7. Select wire size based on the value of MCA.

13. Wiring connections

● **Internal wiring**
Before shipping from factory, the units are internally wired according to the electrical technology which complies with the applicable Japanese code.

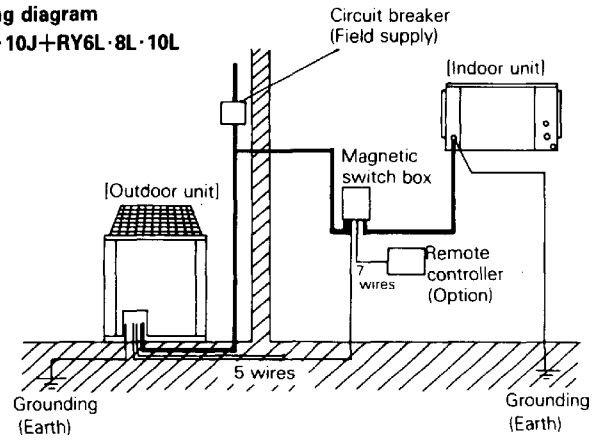
● **Field wiring**
- Power supply wiring (both for outdoor and indoor units)
- Wiring around the indoor and outdoor units and magnetic switch box.
- Grounding wire (Both for outdoor and indoor units).

● **Field supply components**
- Circuit breaker (Both for indoor and outdoor units).
- Fan interlock relay
- Remote controller

● **Wire and breaker size selection**
Select sizes of wires and breakers suitable for respective electric supply, referring to Electric Characteristics on Page 38.

Note: If the indoor or outdoor fan operates reversely, change two wire connections out of three in the power supply.

Typical wiring diagram
FDY05J·08J·10J+RY6L·8L·10L



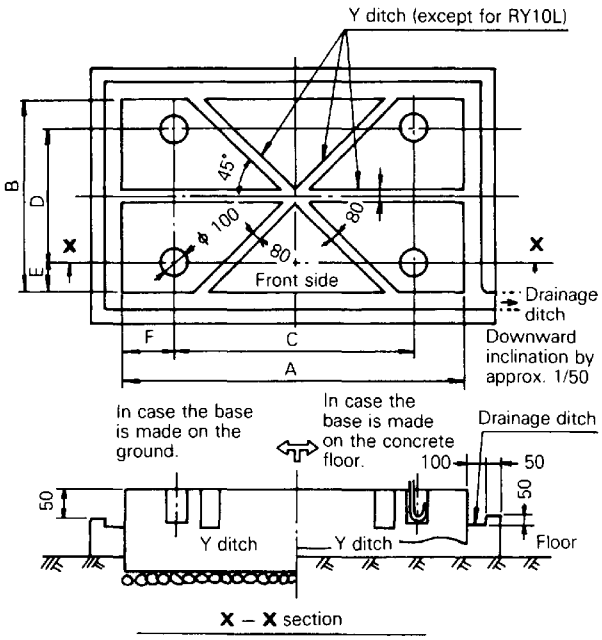
Notes:
1. ——— : Line voltage wiring
   — — — : 24V wiring
2. All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
3. Use copper conductors only.
4. As for details, see wiring diagrams.
5. Install circuit breakers for safety.
6. All field wiring and components must be provided by a licensed electrician.
7. Unit shall be grounded in compliance with the applicable local and national codes.
8. Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.

14. Foundation

- Check before installing the unit that the foundation is strong and level, or vibration noise may take place.
- Firmly fasten the unit with the anchor bolts as shown in the figure. (Purchase 4 anchor bolts, nuts and washers (M12) locally.)

(Unit:mm)

RY6L~10L



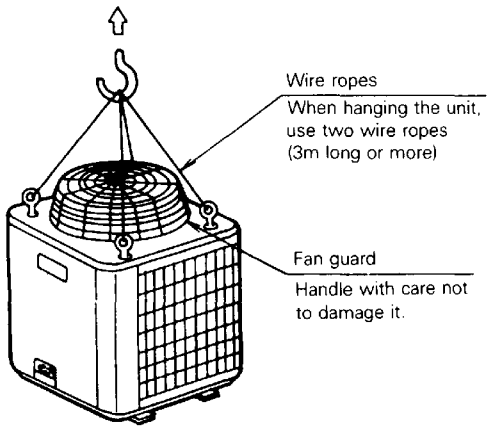
Foundation:

Model	A	B	C	D	E	F
RY6L·8L	1000	900	810	405	210	95
RY10L	1200	1100	1020	520	210	95

15. Bringing in

For safety's sake, bring in the unit as shown in the figures.

RY6L~10L



16. Refrigerant piping

The refrigerant has been precharged in the RY unit. The amount of refrigerant is tabulated on the right. Connect the pipes to the gas and liquid pipe connections respectively with the valves V_1 and V_2 closed.
These valves have been closed before delivery. [Valve state: ①]

- **Checking the piping work**

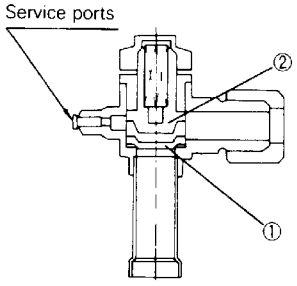
1. After piping work, charge nitrogen gas and flucrocarbon refrigerant (R-22) from the service ports of V_1 and V_2 valves and check the refrigerant circuit for gas tightness and gas leakage.
   [Valve state of V_1 and V_2 : ①]
2. Test pressure is 28 kg/cm²
3. Then perform vacuum drying up to 76 cm Hg low pressure.
   [Valve state of V_1 and V_2 : ①]

- **Additional refrigerant charge**

Refrigerant precharged volume is based on piping length of 5m, but if piping length is longer than 5m, additionally charge the refrigerant as stated below.

1. After vacuum drying stated above, charge the liquid refrigerant from V_1 port. At this stage, the air conditioner is not operated yet
   [Valve state of V_1 and V_2 : ①]
2. Fully open the valves after completion of the work.
   [Valve state of V_1 and V_2 : ②]
3. If a small amount of the refrigerant should be charged additionally after the initial operation, charge the gaseous refrigerant from the service port of V_2 valve while the compressor is in operation.

Valve state



- Heat insulation is necessary for both liquid and gas piping respectively since the capillary tube is installed in the outdoor unit.

Note:
- Insulation of piping
  The temp. of gas pipe rises to about 120℃ during heating so use insulation for high temperature type.

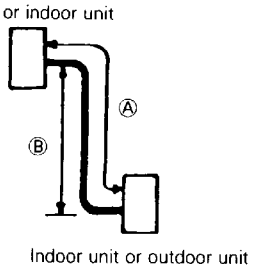
Model		FDY05J+RY6L	FDY08J+RY8L	FDY10J+RY10L
Refrigerant precharged volume	kg	5.7	6.0	8.5
*1 Additional refrigerant charged volume	kg/m	0.10	0.17	0.18
Max. level difference	Ⓑ	Outdoor unit is higher than indoor unit by 20m		
		Outdoor unit is lower than indoor unit by 30m		
Max. piping length	Ⓐ	Actual piping length 35m		
		Equivalent piping length 50m		

Notes: *1. If the piping length is longer than 5m, additionally charge the refrigerant.
2. How to calculate equivalent piping length: Equivalent piping length means the total piping length of a pipe line in which L joints and traps provided in actual piping are converted to the length of straight pipe and added to actual piping length.
Equivalent piping length = Actual piping length + Numbers of L joints × an equivalent length of pipe per L joint + Numbers of trap bends × an equivalent length of pipe per trap bend.

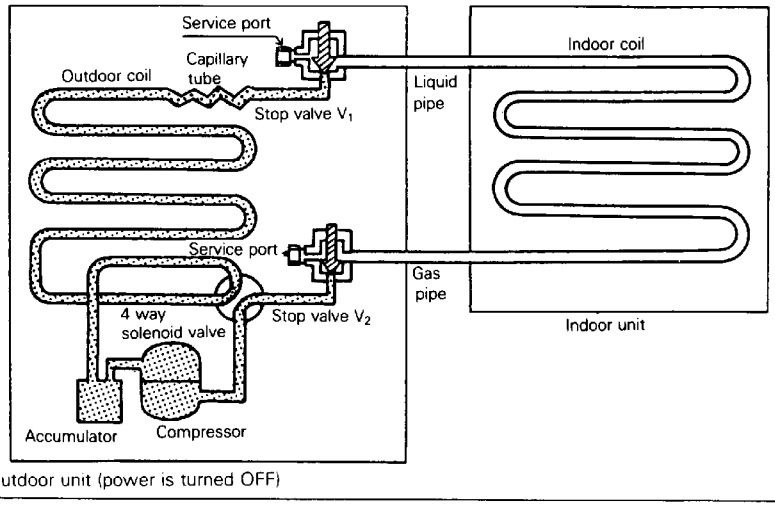
- ○ Calculation of equivalent piping length on the gas piping alone is enough.
- ○ Actual piping length Ⓐ is the total piping length of gas pipe line.
- ○ In case two condensing units are connected, obtain equivalent piping length per condensing unit, and examine each equivalent piping length.
- ○ 90° bend of piping is equivalent to L joint.

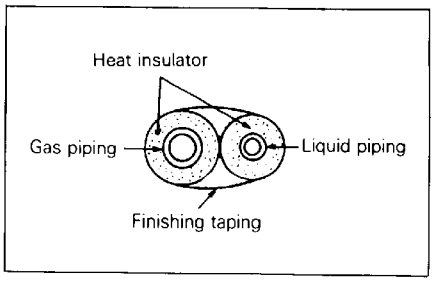
Equivalent length of pipe converted by various fittings (Unit : m)

Pipe dia. (mm)	L joint	Trap bend
9.5	0.18	1.3
12.7	0.20	1.5
15.9	0.25	2.0
19.1	0.35	2.4
22.2	0.40	3.0
25.4	0.45	3.4
31.8	0.55	4.0



Refrigerant piping



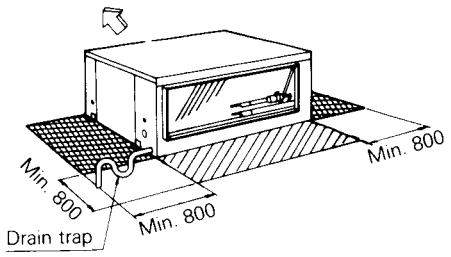


17. Service space

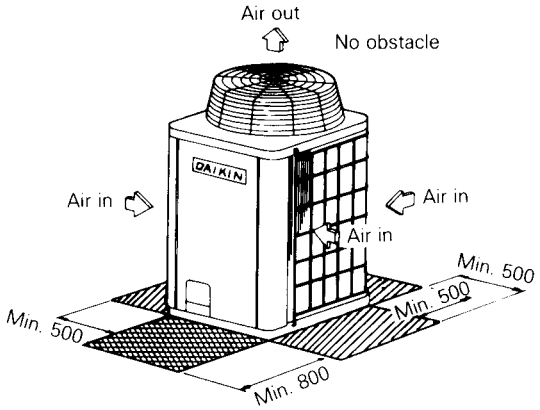
(1) Service and air flow space:

- Be certain that service spacing is sufficiently secured as shown in the figure. If any obstancles are placed around the unit, cooling and heating capacity are reduced and it is also difficult to do after-sales service smoothly.
- Be certain that the unit has been installed on such a place where the floor is flat and strong enough to bear its weight. If the location is not suitable, it may cause noise and vibration.
- Be certain that the unit has been installed in such a place where there is no danger of fire due to leakage of inflammable gas.
  Avoid installing the unit in such a place which is subject to inflammable gas.

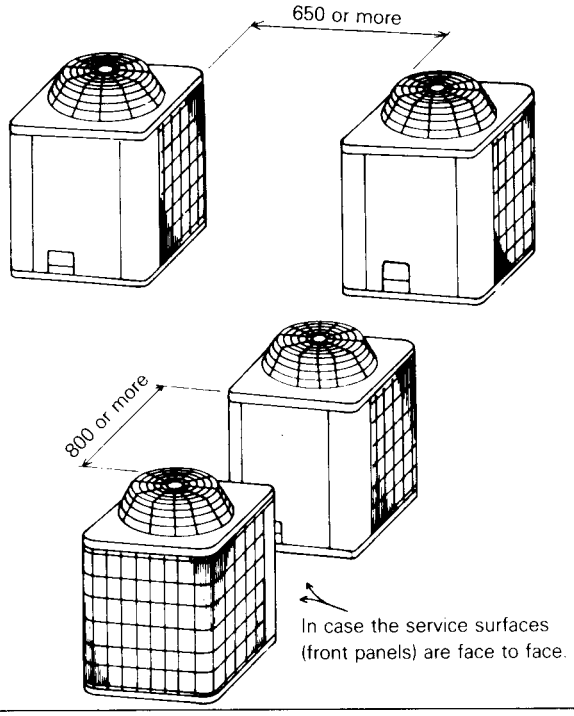
- **Indoor units FDY05J~10J**



- **Outdoor units RY6L~10L**

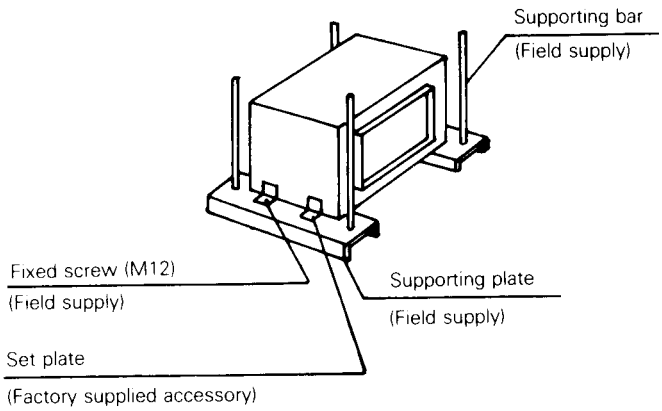


(When two units are installed side by side)



Space for air flow
Space for service

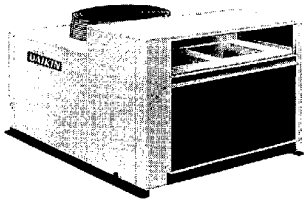
- **Caution**
  Use supporting plate to install the unit rigidly.

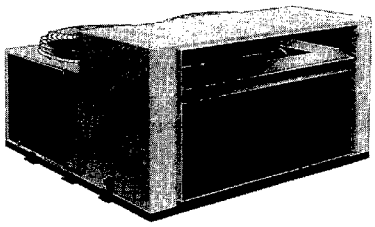


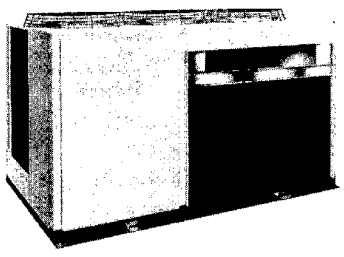
2 Air Cooled Single Packaged Air Conditioners Roof Top Type

UAT	UATY
05J	05J
06J	09J
09J	12J
10J	16J
12J	22J
14J(A)	
16J(A)	
19J(A)	
22J(A)	
30H	

CONTENTS







2-1 Air Cooled Single Packaged Air Conditioners Roof Top Type UAT Series

1. Features

The Daikin Air Cooled Single Packaged Air Conditioners (UAT series) are available in 10 models from 12,700/14,000 kcal/h to 83,500/92,600 kcal/h (50/60Hz). These units are easily installed in any type of buildings (new or existing), and are designed to be ducted, so they can be installed on roof tops, verandas, or on the ground. Since they are designed to be operative in a wide ambient temperature ranges, i.e. 15~52/15~49°C for UAT05J~22J(A) (20~52/20~49°C for UAT 30H) on 50/60Hz (In case that a head pressure control system is attached additionally, refer to "Optional accessories" on page 6), they can be used in almost every part of the world.

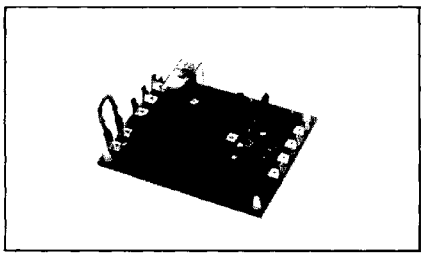
Easy and economical installation

- The unit is assembled, internally wired and charged with refrigerant in the factory and is subject to stringent test operation before delivery. All that is required on the spot is to connect ducting and main power supply, which reduces installation work and costs greatly. The unit is particularly compact and light, ensuring easy bringing in and installation.

Main components

- **The casing** is made of paintable galvanized steel plate and treated against rust and then finished with baked acryl resin paint. Since the unit is installed outdoors, the casing is completely weather-proof.
- **The compressor** is highly efficient, powerful, durable and compact, and is of hermetically or semi-hermetically sealed reciprocating type, which has been developed with Daikin's own technique.
  The 2-pole hermetically sealed reciprocating compressor is held by a spring in the compressor casing to minimize operation vibration. In addition, the 2-pole compressor is installed with vibration isolation rubber to reduce vibration transferring outside. A complete set of the safety devices such as crankcase heater (UAT30H), recycling guard timer, overcurrent relay, compressor thermal protector encased in the motor coil, etc. are equipped, ensuring a long life and trouble-free operation. Furthermore, an accumulator is mounted to enhance reliability (UAT05J~22J(A)).

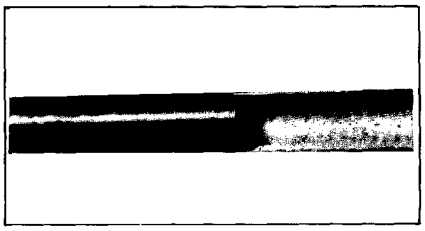
▲ **Electronic recycling guard timer**
This protects the compressor from frequent on-off operation.



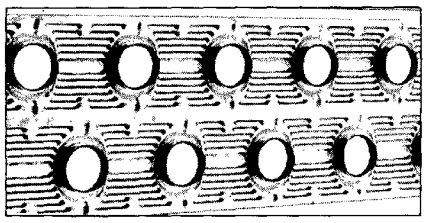
Since two compressors are mounted (UAT14J(A)~22J(A)), two refrigerant circuits are independently provided. This structure makes it possible to operate a single compressor by means of small alteration when the other compressor is out of order.

- **The evaporator and condenser** are of the unique cross fin coil type.
  Our patented waffle louver fins*1 and Hi-X copper tubes*2 (internal surface is modified by serration) are adopted to increase heat exchange coefficient greatly.

Hi-X tube



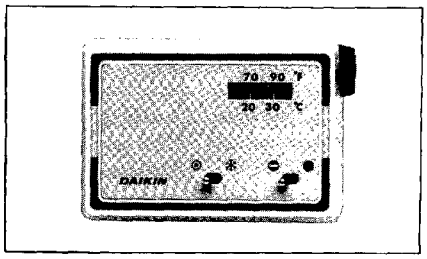
Waffle louver fins



U.S. PAT. *1 : No.4,434,844
*2 : No.4,480,684

- **The powerful evaporator fan and motor**
  The fan is of the quiet two-coupled dual suction multi-blade type and is driven by a V-belt. Accurate air flow rate is obtained by adjusting the variable pitch pulley, which ensures easy ducting (UAT05J~12J). The motor is equipped with an overcurrent relay for safe operation.
- **The condenser fan and motor**
  The condenser fan is the direct drive propeller fan and draws the air from the one or both side(s) and the rear of the unit and discharges it upwards together with operation noise, which ensures quiet operation. The motor is of the 6 or 8-pole water-proof induction type and is equipped with a fan motor thermal protector or an overcurrent relay for safe operation. Non-lubrication bearings are used for maintenance-free operation.
- **The remote controller (Option):**
  The remote controller for operation with 24V low voltage (UAT05J~22J(A)). It encases a sensible thermostat to ensure accurate temperature contorl.

Remote controller



- **The electric heater (option):**
  The built-in or duct electric heater listed in page 6 is available as an option for comfortable heating. The built-in electric heater is mounted in the unit discharge air passage.

2. Specifications

Model				UAT05J	UAT06J	UAT09J	UAT10J
*1 Coolng capacity (50/60Hz)			kcal/h	12,700/14,000	13,600/15,500	20,000/23,000	23,000/25,200
			Btu/h	50,300/55,500	53,900/61,500	79,300/91,200	91,200/100,000
			kW	14.7/16.2	15.8/18.0	23.2/26.7	26.7/29.3
Capacity steps			%	100—0	100—0	100—0	100—0
Casing/color				Paintable galvanized steel plate/Ivory white			
Evaporator	Type			Cross fin coil (waffle louver fins and Hi-X tubes)			
	RowXstage			2X22	3X22	2X24	2X24
	Fin pitch		mm	2.5	2.5	2.5	2.5
	Face area		m^2	0.402	0.402	0.597	0.597
Evaporator fan	Type			Dual suction multi-blade (belt drive)			
	ModelXNo.			22D1 5/8AX1	2D1 5/8AX1	2D1 3/4G2X1	2D1 3/4G2X1
	Air flow rate (50/60Hz)		M^3/min	55	63	85	90
			cfm	1,940	2,220	3,000	3,180
	Motor speed (50/60Hz)		r.p.m	1,420/1,700	1,420/1,700	1,420/1,700	1,420/1,700
	Motor output		kW	0.75	0.75	1.5	1.5
Compressor	Type			Hermetically sealed reciprocating			
	ModelXNo.			2T55LGX1	2T55QGX1	3T55NGX1	3T55VGX1
	No.of cylinders			2	2	3	3
	Speed (50/60Hz)		r.p.m	2,900/3,450	2,900/3,450	2,900/3,450	2,900/3,450
Refrigeration oil	Model			SUNISO 3GSD			
	Charge		ℓ	2.1	2.1	3.2	3.2
Condenser	Type			Cross fin coil (waffle louver fins and Hi-X tubes)			
	(RowXstage)XNo.			(2X26)X1	(2X26)X1	(2X30)X1	(2X30)X1
	Fin pitch		mm	2.0	2.0	2.0	2.0
	FAce area		m^2	0.945	0.945	1.398	1.398
Condenser fan	Type			Propeller (direct drive)			
	ModelXNo.			P60EX1	P60FX1	P70FX1	P70FX1
	Air flow rate (50/60Hz)		m^3/min	98/110	120/145	190/230	200/250
			cfm	3,460/3,880	4,240/5,120	6,710/8,120	7,060/8,830
	Motor output	TH/YH Model	kW	0.19	0.65	1.0	1.7
		Y1 Model	kW	0.19	0.4	0.9	0.9
*2 Refrigerant	Model			R22			
	Charge		kg	3.2	3.3	4.7	4.7
No.of circuits				1	1	1	1
Control				Capillary tube			
Safety devices				High pressure switch, low pressure switch, compressor thermal protector, condenser fan motor thermal protector (UAT05J), recycling guard timer, overcurrent relay (compressor and evaporator fan motor), condenser fan motor overcurrent relay (except UAT05J), fuse.			
Duct connections	Type			Rectangular			
	Evaporator air inlet		mm	503X720	503X720	555X980	555X980
	Evaporator air outlet		mm	190X720	190X720	234X980	234X980
	Condensate drain piping			FPS3/4B			
Dimensions	HXWXD		mm	900X980X1,270	900X980X1,270	1,000X1,175X1,450	1,000X1,175X1,450
Weight (Approx.)			kg	240	255	330	330

Notes:

***1 Nominal cooling capacity is based on the following conditions:**
Evaporator: Inlet air temp. 27°C DB (80°F DB)
19.5°C WB (67°F WB)
Condenser: Inlet air temp. 35°C DB (95°F DB)
Capacity is gross capacity which does not include a deduction for evaporator fan motor heat.

***2 Refrigerant R22 is precharged in the factory.**

3 The figures inside ( ) show the case of UAT14~22JA and those outside ( ) show the case of UAT14~22J. (The others are the same either for J or for JA models.)

Conversion formulae	
Btu/h	= kcal/h x 3.97
kW	= kcal/h x 0.001163
Inches	= mm x 0.0394
Pounds	= kg x 2.205
Psi	= kg/cm² x 14.22
KPa	= kg/cm² x 98.07
Cfm	= m³/min. x 35.3
US Gallons	= Liter x 0.264
UK Gallons	= Liter x 0.220

Ex. 12,700 kcal = 12,700 x 3.97
= 50,400 Btu/h

Model			UAT12J	UAT14J(A)	UAT16J(A)
*1 Cooling capacity (50/60Hz)		kcal/h	26,600/30,000	30,300/—(30,300/33,400)	38,500/—(38,500/43,100)
		Btu/h	105,500/119,000	120,300/—(120,300/132,500)	152,800/—(152,800/171,000)
		kW	30.9/34.8	35.2/—(35.2/38.8)	44.8/—(44.8/50.1)
Capacity steps		%	100—0	100—50—0	100—50—0
Casing/color			Paintable galvanized steel plate/Ivory white		
Evaporator	Type		Cross fin coil (Waffle louver fins and Hi-X tubes)		
	Row×stage		3×24	3×24	3×24
	Fin pitch	mm	2.0	2.0	2.0
	Face area	m^2	0.597	0.861	0.861
Evaporator fan	Type		Dual suction multi-blade (belt drive)		
	Model×No.		2D1 3/4G2	2D2E	2D2E
	Air flow rate (50/60Hz)	m^3/min	95	113	142
		cfm	3,350	3,990	5,010
	Motor speed (50/60Hz)	r.p.m	1,420/1,700	1,420/—(1,420/1,700)	1,420/—(1,420/1,700)
	Motor output	kW	1.5	1.5	2.2
Compressor	Type		Hermetically sealed reciprocating		
	Model×No.		3T55VG×1	2T55UG×2	3T55NG×2
	No.of cylinders		3	2	3
	Speed (50/60Hz)	r.p.m	2,900/3,450	2,900/—(2,900/3,450)	2,900/—(2,900/3,450)
Refrigeration oil	Model		SUNISO 3GSD		
	Charge	ℓ	3.2	2.4×2	3.0×2
Condenser	Type		Cross fin coil (waffle louver fins and Hi-X tubes)		
	(Row×stage)×No.		(2×30)×1	(2×34)×2 [(2×54)×2]	(2×34)×2 [(2×54)×2]
	Fin pitch	mm	2.0	2.0(1.8)	2.0(1.8)
	Face area	m^2	1.398	2.248(3.698)	2.248(3.698)
Condenser fan	Type		Propeller (direct drive)		
	Model×No.		P70F×1	P70F×2(P70E×2)	P70F×2(P70E×2)
	Air flow rate (50/60Hz)	m^3/min	200/250	360/—(260/300)	360/—(260/300)
		cfm	7,060/8,830	12,700/—(9,180/10,600)	12,700/—(9,180/10,600)
	Motor output TH/YH Model	kW	1.7	—(0.19×2)	—(0.19×2)
	Motor output Y1 Model	KW	0.9	0.9×2	0.9×2
*2 Refrigerant	Model		R22		
	Charge	kg	6.0	3.9×2(5.4×2)	3.7×2(5.2×2)
	No.of circuits		1	2	2
	Control		Capillaly tube		
Safety devices			High pressure switch, low pressure switch, compressor thermal protector, condenser fan motor thermal protector (UAT14·16JA), recycling guard timer, overcurrent relay (compressor and evaporator fan motor), condenser fan motor overcurrent relay (except UAT14·16JA), fuse.		
Duct connections	Type		Rectangular		
	Evaporator air inlet	mm	555×980	605×1,412(830×1,412)	605×1,412(830×1,412)
	Evaporator air outlet	mm	234×980	275×1,412(375×1,412)	275×1,412(375×1,412)
	Condensate drain piping		FPS^3/$_4$B	FPS1B	FPS1B
Dimensions	H×W×D	mm	1,000×1,175×1,450	1,100×1,785×1,660(1,630×1,785×1,660)	1,100×1,785×1,660(1,630×1,785×1,660)
Weight (Approx.)		kg	340	530(510)	550(540)

Model			UAT19J(A)	UAT22J(A)	UAT30H
*1 Cooling capacity (50/60Hz)		kcal/h	42,800/—(42,800/46,500)	51,000/—(51,000/56,500)	83,500/92,600
		Btu/h	169,900/—(169,900/184,500)	202,500/—(202,500/224,200)	331,000/368,000
		kW	49.8/—(49.8/54.1)	59.3/—(59.3/65.7)	97.1/107.7
Capacity steps		%	100—50—0	100—50—0	100—50—0
Casing/color			Paintable galvanized steel plate/Ivory white		
Evaporator	Type		Cross fin coil (Waffle louver fins and Hi-X tubes)		
	Row×stage		3×32	3×32	3×44
	Fin pitch	mm	2.0	2.0	2.0
	Face area	m^2	1.309	1.309	1.83
Evaporator fan	Type		Dual suction multi-blade (belt drive)		
	Model×No.		2D2E	2D2E	2D2 1/2D
	Air flow rate (50/60Hz)	m^3/min	170	200	295
		cfm	6,000	7,060	10,410
	Motor speed (50/60Hz)	r.p.m	1,420/—(1,420/1,700)	1,420/—(1,420/1,700)	1,420/1,710
	Motor output	kW	3.7	3.7	5.5
Compressor	Type		Hermetically sealed reciprocating		Semi-Hermetically sealed reciprocating
	Model×No.		3T55NG×2	3T55VG×2	8HC582LEC×1
	No.of cylinders		3	3	8
	Speed (50/60Hz)	r.p.m	2,900/—(2,900/3,450)	2,900/—(2,900/3,450)	1,450/1,720
Refrigeration oil	Model		SUNISO 3GSD		SUNISO 4GSDID-K
	Charge	ℓ	3.0×2	3.0×2	8
Condenser	Type		Cross fin coil (waffle louver fins and Hi-X tubes)		
	(Row×stage)×No.		(2×38)×2 [(2×54)×2]	(2×38)×2 [(2×54)×2]	(2×50)×1
	Fin pitch	mm	2.0(1.8)	2.0(1.8)×2	2.0
	Face area	m^2	2.746(4.220)	2.746(4.220)	4.260
Condenser fan	Type		Propeller (direct drive)		
	Model×No.		P80F×2(P80E×2)	P80F×2(P80E×2)	P80F×3
	Air flow rate (50/60Hz)	m^3/min	470/—(380/420)	470/—(380/420)	750/900
		cfm	16,600/—(13,400/14,800)	16,600/—(13,400/14,800)	26,480/31,770
	Motor output TO Model	kW	—(0.28×2)	—(0.28×2)	2.5×3
	Motor output Y1 Model	KW	1.5×2	1.5×2	1.5×3
*2 Refrigerant	Model		R22		
	Charge	kg	5.0×2(6.5×2)	5.0×2(6.5×2)	13.5
	No.of circuits		2	2	1
	Control		Capillaly tube		Thermal expansion valve
Safety devices			High pressure switch, low pressure switch, compressor thermal protector, condenser fan motor thermal protector (UAT19·22JA), recycling guard timer, overcurrent relay (compressor and evaporator fan motor), condenser fan motor overcurrent relay (except UAT19·22JA), fuse. oil pressure control switch (UAT30H).		
Duct connections	Type		Rectangular		
	Evaporator air inlet	mm	805×1,610(830×1,610)	805×1,610(830×1,610)	1,113×1,640
	Evaporator air outlet	mm	275×1,610(375×1,610)	275×1,610(375×1,610)	205×1,640
	Condensate drain piping		FPS1B	FPS1B	FPS$1^1/_4$ B
Dimensions H×W×D		mm	1,300×1,965×1,760 (1,635×1,965×1,760)	1,300×1,965×1,760 (1,635×1,965×1,760)	1,755×2,860×1,340
Weight (Approx.)		kg	650(630)	660(640)	1,080

■ Power Supply

SYMBOL	Power supply	Available model
Y1	3 ϕ, 380~415V, 50Hz (4 wires)	UAT05JY1
		UAT06JY1
		UAT09JY1
		UAT10JY1
		UAT12JY1
		UAT14JY1
		UAT16JY1
		UAT19JY1
		UAT22JY1
		UAT30HY1
YH	3 ϕ, 346~380/380~400V, 50/60Hz (3 wires)	UAT05JYH
		UAT06JYH
		UAT09JYH
		UAT10JYH
		UAT12JYH
		UAT14JAYH
		UAT16JAYH
		UAT19JAYH
		UAT22JAYH
TH	3 ϕ, 220/220~240V, 50/60Hz (3 wires)	UAT05JTH
		UAT06JTH
		UAT09JTH
		UAT10JTH
		UAT12JTH
		UAT14JATH
		UAT16JATH
		UAT19JATH
		UAT22JATH
TO	3 ϕ, 200/200~220V, 50/60Hz (3 wires)	UAT30HTO

3. Standard accessories

1. **Operation manual**
2. **Fuse**
3. **Plug for drain (UAT 14~22)**

4. Optional accessories

(These options should be attached in DAIKIN factory. Field modifications are not available.)

1. Anti-corrosion treatment ※

{ E [Standard anti-corrosion model]
{ E2 [Stronger anti-corrosion model]

2. Low ambient temp. operation

{ down to 5°C
{ down to 0°C

3. Fan motor pulley change [Evaporator fan]

4. Fan motor 1 size larger [Evaporator fan]

5. Electric heater

● Specifications

Kit		NEH275A05T			NEH2710A05T			NEH279A09T			NEH2718A09T		
No. of stages		1			2			1			2		
Relevant model		UAT05JTH•06JTH						UAT09JTH•10JTH•12JTH					
Power supply	V	220	230	240	220	230	240	220	230	240	220	230	240
Heating capacity	kcal/h	3,600	4,000	4,300	7,200	8,000	8,600	6,500	7,100	7,740	13,000	14,200	15,480
	kW	4.2	4.6	5.0	8.4	9.2	10.0	7.6	8.3	9.0	15.2	16.6	18.0

Kit		NEH275A05Y				NEH2710A05Y				NEH279A09Y				NEH2718A09Y			
No. of stages		1				2				1				2			
Relevant model		UAT05JY1•YH, 06JY1•YH								UAT09JY1•YH, 10JY1•YH, 12JY1•YH							
Power supply	V	346	380	400	415	346	380	400	415	346	380	400	415	346	380	400	415
Heating capacity	kcal/h	3,000	3,600	4,000	4,300	6,000	7,200	8,000	8,600	5,400	6,500	7,200	7,740	10,800	13,000	14,400	15,480
	kW	3.5	4.2	4.7	5.0	7.0	8.4	9.4	10.0	6.3	7.6	8.4	9.0	12.6	15.0	16.8	18.0
Components		Electric heater, magnetic contactor, magnetic relay, safety device (firestat, thermal fuse), timing relay, mounting plate for electric heater and safety devices															

Kit		NEH2715A16T			NEH2730A16T			NEH2720A22T			NEH2740A22T		
No. of stages		1			2			1			2		
Relevant model		UAT14JATH, 16JATH						UAT19JATH, 22JATH					
Power supply	V	220	230	240	220	230	240	220	230	240	220	230	240
Heating capacity	kcal/h	10,840	11,870	12,900	21,670	23,650	25,800	14,450	15,820	17,200	28,900	31,560	34,400
	kW	12.6	13.8	15	25.2	27.5	30	16.8	18.4	20	33.6	36.7	40

Kit		NEH2715A16Y				NEH2730A16Y				NEH2720A22Y				NEH2740A22Y			
No. of stages		1				2				1				2			
Relevant model		UAT14JY1•JAYH•16JY1•JAYH								UAT19JY1•JAYH, 22JY1•JAYH							
Power supply	V	346	380	400	415	346	380	400	415	346	380	400	415	346	380	400	415
Heating capacity	kcal/h	8,940	10,840	11,950	12,900	17,970	21,590	24,000	25,800	11,950	14,450	16,000	17,200	23,900	28,800	23,400	34,400
	kW	10.4	12.6	13.9	15	20.9	25.1	27.9	30	13.9	16.8	18.6	20	27.8	33.5	27.2	40

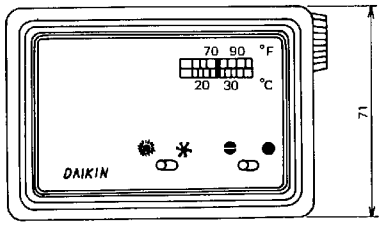
Note: 1. Components Electric heater, magnetic contactor, magnetic relay, safety device (firestat, thermal fuse), timing relay, mounting plate for electric heater and safety devices.

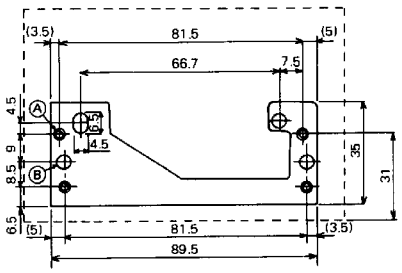
2. See page 2-9 & 2-18 for wiring diagrams.

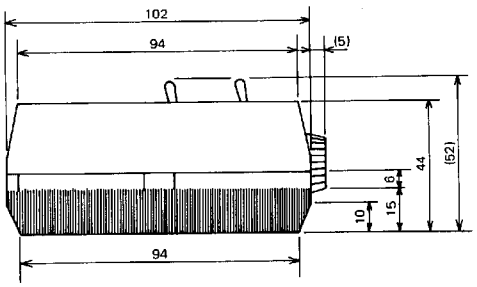
6. Remote controller ... KRC17-2B

(Unit: mm)

KRC17-2B







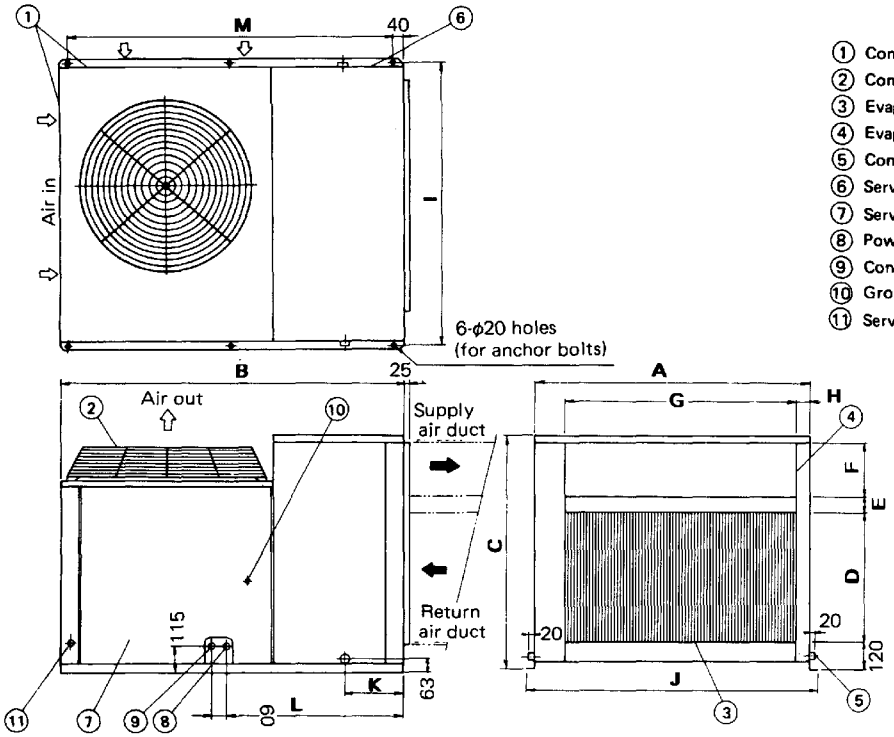
Ⓐ Screw hole for remote controller (2-M4)
Ⓑ Screw hole for wall mounting (φ4.4)

Note: The screws for remote controller and terminal for connecting wires (11 pcs) are attached.

5. Dimensions

(Unit: mm)

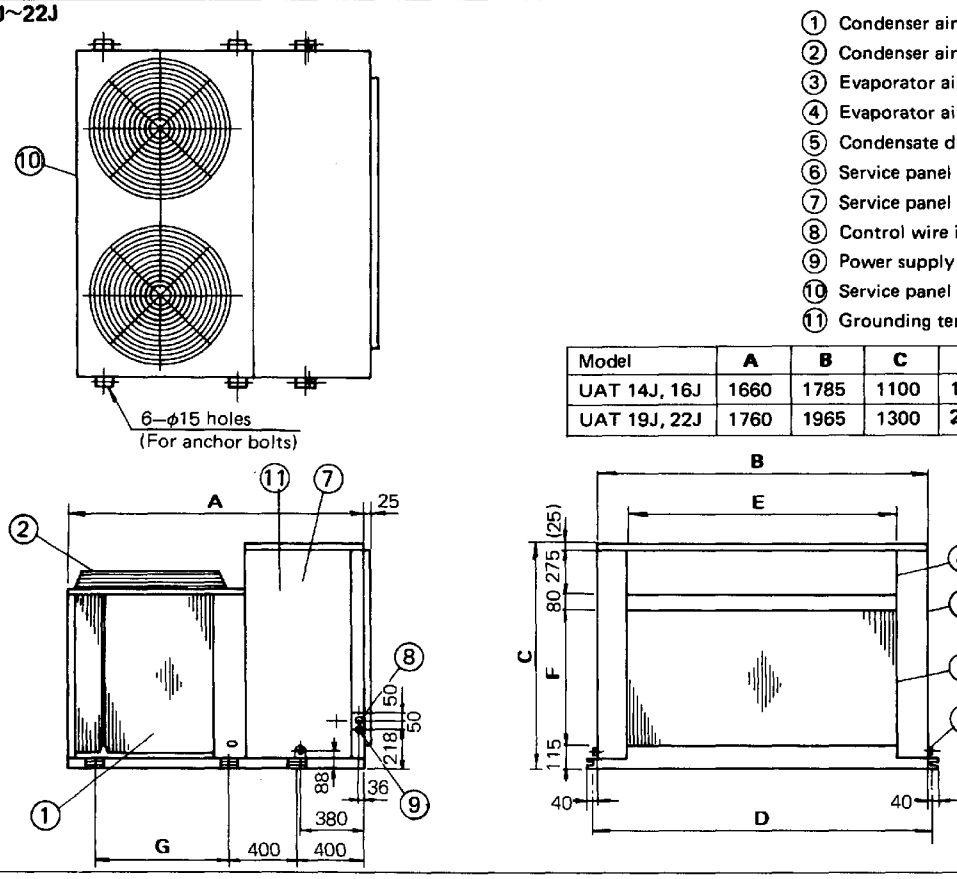
UAT05J~12J



① Condenser air inlet
② Condenser air outlet
③ Evaporator air inlet conn.
④ Evaporator air outlet conn.
⑤ Condensate drain conn. (Both sides) FPS 3/4B
⑥ Service panel for fan motor
⑦ Service panel for switch box and compressor
⑧ Power supply intake φ33 hole
⑨ Control wire intake φ33 hole
⑩ Grounding terminal in switch box M6 bolt
⑪ Service hole (φ33)

Model	A	B	C	D	E	F	G	H	I	J	K	L	M
UAT05J, 06J	980	1270	900	503	62	190	720	130	1010	1040	232	672	2x595=1190
UAT09J, 10J, 12J	1175	1450	1000	555	65	234	980	63	1200	1230	252	750	2x685=1370

UAT14J~22J

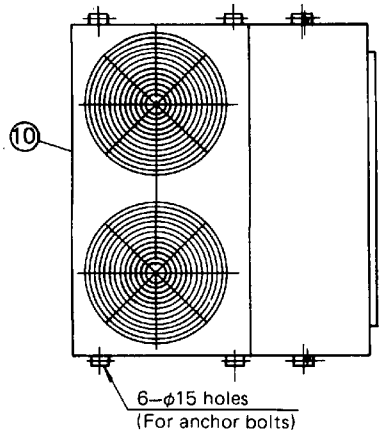


① Condenser air inlet
② Condenser air outlet
③ Evaporator air inlet conn.
④ Evaporator air outlet conn.
⑤ Condensate drain conn. (Both sides) FPS 1B
⑥ Service panel for fan motor
⑦ Service panel for switch box
⑧ Control wire intake φ39 hole
⑨ Power supply intake φ39 hole
⑩ Service panel for compressor
⑪ Grounding terminal in switch box M6 bolt

Model	A	B	C	D	E	F	G
UAT 14J, 16J	1660	1785	1100	1825	1412	605	650
UAT 19J, 22J	1760	1965	1300	2005	1610	805	700

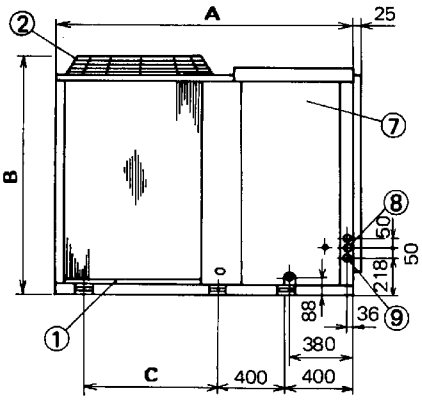
(Unit: mm)

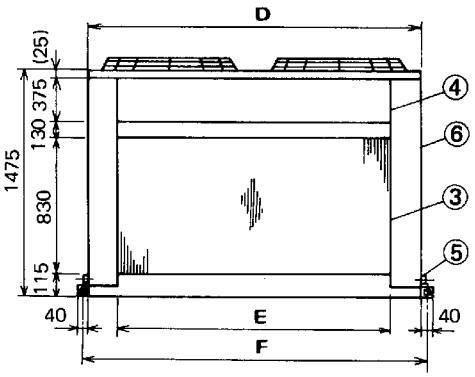
UAT14JA~22JA



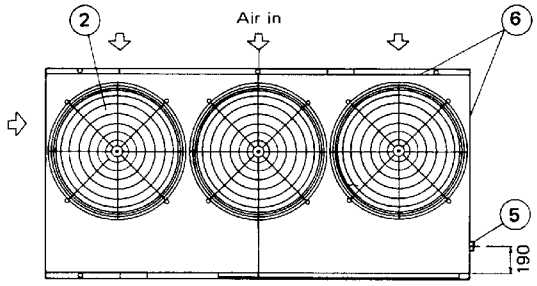
① Condenser air inlet
② Condenser air outlet
③ Evaporator air inlet conn.
④ Evaporator air outlet conn.
⑤ Condensate drain conn. (Both sides) FPS 1B
⑥ Service panel for fan motor
⑦ Service panel for switch box
⑧ Control wire intake φ39 hole
⑨ Power supply intake φ39 hole
⑩ Service panel for compressor
⑪ Grounding terminal in switch box M6 bolt

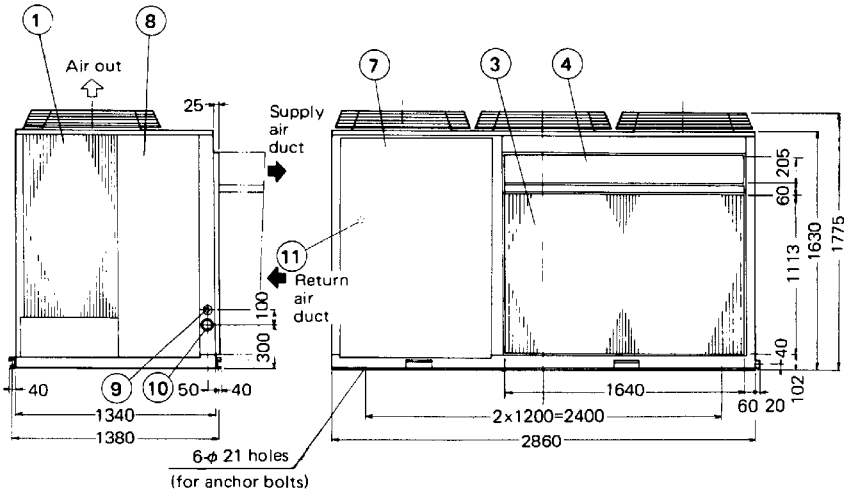
Model	A	B	C	D	E	F
UAT 14JA, 16JA	1660	1630	650	1785	1412	1825
UAT 19JA, 22JA	1760	1635	700	1965	1610	2005



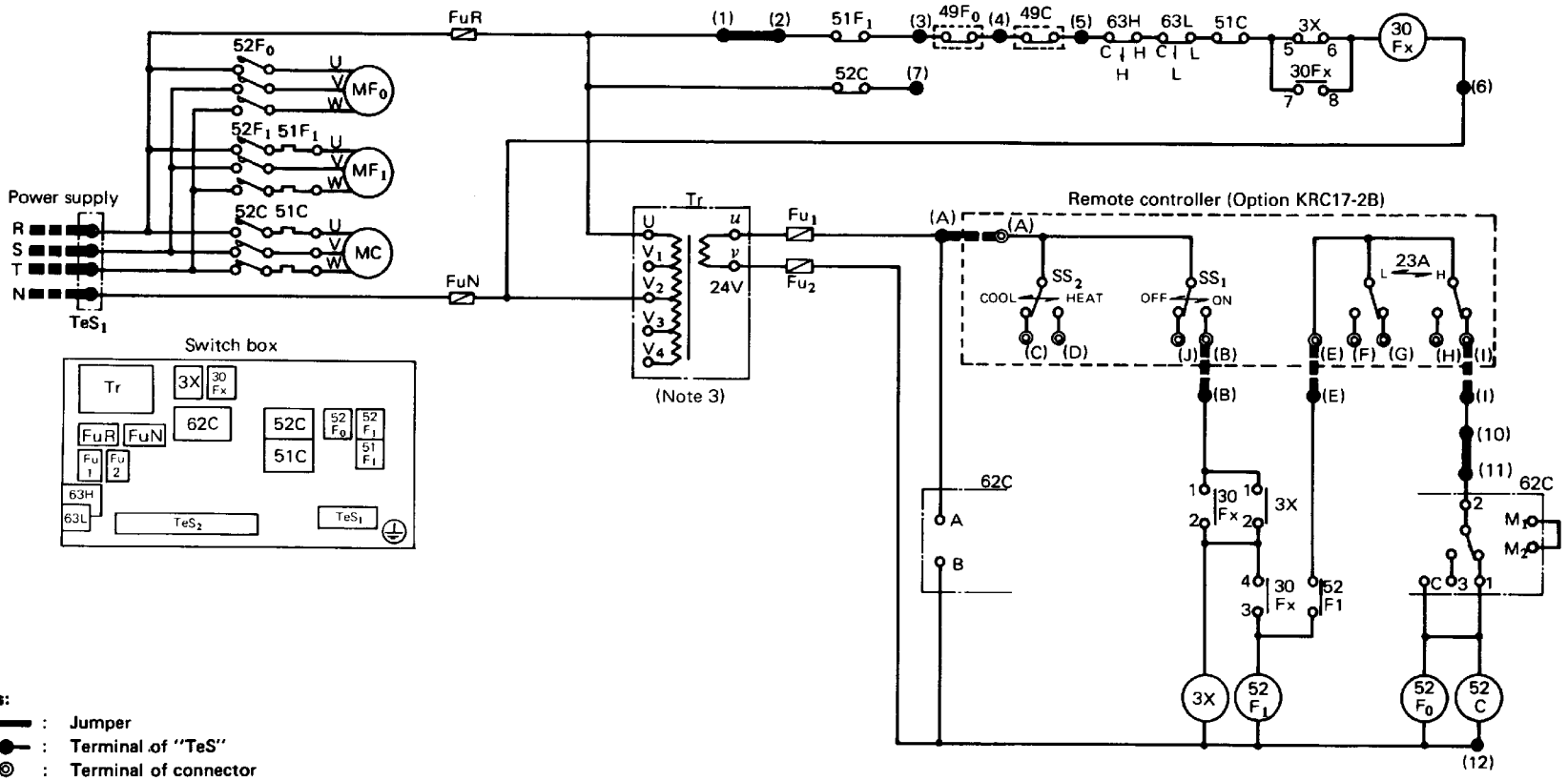


UAT30H





① Condenser air inlet
② Condenser air outlet
③ Evaporator air inlet conn.
④ Evaporator air outlet conn.
⑤ Condensate drain conn. FPS 1¼B
⑥ Service panel for fan motor
⑦ Service panel for switch box and compressor
⑧ Service panel for compressor
⑨ Control wire intake φ29 hole
⑩ Power supply intake φ72 hole
⑪ Grounding terminal in switch box M6 bolt

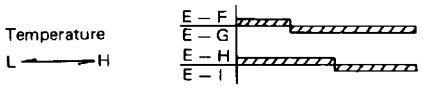


Notes:

1. ▬▬ : Jumper
   —●— : Terminal of "TeS"
   ◎ : Terminal of connector
   ■■■ : Field wiring
2. Change the transformer connection as follows.

Power supply	Terminals	Pri./Sec.	Remarks
—	U-V_1	—	—
380V	U-V_2	220V/24V	Factory connection
400V	U-V_3	230V/24V	Change connection on the spot
415V	U-V_4	240V/24V	

3. Unused connectors (C), (D), (F), (G), (H) and (J) of the remote controller (KRC17-2B) should be insulated by closed-end connectors respectively to prevent against electric leakage.
4. Function of 23A: ▨ part shows "ON".



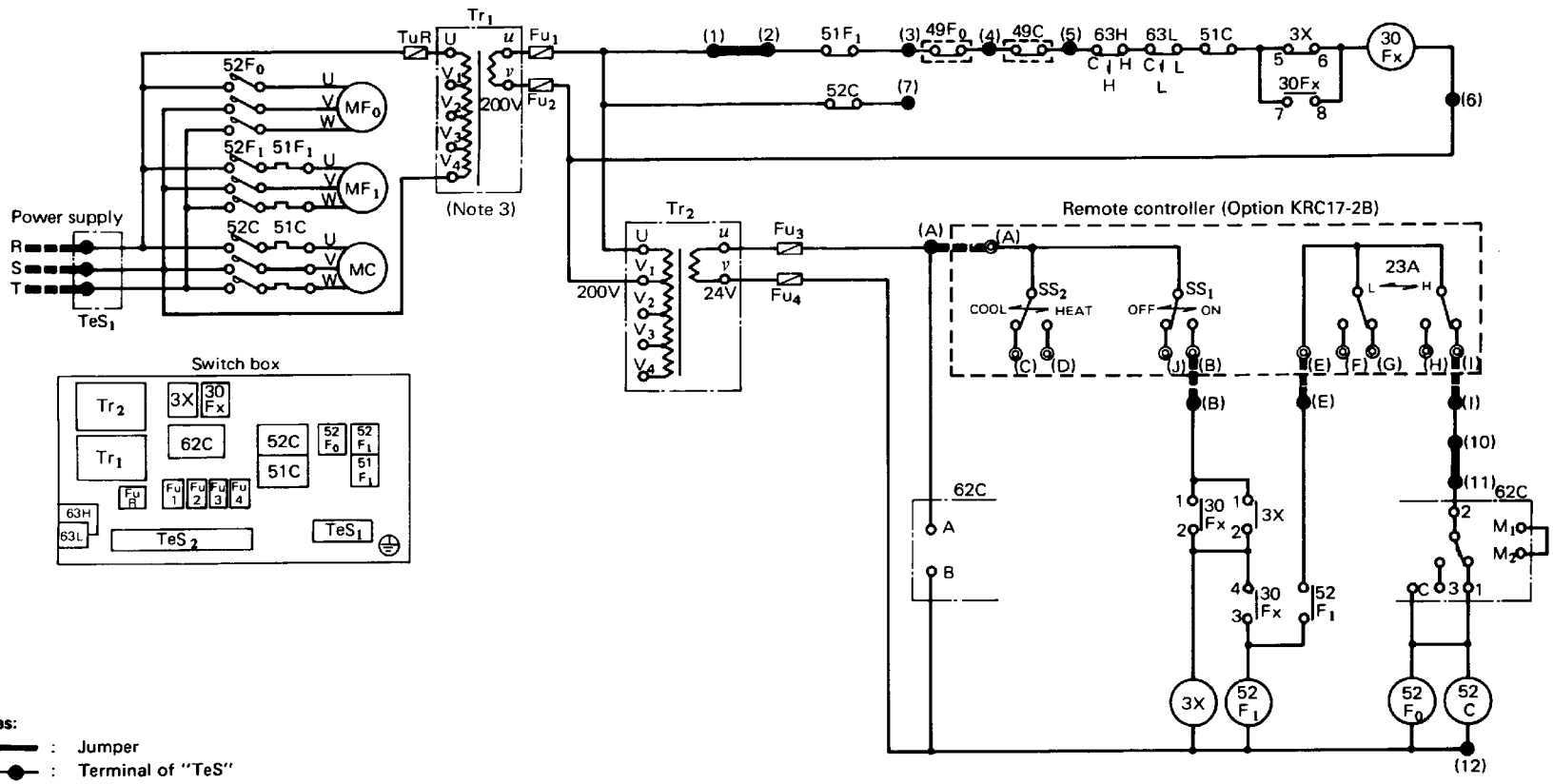
Symbols:

3X	:	Magnetic relay	63H	:	High pressure switch
30FX	:	Magnetic relay	63L	:	Low pressure switch
49C	:	Compressor thermal protector	Fu	:	Fuse (250V, 10A)
$49F_0$	:	Fan motor thermal protector (MF_0)	FuR,N	:	Fuse (600V, 5A)
51C	:	Overcurrent relay (MC)	MC	:	Motor (Compressor)
$51F_1$	:	Overcurrent relay (MF_1)	MF_0	:	Motor (Condenser fan)
52C	:	Magnetic switch (MC)	MF_1	:	Motor (Evaporator fan)
$52F_0$	:	Magnetic contactor (MF_0)	TeS	:	Terminal strip
$52F_1$	:	Magnetic switch (MF_1)	Tr	:	Transformer (50VA)
62C	:	Recycling guard timer			

Remote controller (Option)

23A	:	Thermostat
SS_1	:	Selector switch (ON/OFF)
SS_2	:	Selector switch (COOL/HEAT)

DU 129–504A

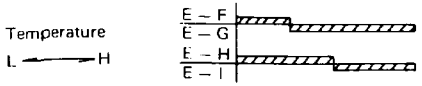


Notes:

1. ▬▬ : Jumper
   ●—● : Terminal of "TeS"
   ◎ : Terminal of connector
   ▬▬ : Field wiring
2. Change the transformer connection "Tr_1" as follows.

Power supply	Terminals	Pri./Sec.	Remarks
346V	U-V_4	346V/200V	Factory connection
380V	U-V_1	380V/200V	Change connection on the spot
400V	U-V_2	400V/200V	

3. Unused connectors (C), (D), (F), (G), (H) and (J) of the remote controller (KRC17-2B) should be insulated by closed-end connectors respectively to prevent against electric leakage.
4. Function of 23A: ▨ part shows "ON".



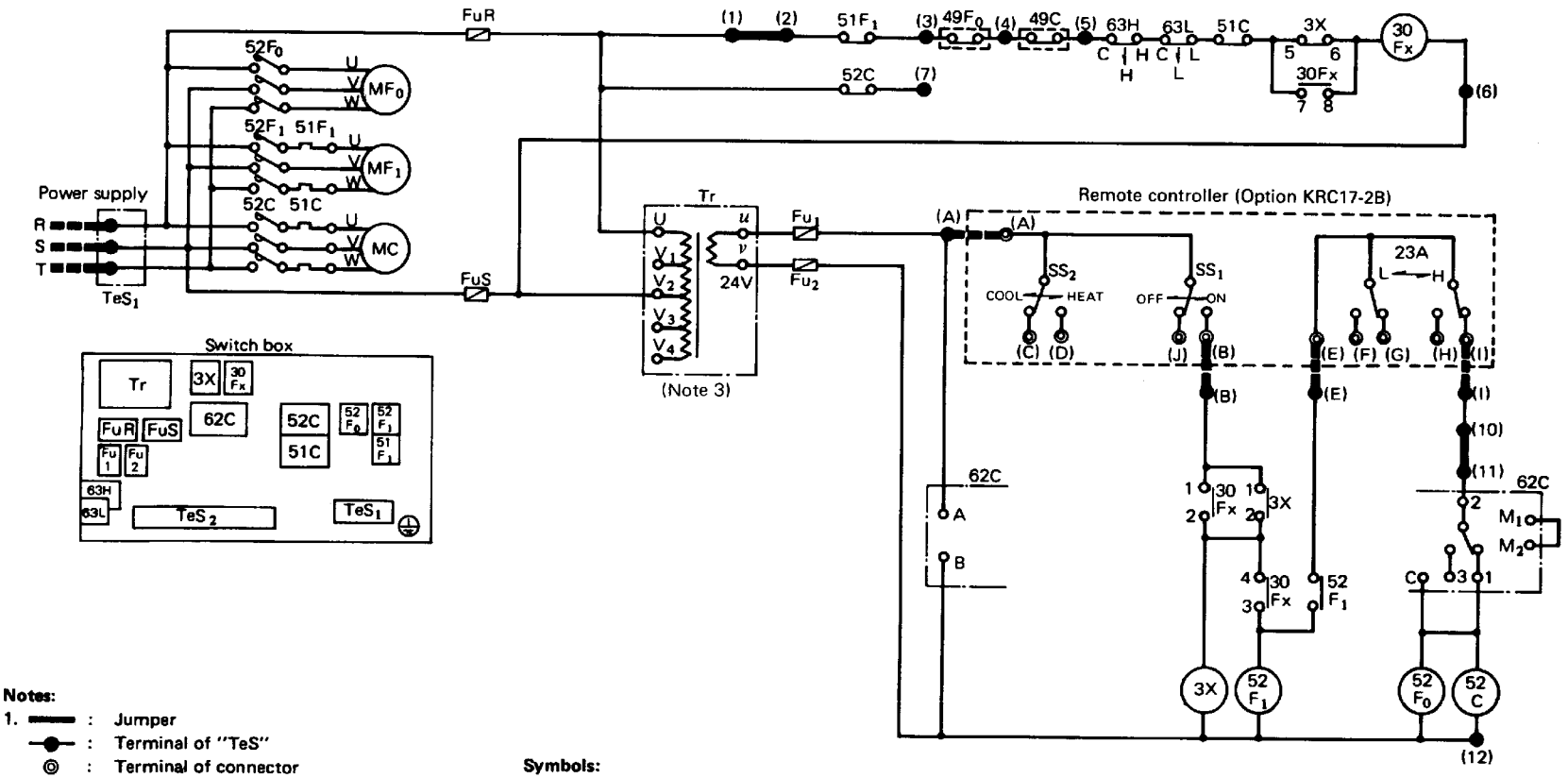
Symbols:

3X	:	Magnetic relay
30FX	:	Magnetic relay
49C	:	Compressor thermal protector
$49F_0$	:	Fan motor thermal protector (MF_0)
51C	:	Overcurrent relay (MC)
$51F_1$	:	Overcurrent relay (MF_1)
52C	:	Magnetic switch (MC)
$52F_0$	:	Magnetic contactor (MF_0)
$52F_1$	:	Magnetic switch (MF_1)
62C	:	Recycling guard timer
63H	:	High pressure switch
63L	:	Low pressure switch
$Fu_{1,2}$	:	Fuse (250V, 5A)
$Fu_{3,4}$	:	Fuse (250V, 10A)
FuR	:	Fuse (600V, 5A)
MC	:	Motor (Compressor)
MF_0	:	Motor (Condenser fan)
MF_1	:	Motor (Evaporator fan)
TeS	:	Terminal strip
Tr_1	:	Transformer (75VA)
Tr_2	:	Transformer (50VA)

Remote controller (Option)

23A	:	Thermostat
SS_1	:	Selector switch (ON/OFF)
SS_2	:	Selector switch (COOL/HEAT)

DU129–508C

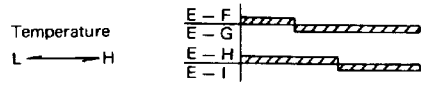


Notes:

1. ▬▬ : Jumper
   ●— : Terminal of "TeS"
   ◎ : Terminal of connector
   ▬ ▬ : Field wiring
2. Connection to transformer connection as follows.

Power supply	Terminals	Pri./Sec.	Remarks
—	U-V_1	—	—
220V	U-V_2	220V/24V	Factory connection
230V	U-V_3	230V/24V	Change connection on the spot
240V	U-V_4	240V/24V	

3. Unused connectors (C), (D), (F), (G), (H) and (J) of the remote controller (KRC17-2B) should be insulated by closed-end connectors respectively to prevent against electric leakage.
4. Function of 23A: ▨ part shows "ON".

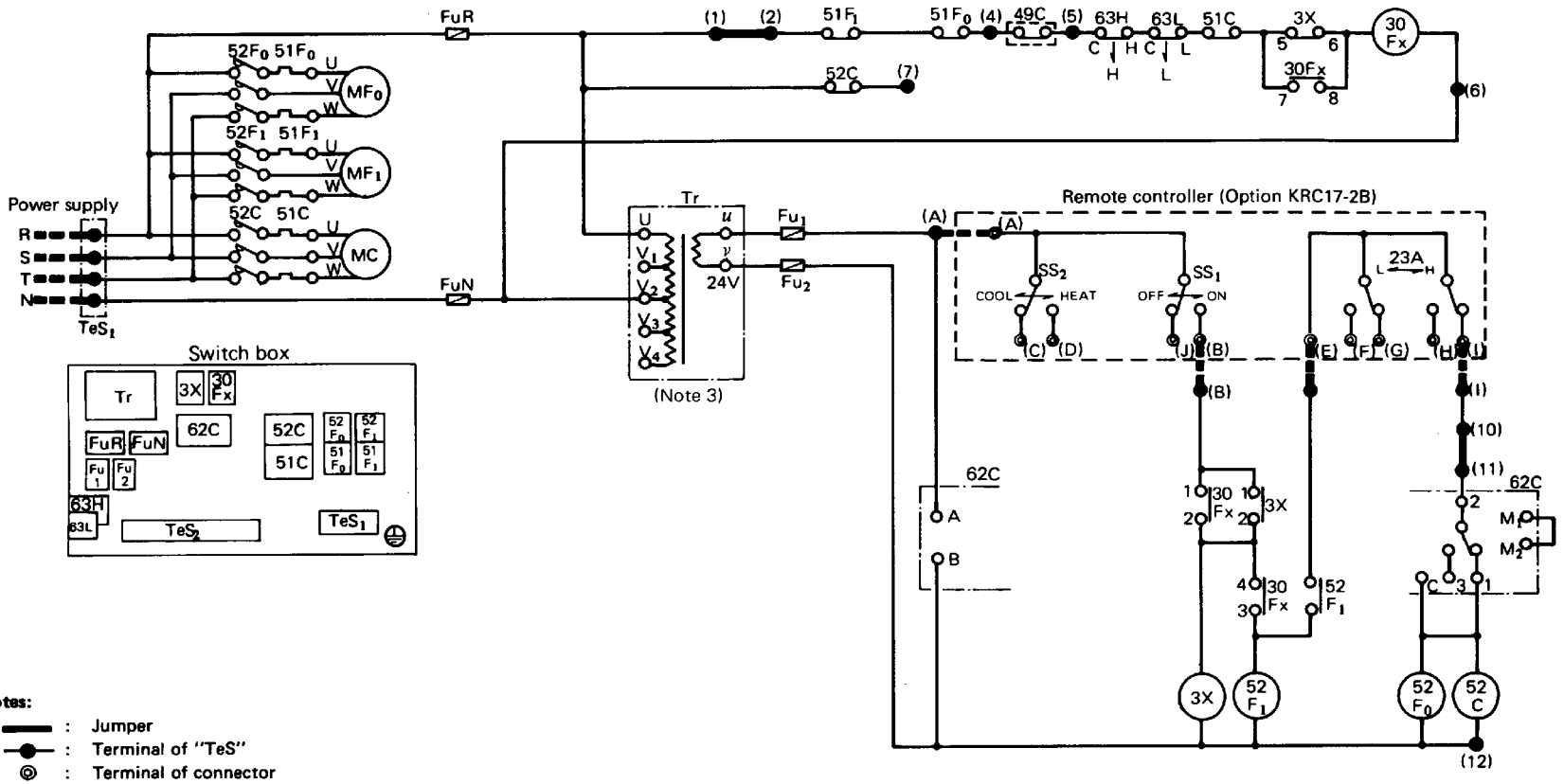


Symbols:

3X	:	Magnetic relay
30FX	:	Magnetic relay
49C	:	Compressor thermal protector
$49F_0$	:	Fan motor thermal protector (MF_0)
51C	:	Overcurrent relay (MC)
$51F_1$	:	Overcurrent relay (MF_1)
52C	:	Magnetic switch (MC)
$52F_0$	:	Magnetic contactor (MF_0)
$52F_1$	:	Magnetic switch (MF_1)
62C	:	Recycling guard timer
63H	:	High pressure switch
63L	:	Low pressure switch
Fu	:	Fuse (250V, 10A)
FuR,S	:	Fuse (600V, 5A)
MC	:	Motor (Compressor)
MF_0	:	Motor (Condenser fan)
MF_1	:	Motor (Evaporator fan)
TeS	:	Terminal strip
Tr	:	Transformer (50VA)

Remote controller (Option)

23A	:	Thermostat
SS_1	:	Selector switch (ON/OFF)
SS_2	:	Selector switch (COOL/HEAT)

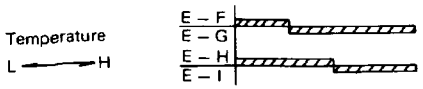


Notes:

1. ▬ : Jumper
   ●— : Terminal of "TeS"
   ◎ : Terminal of connector
   ■■■ : Field wiring
2. Change the transformer connection as follows.

Power supply	Terminals	Pri./Sec.	Remarks
–	U-V_1	–	–
380V	U-V_2	220V/24V	Factory connection
400V	U-V_3	230V/24V	Change connection on the spot
415V	U-V_4	240V/24V	

3. Unused connectors (C), (D), (F), (G), (H) and (J) of the remote controller (KRC17-2B) should be insulated by closed-end connectors respectively to prevent against electric leakage.
4. Function of 23A: ▨ part shows "ON".



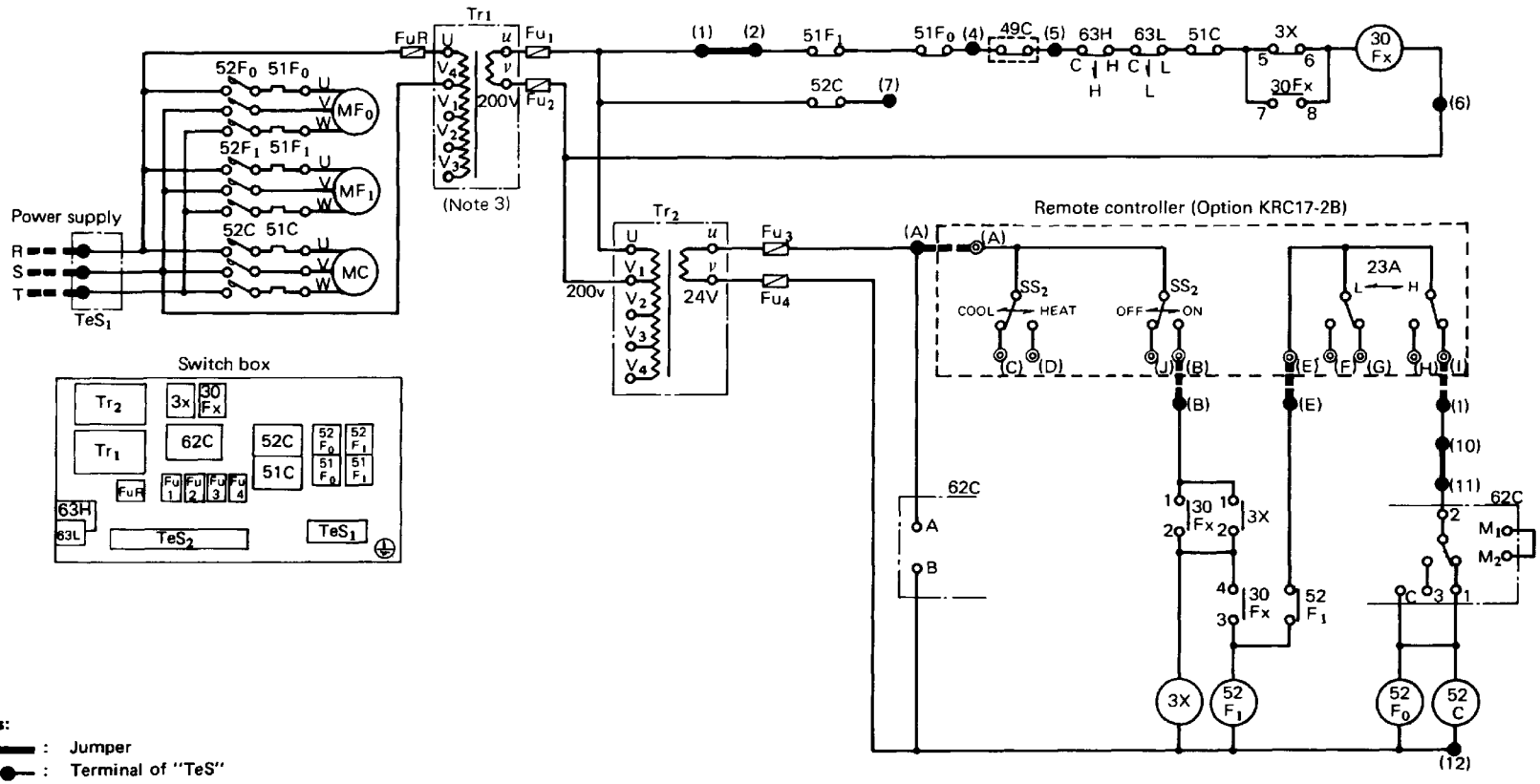
Symbols:

3X	:	Magnetic relay	63H	:	High pressure switch
30FX	:	Magnetic relay	63L	:	Low pressure switch
49C	:	Compressor thermal protector	Fu	:	Fuse (250V, 10A)
51C	:	Overcurrent relay (MC)	FuR,N	:	Fuse (600V, 5A)
$51F_0$	:	Overcurrent relay (MF_0)	MC	:	Motor (Compressor)
$51F_1$	:	Overcurrent relay (MF_1)	MF_0	:	Motor (Condenser fan)
52C	:	Magnetic switch (MC)	MF_1	:	Motor (Evaporator fan)
$52F_0$	:	Magnetic contactor (MF_0)	TeS	:	Terminal strip
$52F_1$	:	Magnetic switch (MF_1)	Tr	:	Transformer (50VA)
62C	:	Recycling guard timer			

Remote controller (Option)

23A	:	Thermostat
SS_1	:	Selector switch (ON/OFF)
SS_2	:	Selector switch (COOL/HEAT)

DU129–503D

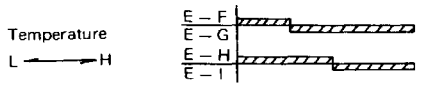


Notes:

1. ▬▬ : Jumper
   —●— : Terminal of "TeS"
   ◎ : Terminal of connector
   ■■■ : Field wiring
2. Connection to transformer "Tr_1" is as follows.

Power supply	Terminals	Pri./Sec.	Remarks
346V	U-V_4	346V/200V	Factory connection
380V	U-V_1	380V/200V	Change connection on the spot
400V	U-V_2	400V/200V	

3. Unused connectors (C), (D), (F), (G), (H) and (J) of the remote controller (KRC17-2B) should be insulated by closed-end connectors respectively to prevent against electric leakage.
4. Function of 23A: ▨ part shows "ON".

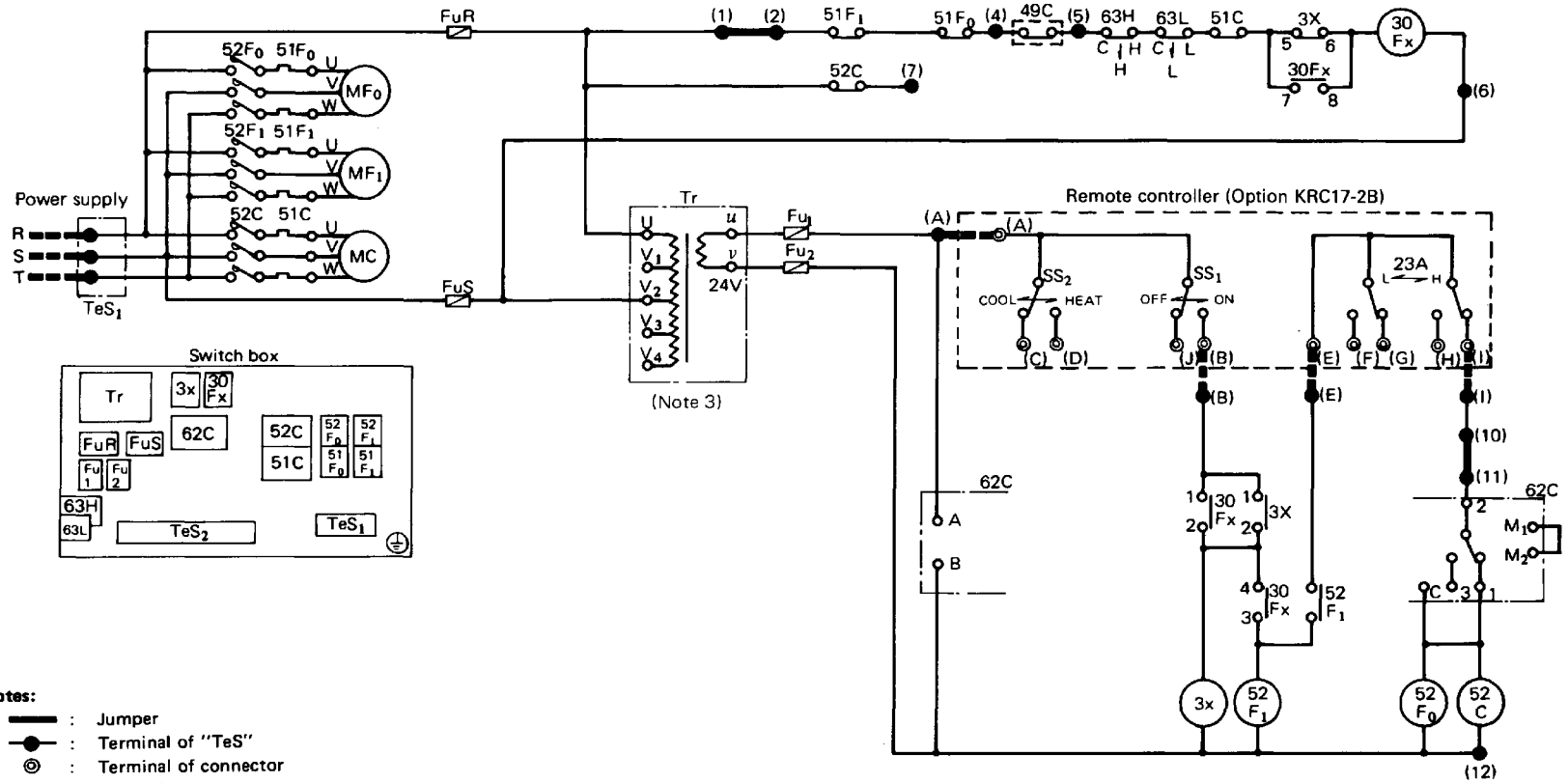


Symbols:

3X	:	Magnetic relay	63L	:	Low pressure switch
30FX	:	Magnetic relay	$Fu_{1,2}$	:	Fuse (250V, 5A)
49C	:	Compressor thermal protector	$Fu_{3,4}$	:	Fuse (250V, 10A)
51C	:	Overcurrent relay (MC)	FuR	:	Fuse (600V, 5A)
$51F_0$	:	Overcurrent relay (MF_0)	MC	:	Motor (Compressor)
$51F_1$	:	Overcurrent relay (MF_1)	MF_0	:	Motor (Condenser fan)
52C	:	Magnetic switch (MC)	MF_1	:	Motor (Evaporator fan)
$52F_0$	:	Magnetic contactor (MF_0)	TeS	:	Terminal strip
$52F_1$	:	Magnetic switch (MF_1)	Tr_1	:	Transformer (150VA)
62C	:	Recycling guard timer	Tr_2	:	Transformer (50VA)
63H	:	High pressure switch			

Remote controller (Option)

23A	:	Thermostat
SS_1	:	Selector switch (ON/OFF)
SS_2	:	Selector switch (COOL/HEAT)

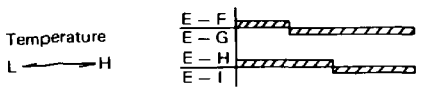


Notes:

1. ▬▬ : Jumper
   ●—● : Terminal of "TeS"
   ◎ : Terminal of connector
   ■■■ : Field wiring
2. Change the transformer connection as follows.

Power supply	Terminals	Pri./Sec.	Remarks
–	U-V_1	–	–
220V	U-V_2	220V/24V	Factory connection
230V	U-V_3	230V/24V	Change connection on the spot
240V	U-V_4	240V/24V	

3. Unused connectors (C), (D), (F), (G), (H) and (J) of the remote controller (KRC17-2B) should be insulated by closed-end connectors respectively to prevent against electric leakage.
4. Function of 23A: ▨ part shows "ON".



Symbols:

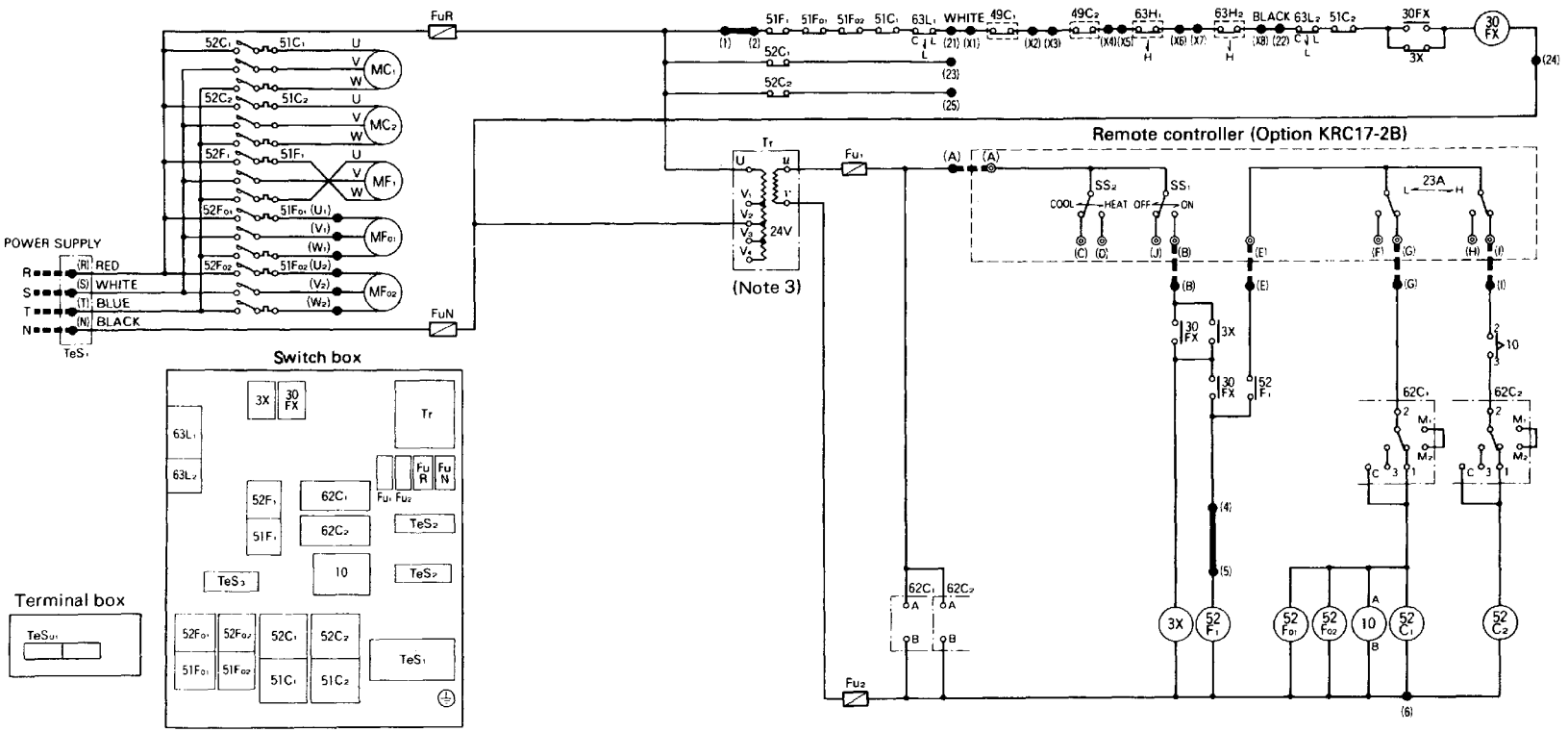
3X	:	Magnetic relay	63H	:	High pressure switch
30FX	:	Magnetic relay	63L	:	Low pressure switch
49C	:	Compressor thermal protector	Fu	:	Fuse (250V, 10A)
51C	:	Overcurrent relay (MC)	FuR,S	:	Fuse (600V, 5A)
$51F_0$	:	Overcurrent relay (MF_0)	MC	:	Motor (Compressor)
$51F_1$	:	Overcurrent relay (MF_1)	MF_0	:	Motor (Condenser fan)
52C	:	Magnetic switch (MC)	MF_1	:	Motor (Evaporator fan)
$52F_0$	:	Magnetic contactor (MF_0)	TeS	:	Terminal strip
$52F_1$	:	Magnetic switch (MF_1)	Tr	:	Transformer (50VA)
62C	:	Recycling guard timer			

Remote controller (Option)

23A	:	Thermostat
SS_1	:	Selector switch (ON/OFF)
SS_2	:	Selector switch (COOL/HEAT)

DU131—503A

2

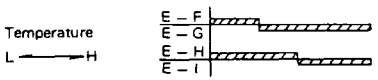


Notes:

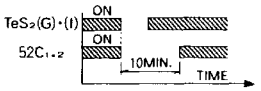
1. ▬▬ : Jumper
   —●— : Terminal of "TeS"
   ◎ : Terminal of connector
   ■■■■ : Field wiring
2. Change the transformer connection as follows.

Power supply	Terminals	Pri./Sec.	Remarks
—	U—V_1	—	—
380V	U—V_2	220V/24V	Factory connection
400V	U—V_3	230V/24V	Change connection on the spot
415V	U—V_4	240V/24V	

3. Unused connectors (C), (D), (F), (G), (H) and (J) of the remote controller (KRC17-2B) should be insulated by closed-end connectors respectively to prevent against electric leakage.
4. Function of 23A: ▨ part shows "ON".



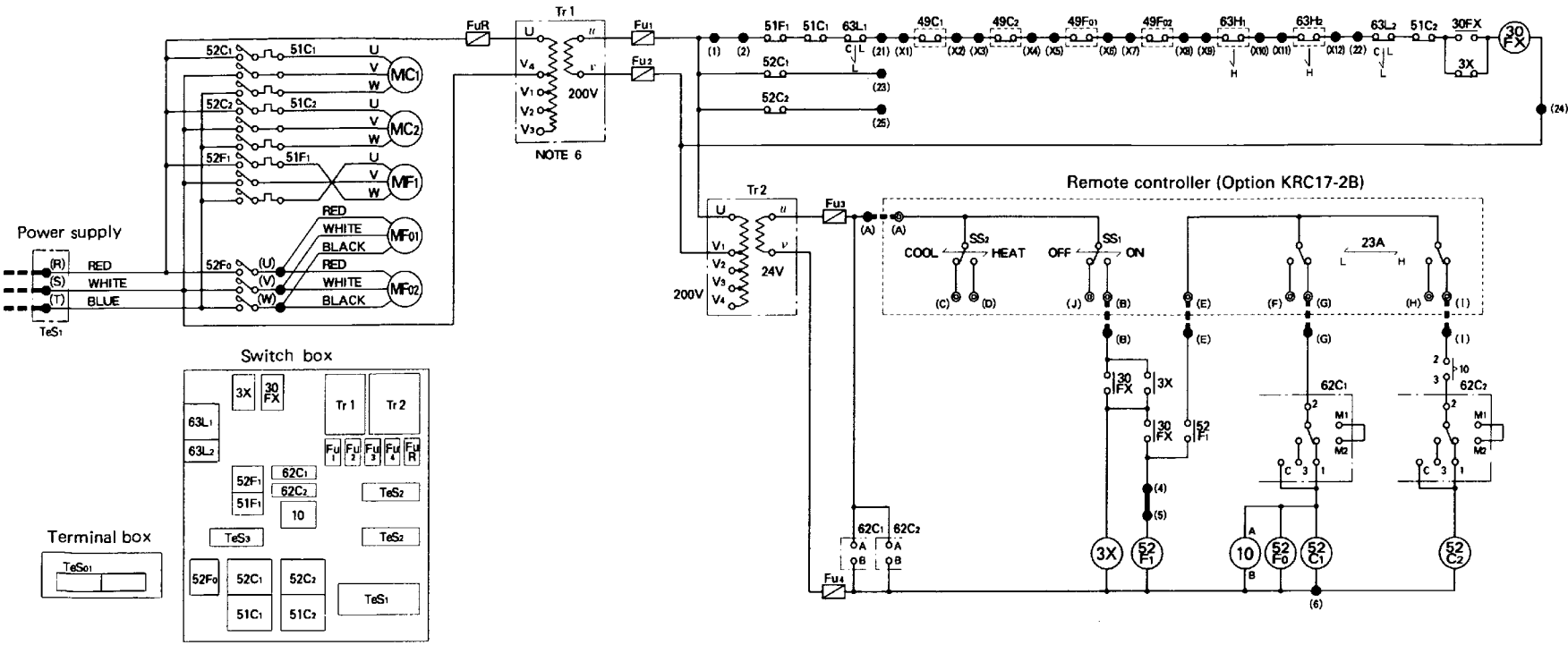
5. Insulate each terminal on remote controller with a sleeve.
6. Time chart of $62C_{1,2}$



($62C_{1,2}$ Guards against damage to compressor caused by short cycling.)

Symbols:

3X	:	Magnetic relay	Fu	:	Fuse (250V, 10A)
10	:	Timer (5 sec.)	FuRS	:	Fuse (600V, 5A)
30FX	:	Magnetic relay	MC	:	Motor (Compressor)
49C	:	Compressor thermal protector	MF_0	:	Motor (Condenser fan)
51C	:	Overcurrent relay (MC)	MF_1	:	Motor (Evaporator fan)
$51F_0$	:	Overcurrent relay (MF_0)	TeS_0	:	Terminal strip
$51F_1$	:	Overcurrent relay (MF_1)	Tr	:	Transformer (50VA)
52C	:	Magnetic switch (MC)			
$52F_0$	:	Magnetic contactor (MF_0)	**Remote controller (Option)**		
$52F_1$	:	Magnetic switch (MF_1)	23A	:	Thermostat
62C	:	Recycling guard timer	SS_1	:	Selector switch (ON/OFF)
63H	:	High pressure switch	SS_2	:	Selector switch (COOL/HEAT)
63L	:	Low pressure switch			

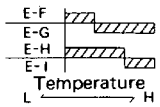


Notes:

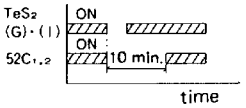
1. ——— : Jumper
   —●— : Terminal on $TeS_{1,2}$
   —⊙— : Terminal on Remote controller
   ▬▬▬ : Field wiring
2. Insulate each terminal on remote controller with a sleeve.
3. Change the transformer connection as follows.

Power supply	Terminal	Pri./Sec.	Remarks
346V	U-V_4	346V/200V	Factory connection
380V	U-V_1	380V/200V	—
400V	U-V_2	400V/200V	

4. Function of 23A : ▨ part shows "ON".



5. Time chart of $62C_{1,2}$



[$62C_{1,2}$ guards against damage to compressor caused by short cycling.]

Symbols:

3X	:	Magnetic relay
10	:	Timer (5 sec.)
30FX	:	Magnetic relay
49C	:	Thermal protector (MC)
49F	:	Thermal protector (MF_0)
51C	:	Overcurrent relay (MC)
51F	:	Overcurrent relay (MF)
52C	:	Magnetic switch (MC)
$52F_0$	:	Magnetic contactor (MF_0)
$52F_1$	:	Magnetic switch (MF_1)
62C	:	Timer (10 min.)
63H	:	High pressure switch
63L	:	Low pressure swithc
Fu	:	Fuse (250V 5A)
FuR	:	Fuse (600V 10A)
MC	:	Motor (Compressor)
MF_0	:	Motor (Condenser fan)
MF_1	:	Motor (Evaporator fan)
TeS	:	Terminal strip
Tr_1	:	Transformer (300VA)
Tr_2	:	Transformer (75VA)

Remote controller (Option)

23A	:	Thermostat
SS_1	:	Selector switch (ON ⟷ OFF)
SS_2	:	Selector switch (COOL ⟷ HEAT)

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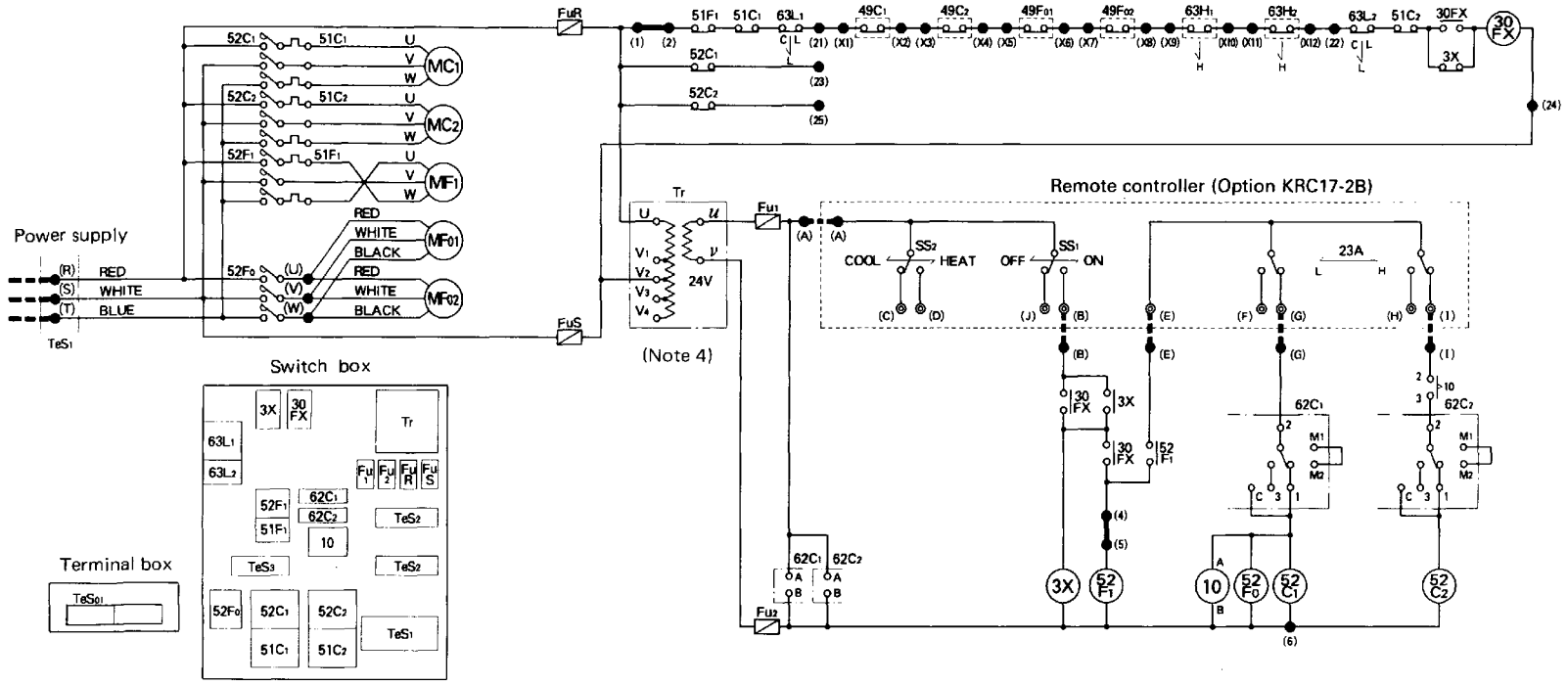
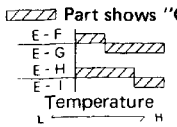


Notes.

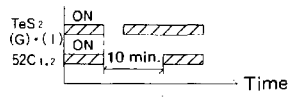
1. ——— : Jumper
   —●— : Terminal on $TeS_{1,2}$
   —◎— : Terminal on Remote controller
   ▬▬▬ : Field wiring
2. Insulate each terminal on remote controller with a sleeve.
3. Change the transformer connection as follows.

Power supply	Terminal	Pri./Sec.	Remarks
	U-V_1		Factory connection
220V	U-V_2	220V/24V	
230V	U-V_3	230V/24V	
240V	U-V_4	240V/24V	

4. Function 23A



5. Time chart of $62C_{1,2}$



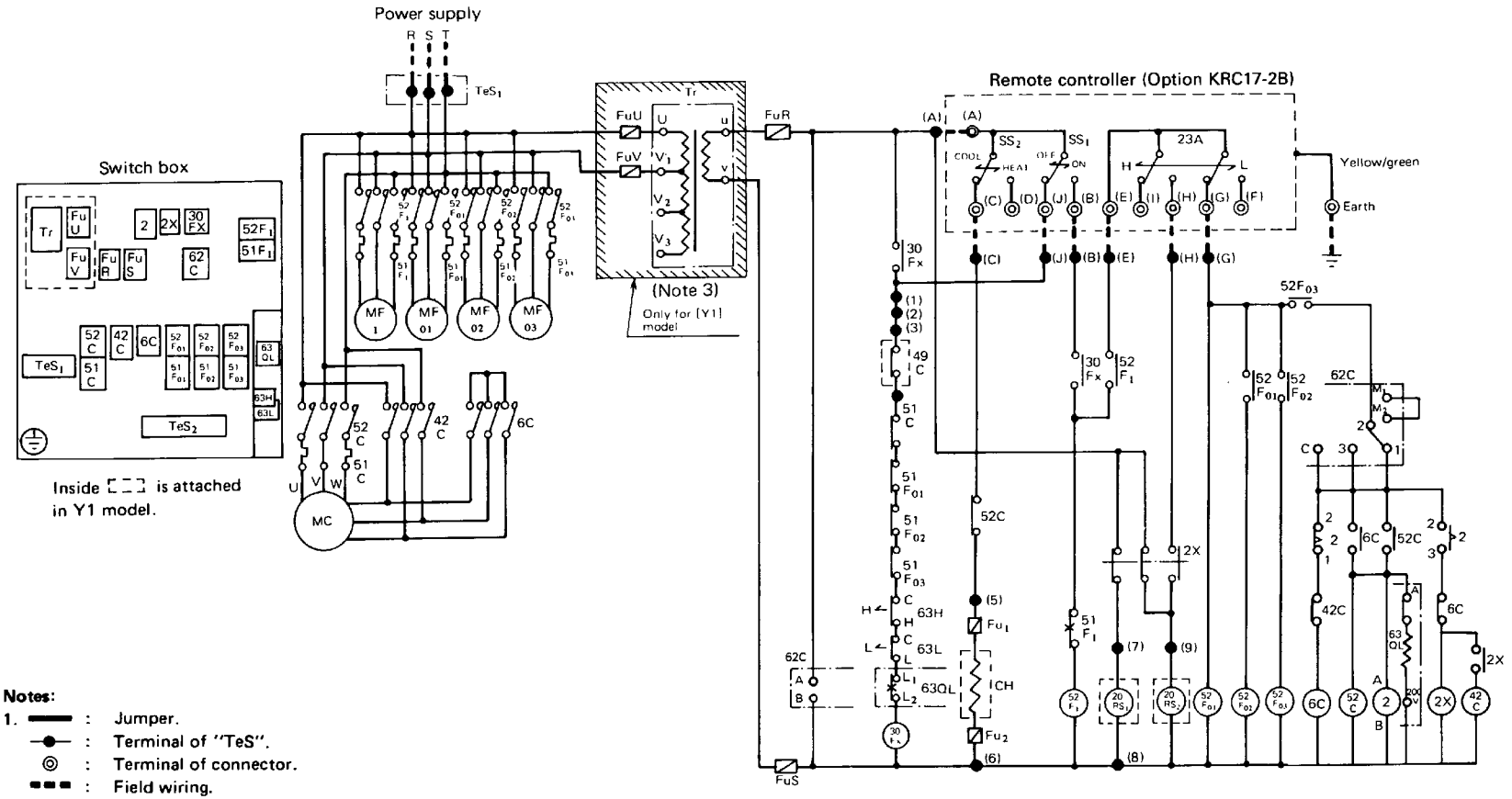
$62C_{1,2}$ guards against damage to compressor caused by short cycling.

Symbols:

3X	:	Magnetic relay
10	:	Timer (5 sec.)
30FX	:	Magnetic relay
49C	:	Thermal protector (MC)
49F	:	Thermal protector (MF_0)
51C	:	Overcurrent relay (MC)
51F	:	Overcurrent relay (MF)
52C	:	Magnetic switch (MC)
$52F_0$	:	Magnetic contactor (MF_0)
$52F_1$	:	Magnetic switch (MF_1)
62C	:	Timer (10 min.)
63H	:	High pressure switch
63L	:	Low pressure swithc
Fu	:	Fuse (250V 5A)
FuRS	:	Fuse (600V 10A)
MC	:	Motor (Compressor)
MF_0	:	Motor (Condenser fan)
MF1	:	Motor (Evaporator fan)
TeS	:	Terminal strip
Tr	:	Transformer (75VA)

Remote controller (Option)

23A	:	Thermostat
SS_1	:	Selector switch (ON ⟷ OFF)
SS_2	:	Selector switch (COOL ⟷ HEAT)

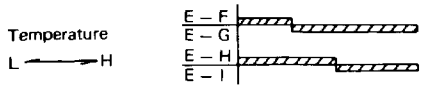


Notes:

1. ▬▬ : Jumper.
   —●— : Terminal of "TeS".
   ◎ : Terminal of connector.
   ▪▪▪ : Field wiring.
2. In case of "Y1" model, Change the transformer connector as follows.

Terminals	Pri./Sec.	Remarks
U-V_1	380V/200V	Factory connection
U-V_2	400V/200V	Change connection
U-V_3	415V/200V	on the spot

3. Unused connectors (D), (F), and (I) of the remote controller (KRC17-2B) should be insulated by closed-end connectors respectively to prevent against electric leakage.
4. Function of 23A: ▨ part shows "ON"



Symbols:

2	:	Timing relay
2X	:	Magnetic relay
6C	:	Magnetic relay
20RS	:	Solenoid valve
30FX	:	Magnetic relay
42C	:	Magnetic realy
49C	:	Compressor thermal protector
51C	:	Overcurrent relay (MC)
$51F_0$	:	Overcurrent relay (MF_0)
$51F_1$	:	Overcurrent relay (MF_1)
52C	:	Magnetic switch (MC)
$52F_0$	:	Magnetic switch (MF_0)
$52F_1$	:	Magnetic switch (MF_1)
62C	:	Recycling guard timer
63H	:	High pressure switch
63L	:	Low pressure switch
63QL	:	Oil pressure control switch
CH	:	Crankcase heater
Fu	:	Fuse (250V 1A)
FuR, S	:	Fuse (250V 5A)
FuU, V	:	Fuse (600V 5A)
MC	:	Motor (Compressor)
MF_0	:	Motor (Condenser fan)
MF_1	:	Motor (Evaporator fan)
TeS	:	Terminal strip
Tr	:	Transformer (300VA)

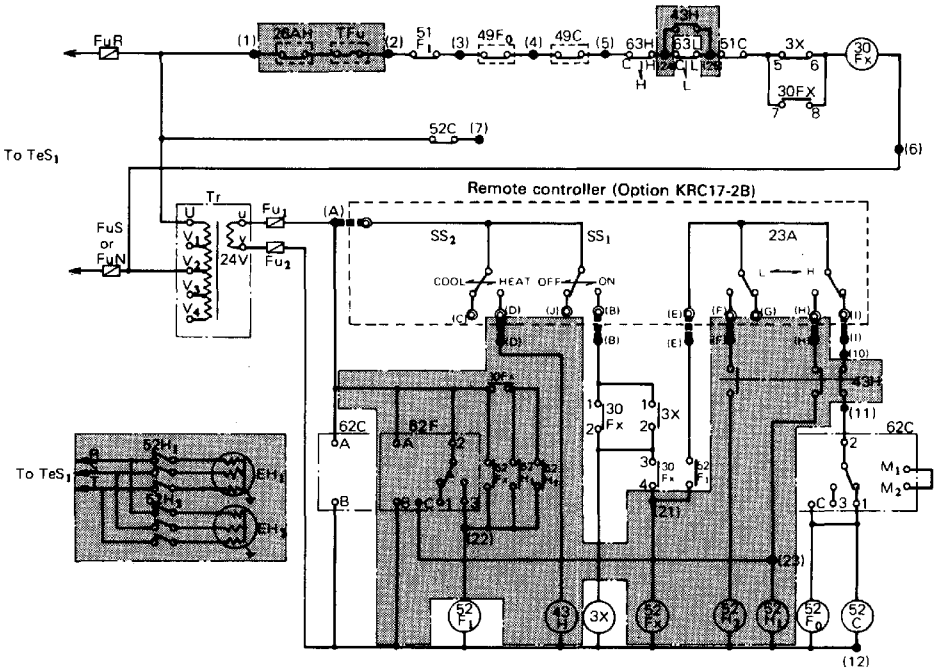
Remote controller (Option)

23A	:	Thermostat
SS_1	:	Selector switch (ON/OFF)
SS_2	:	Selector switch (COOL/HEAT)

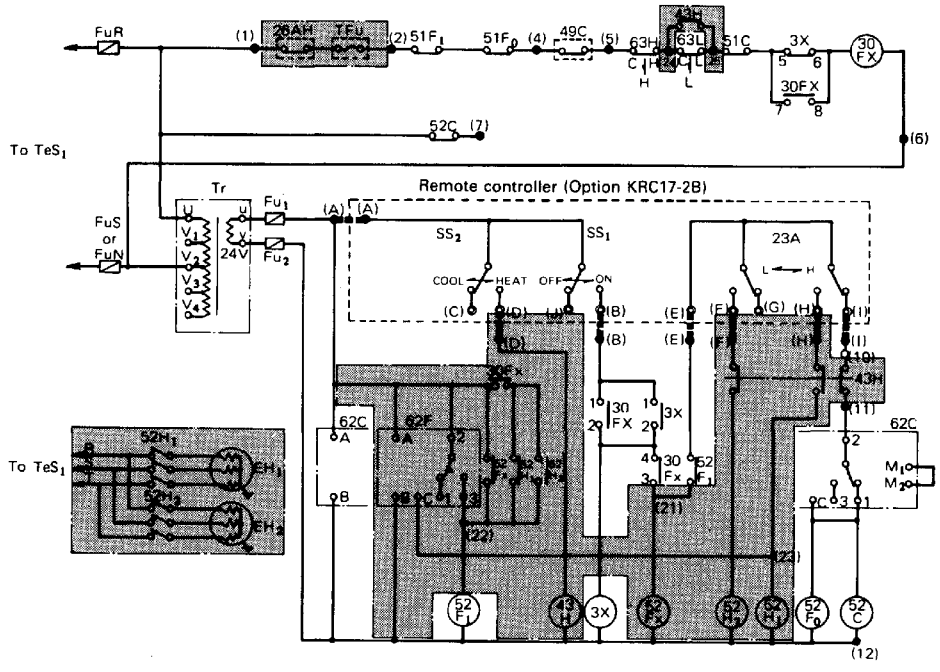
DU141–501C

(2) Wiring diagrams with optional 1 or 2 stage(s) built-in electric heater
(The wiring diagrams for "YH" model are available on request)

UAT05JY1, TH



UAT06J~12JY1, TH



Notes:

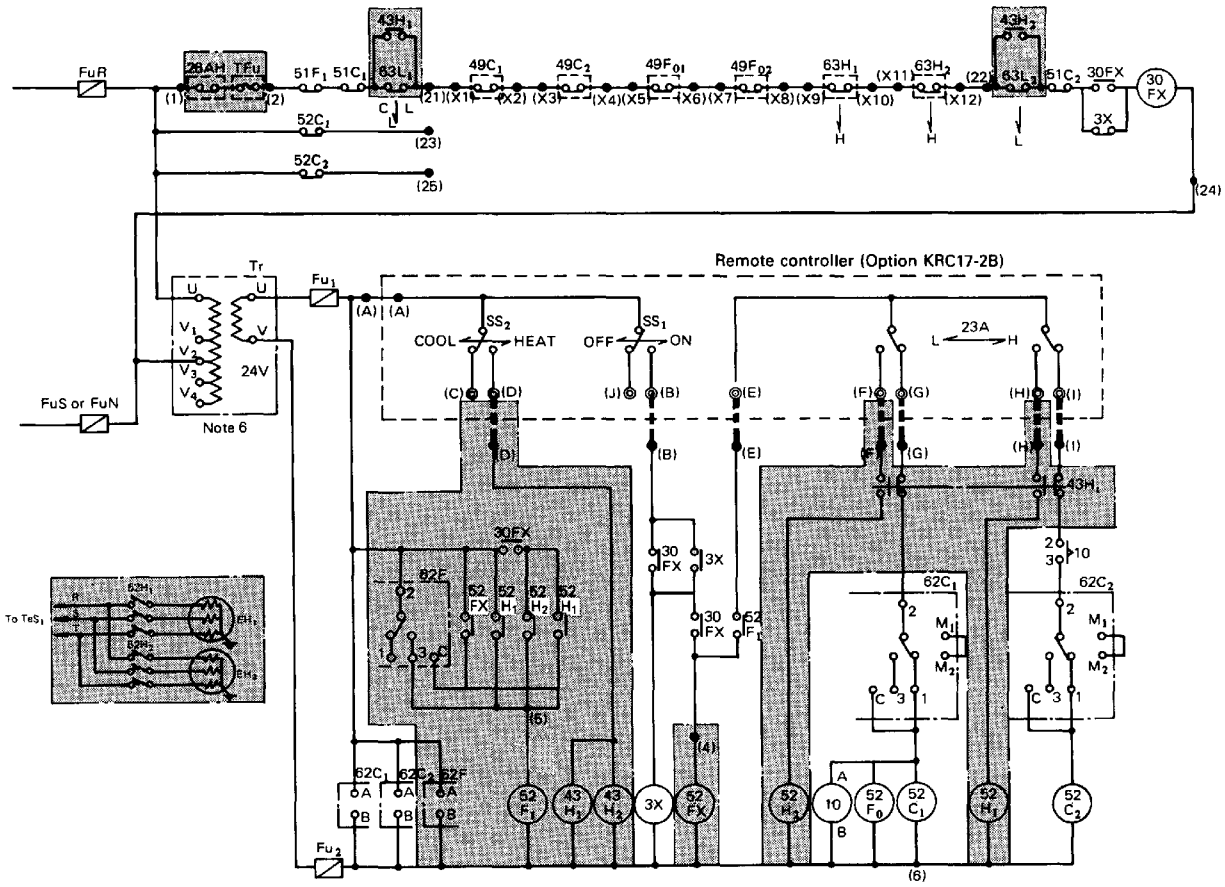
1. The wiring shown in ▨ is altered when the optional built-in electric heater is mounted. However, the other details remain unchanged as shown in the standard wiring diagram.
2. Parts with * are the components required only for 2 stages electric heater.

Symbols of additional parts:

52FX	: Magnetic relay
43H	: Magnetic relay
26AH	: Firestat
$52H_1$	: Magnetic contactor (EH_1)
*$52H_2$	: Magnetic contactor (EH_2)
*62F	: Timing relay
EH_1	: Electric heater
*EH_2	: Electric hearer
TFu	: Thermal fuse

DU129–523
DU129–525
DU131–512

UAT14J~22JY1
UAT14JA~22JATH



Notes:

1. The wiring shown in ▨ is altered when the optional built-in electric heater is mounted. However, the other details remain unchanged as shown in the standard wiring diagram.
2. Parts with * are the components required only for 2 stages electric heater.

Symbols of additional parts:

52FX	: Magnetic relay
43H	: Magnetic relay
26AH	: Firestat
$52H_1$	: Magnetic contactor (EH_1)
*$52H_2$	: Magnetic contactor (EH_2)
*62F	: Timing relay
EH_1	: Electric heater
*EH_2	: Electric heater
TFu	: Thermal fuse

7. Capacity Tables

[UAT05J]

[50Hz]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
47 (0.23)	16.0	23	12.0	9.1	4.2	11.6	8.9	4.4	11.1	8.7	4.7	10.5	8.4	5.0	9.8	8.1	5.4	---	---	---
	18.0	25	12.8	9.3	4.3	12.3	9.1	4.6	11.8	8.9	4.8	11.3	8.7	5.2	10.5	8.3	5.5	10.3	8.3	5.7
	19.5	27	13.5	9.5	4.4	13.0	9.3	4.7	12.4	9.1	5.0	11.8	8.8	5.3	11.1	8.5	5.7	10.8	8.4	5.8
	22.0	30	14.7	9.7	4.5	14.1	9.5	4.8	13.5	9.3	5.1	12.8	9.0	5.5	11.9	8.7	5.9	11.7	8.6	6.1
	24.0	32	15.7	9.9	4.6	15.0	9.7	4.9	14.4	9.4	5.3	13.7	9.2	5.6	12.7	8.9	6.1	12.4	8.8	6.2
55 (0.26)	16.0	23	12.3	9.7	4.2	11.8	9.5	4.5	11.3	9.2	4.8	10.7	9.0	5.0	10.0	8.7	5.4	---	---	---
	18.0	25	13.1	9.9	4.3	12.6	9.7	4.6	12.1	9.5	4.9	11.5	9.3	5.2	10.7	8.9	5.6	10.5	8.8	5.7
	19.5	27	13.8	10.1	4.4	13.3	9.9	4.7	12.7	9.7	5.0	12.1	9.4	5.3	11.3	9.1	5.7	11.0	9.0	5.9
	22.0	30	15.0	10.4	4.6	14.4	10.2	4.9	13.8	9.9	5.2	13.1	9.7	5.5	12.2	9.4	6.0	11.9	9.3	6.1
	24.0	32	16.0	10.6	4.7	15.3	10.3	5.0	14.7	10.1	5.3	14.0	9.9	5.7	13.0	9.6	6.1	12.7	9.5	6.3
63 (0.28)	16.0	23	12.5	10.2	4.3	12.0	10.0	4.5	11.5	9.8	4.8	10.9	9.5	5.1	10.1	9.2	5.5	---	---	---
	18.0	25	13.3	10.5	4.4	12.8	10.2	4.6	12.3	10.0	4.9	11.7	9.8	5.2	10.9	9.5	5.6	10.7	9.4	5.8
	19.5	27	14.0	10.7	4.4	13.5	10.5	4.7	12.9	10.2	5.0	12.3	10.0	5.4	11.5	9.7	5.8	11.2	9.6	5.9
	22.0	30	15.2	11.0	4.6	14.6	10.7	4.9	14.0	10.5	5.2	13.3	10.3	5.6	12.4	10.0	6.0	12.1	9.9	6.2
	24.0	32	16.2	11.2	4.7	15.5	10.9	5.0	14.9	10.7	5.4	14.2	10.5	5.7	13.2	10.2	6.2	12.9	10.1	6.3

[UAT06J]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
54 (0.13)	16.0	23	13.0	10.7	4.8	12.4	10.4	5.1	11.9	10.1	5.4	11.3	9.9	5.7	10.6	9.6	6.1	---	---	---
	18.0	25	13.9	10.9	4.9	13.3	10.7	5.2	12.7	10.5	5.5	12.1	10.2	5.8	11.3	9.9	6.3	11.1	9.8	6.4
	19.5	27	14.6	11.1	5.0	14.0	10.9	5.3	13.3	10.6	5.6	12.6	10.4	6.0	11.9	10.1	6.4	11.6	10.0	6.6
	22.0	30	15.8	11.4	5.2	15.1	11.2	5.5	14.4	10.9	5.9	13.7	10.7	6.2	12.8	10.4	6.7	12.5	10.3	6.8
	24.0	32	16.8	11.6	5.4	16.1	11.4	5.7	15.3	11.1	6.0	14.6	10.9	6.4	13.6	10.6	6.9	13.3	10.5	7.1
63 (0.15)	16.0	23	13.3	11.4	4.9	12.7	11.2	5.1	12.1	10.9	5.4	11.5	10.7	5.7	10.8	10.4	6.1	---	---	---
	18.0	25	14.2	11.8	5.0	13.6	11.5	5.3	13.0	11.3	5.6	12.3	11.0	5.9	11.5	10.7	6.3	11.3	10.6	6.5
	19.5	27	14.9	12.0	5.1	14.3	11.7	5.4	13.6	11.8	5.7	12.9	11.2	6.0	12.1	10.9	6.5	11.8	10.8	6.6
	22.0	30	16.1	12.3	5.3	15.4	12.1	5.6	14.7	11.8	5.9	14.0	11.6	6.3	13.1	11.3	6.7	12.8	11.2	6.9
	24.0	32	17.1	12.5	5.4	16.4	12.3	5.7	15.6	12.0	6.1	14.9	11.8	6.5	13.9	11.5	7.0	13.6	11.4	7.1
72 (0.18)	16.0	23	13.5	12.1	4.9	12.9	11.9	5.2	12.3	11.6	5.5	11.7	11.4	5.8	11.0	11.0	6.2	---	---	---
	18.0	25	14.4	12.5	5.0	13.8	12.3	5.3	13.2	12.0	5.6	12.5	11.7	5.9	11.7	11.4	6.4	11.5	11.4	6.5
	19.5	27	15.1	12.7	5.1	14.5	12.5	5.4	13.8	12.3	5.7	13.1	12.0	6.1	12.3	11.7	6.5	12.0	11.6	6.7
	22.0	30	16.3	13.1	5.3	15.6	12.9	5.6	14.9	12.6	6.0	14.2	12.4	6.3	13.3	12.1	6.8	13.0	12.0	7.0
	24.0	32	17.3	13.4	5.5	16.6	13.2	5.8	15.8	12.9	6.1	15.1	12.7	6.5	14.1	12.4	7.0	13.8	12.3	7.2

[UAT09J]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
73 (0.23)	16.0	23	19.2	14.4	6.3	18.4	14.0	6.7	17.5	13.6	7.0	16.6	13.1	7.4	15.4	12.6	7.9	---	---	---
	18.0	25	20.5	14.7	6.5	19.6	14.3	6.8	18.7	13.9	7.2	17.7	13.5	7.6	16.5	13.0	8.1	16.1	12.8	8.2
	19.5	27	21.5	14.9	6.6	20.6	14.5	7.0	19.6	14.1	7.3	18.6	13.7	7.7	17.3	13.2	8.3	17.0	13.1	8.4
	22.0	30	23.2	15.2	6.8	22.2	14.8	7.1	21.2	14.4	7.6	20.1	14.0	8.0	18.8	13.6	8.5	18.3	13.4	8.7
	24.0	32	24.6	15.4	6.9	23.6	15.0	7.3	22.5	14.7	7.7	21.4	14.3	8.2	20.0	13.8	8.8	19.5	13.6	9.0
85 (0.27)	16.0	23	19.6	15.2	6.4	18.8	14.8	6.7	17.9	14.4	7.1	16.9	14.0	7.5	15.7	13.4	7.9	---	---	---
	18.0	25	20.9	15.5	6.5	20.0	15.1	6.9	19.1	14.8	7.3	18.1	14.3	7.7	16.8	13.8	8.2	16.4	13.7	8.3
	19.5	27	21.9	15.8	6.6	21.0	15.4	7.0	20.0	15.0	7.4	19.0	14.6	7.8	17.7	14.1	8.3	17.3	13.9	8.5
	22.0	30	23.7	16.1	6.8	22.7	15.8	7.2	21.6	15.4	7.6	20.5	15.0	8.1	19.2	14.5	8.6	18.7	14.3	8.8
	24.0	32	25.1	16.4	7.0	24.1	16.0	7.4	23.0	15.6	7.8	21.8	15.2	8.3	20.4	14.8	8.8	19.9	14.6	9.0
97 (0.29)	16.0	23	19.9	15.9	6.4	19.1	15.6	6.8	18.2	15.2	7.1	17.1	14.7	7.5	15.9	14.2	8.0	---	---	---
	18.0	25	21.2	16.3	6.6	20.3	15.9	6.9	19.4	15.6	7.3	18.4	15.1	7.7	17.0	14.6	8.2	16.6	14.5	8.4
	19.5	27	22.2	16.6	6.7	21.3	16.2	7.1	20.3	15.8	7.4	19.3	15.4	7.9	18.0	14.9	8.4	17.6	14.8	8.6
	22.0	30	24.0	17.0	6.9	23.0	16.6	7.3	21.9	16.2	7.7	20.8	15.8	8.1	19.5	15.4	8.7	19.0	15.2	8.9
	24.0	32	25.5	17.2	7.0	24.5	16.9	7.4	23.3	16.5	7.9	22.1	16.1	8.3	20.7	15.7	8.9	20.2	15.5	9.1

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°C WB)
EDB : Entering dry bulb temp. (°C DB)
TC : Total cooling capacity (x1,000 kcal/h)
SHC : Sensible heat capacity (x1,000 kcal/h)
PI : Power input (kW)
(Comp. + Cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▨ shows nominal cooling capacities.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Operation limit:
   Maximum entering air temp. to condenser is 52°C (125°F).
5. Direct interpolation is permissible.
   Do not extrapolate.

[UAT10J] [50Hz]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
77 (0.25)	16.0	23	21.8	15.8	8.0	20.9	15.4	8.4	20.0	15.0	8.9	19.1	14.5	9.3	17.8	13.9	9.9	---	---	---
	18.0	25	23.3	16.1	8.3	22.4	15.7	8.7	21.4	15.3	9.2	20.3	14.8	9.6	19.0	14.2	10.3	18.5	14.0	10.5
	19.5	27	24.4	16.4	8.5	23.5	16.0	8.9	22.5	15.5	9.4	21.4	15.1	9.9	19.9	14.5	10.5	19.4	14.3	10.7
	22.0	30	26.5	16.7	8.8	25.4	16.3	9.3	24.3	15.9	9.8	23.2	15.4	10.3	21.6	14.8	11.0	21.0	14.6	11.2
	24.0	32	28.1	16.9	9.1	27.1	16.5	9.6	25.9	16.1	10.1	24.6	15.7	10.6	23.0	15.1	11.3	22.4	14.9	11.6
90 (0.28)	16.0	23	22.3	16.7	8.1	21.4	16.3	8.6	20.5	15.8	9.0	19.5	15.4	9.5	18.2	14.8	10.1	---	---	---
	18.0	25	23.8	17.1	8.4	22.9	16.7	8.8	21.9	16.2	9.3	20.8	15.8	9.8	19.4	15.2	10.4	18.9	15.0	10.6
	19.5	27	25.0	17.3	8.6	24.0	16.9	9.0	23.0	16.5	9.5	21.9	16.1	10.0	20.4	15.4	10.6	19.9	15.2	10.9
	22.0	30	27.1	17.7	8.9	26.0	17.3	9.4	24.9	16.9	9.9	23.7	16.4	10.4	22.1	15.8	11.1	21.5	15.6	11.3
	24.0	32	28.8	18.0	9.2	27.7	17.6	9.7	26.5	17.1	10.2	25.2	16.7	10.8	23.5	16.1	11.5	22.9	15.9	11.7
103 (0.31)	16.0	23	22.7	17.5	8.2	21.8	17.1	8.6	20.8	16.6	9.1	19.8	16.2	9.5	18.5	15.6	10.1	---	---	---
	18.0	25	24.2	17.9	8.5	23.3	17.5	8.9	22.3	17.1	9.4	21.1	16.6	9.9	19.7	16.0	10.5	19.2	15.8	10.7
	19.5	27	25.4	18.2	8.6	24.4	17.8	9.1	23.4	17.4	9.6	22.3	16.9	10.1	20.7	16.3	10.7	20.2	16.1	11.0
	22.0	30	27.6	18.6	9.0	26.4	18.2	9.5	25.3	17.8	10.0	24.1	17.4	10.5	22.5	16.8	11.2	21.9	16.6	11.4
	24.0	32	29.3	18.9	9.3	28.2	18.5	9.8	26.9	18.1	10.3	25.6	17.7	10.9	23.9	17.1	11.6	23.3	16.9	11.8

[UAT12J]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
81 (0.09)	16.0	23	25.4	19.0	8.4	24.3	18.5	8.8	23.2	18.0	9.2	22.0	17.4	9.7	20.4	16.7	10.3	---	---	---
	18.0	25	27.1	19.4	8.6	26.0	18.9	9.1	24.8	18.4	9.5	23.4	17.8	10.0	21.8	17.2	10.6	21.1	16.9	10.9
	19.5	27	28.4	19.7	8.8	27.2	19.2	9.3	26.0	18.7	9.8	24.6	18.1	10.3	22.9	17.5	10.9	22.2	17.2	11.1
	22.0	30	30.8	20.1	9.2	29.5	19.7	9.7	28.1	19.1	10.2	26.7	18.6	10.7	24.7	17.9	11.4	24.0	17.7	11.6
	24.0	32	32.6	20.4	9.5	31.4	20.0	10.0	29.9	19.4	10.5	28.3	18.9	11.1	26.3	18.2	11.8	25.5	18.0	12.0
95 (0.11)	16.0	23	26.0	20.3	8.5	24.9	19.8	8.9	23.8	19.3	9.4	22.5	18.8	9.8	20.9	18.1	10.4	---	---	---
	18.0	25	27.7	20.8	8.7	26.6	20.3	9.2	25.4	19.8	9.7	24.0	19.2	10.2	22.3	18.5	10.8	21.6	18.3	11.0
	19.5	27	29.1	21.1	8.9	27.9	20.7	9.4	26.6	20.1	9.9	25.2	19.6	10.4	23.4	18.9	11.1	22.7	18.6	11.3
	22.0	30	31.5	21.7	9.3	30.2	21.2	9.8	28.8	20.7	10.3	27.3	20.1	10.9	25.3	19.4	11.5	24.6	19.2	11.8
	24.0	32	33.4	22.0	9.6	32.1	21.5	10.1	30.6	21.0	10.7	29.0	20.5	11.2	26.9	19.8	11.9	26.1	19.5	12.2
109 (0.13)	16.0	23	26.4	21.6	8.5	25.3	21.1	9.0	24.2	20.6	9.4	22.9	20.0	9.9	21.3	19.3	10.5	---	---	---
	18.0	25	28.2	22.1	8.8	27.0	21.6	9.3	25.8	21.1	9.8	24.4	20.5	10.3	22.7	19.8	10.9	22.0	19.6	11.1
	19.5	27	29.6	22.5	9.0	28.4	22.0	9.5	27.0	21.5	10.0	25.6	20.9	10.5	23.8	20.2	11.2	23.1	20.0	11.4
	22.0	30	32.0	23.1	9.4	30.7	22.6	9.9	29.3	22.1	10.4	27.8	21.6	11.0	25.7	20.9	11.7	25.0	20.6	11.9
	24.0	32	34.0	23.4	9.7	32.6	23.0	10.2	31.1	22.5	10.8	29.5	22.0	11.3	27.4	21.3	12.1	26.5	21.0	12.3

[UAT14J]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
96 (0.06)	16.0	23	28.8	22.1	12.3	27.5	21.6	12.9	26.2	21.0	13.6	25.0	20.4	14.3	23.5	19.8	15.2	---	---	---
	18.0	25	30.8	22.7	12.5	29.3	22.1	13.2	28.0	21.5	13.9	26.7	21.0	14.6	25.2	20.3	15.6	24.7	20.1	15.9
	19.5	27	32.3	23.0	12.7	30.9	22.5	13.4	29.4	21.9	14.1	28.1	21.4	14.8	26.5	20.7	15.9	25.9	20.5	16.2
	22.0	30	35.0	23.6	13.0	33.4	23.0	13.7	31.9	22.4	14.4	30.4	21.9	15.3	28.8	21.3	16.3	28.3	21.1	16.7
	24.0	32	37.1	23.9	13.2	35.6	23.4	13.9	34.0	22.9	14.7	32.5	22.3	15.6	30.7	21.8	16.7	30.1	21.6	17.1
113 (0.08)	16.0	23	29.6	23.9	12.5	28.3	23.3	13.1	27.0	22.7	13.7	25.7	22.2	14.4	24.2	21.5	15.4	---	---	---
	18.0	25	31.7	24.6	12.7	30.2	23.9	13.3	28.8	23.4	14.0	27.5	22.8	14.8	25.9	22.2	15.7	25.4	22.0	16.1
	19.5	27	33.2	25.0	12.8	31.8	24.4	13.5	30.3	23.8	14.2	28.9	23.3	15.0	27.3	22.7	16.0	26.7	22.4	16.4
	22.0	30	36.0	25.6	13.1	34.4	25.0	13.8	32.8	24.5	14.6	31.3	23.9	15.4	29.6	23.3	16.5	29.1	23.2	16.9
	24.0	32	38.2	26.0	13.3	36.6	25.5	14.1	35.0	25.0	14.9	33.4	24.4	15.8	31.6	23.9	16.9	31.0	23.7	17.3
130 (0.10)	16.0	23	30.2	25.6	12.5	28.9	25.0	13.2	27.6	24.4	13.8	26.2	23.8	14.5	24.7	23.2	15.5	---	---	---
	18.0	25	32.4	26.3	12.8	30.8	25.7	13.4	29.4	25.1	14.1	28.1	24.6	14.9	26.4	23.9	15.9	25.9	23.7	16.2
	19.5	27	33.9	26.7	12.9	32.5	26.2	13.6	30.9	25.6	14.3	29.5	25.1	15.1	27.9	24.5	16.1	27.3	24.2	16.5
	22.0	30	36.7	27.5	13.2	35.1	26.9	13.9	33.5	26.3	14.7	31.9	25.8	15.5	30.2	25.2	16.6	29.7	25.1	17.0
	24.0	32	39.0	28.0	13.4	37.4	27.5	14.2	35.7	26.9	15.0	34.1	26.4	15.9	32.3	25.8	17.0	31.6	25.6	17.4

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°C WB)
EDB : Entering dry bulb temp. (°C DB)
TC : Total cooling capacity (x1,000 kcal/h)
SHC : Sensible heat capacity (x1,000 kcal/h)
PI : Power input (kW)
(Comp. + Cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacities.
3. SHC is based on each EWB and EDB.
ΔSHC = Capacity correction for SHC for other dry bulb temp.
= 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
Add ΔSHC to SHC.
4. Operation limit:
Maximum entering air temp. to condenser is 52°C (125°F).
5. Direct interpolation is permissible.
Do not extrapolate.

[UAT16J] [50Hz]

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
120 (0.08)	16.0	23	36.9	27.9	13.3	35.3	27.1	14.0	33.5	26.3	14.7	31.8	25.5	15.5	29.4	24.4	16.4	---	---	---
	18.0	25	39.4	28.5	13.6	37.6	27.7	14.3	35.8	26.9	15.1	33.9	26.1	15.9	31.5	25.1	16.9	30.6	24.7	17.2
	19.5	27	41.2	28.8	13.9	39.4	28.1	14.6	37.5	27.3	15.4	35.6	26.5	16.2	33.0	25.5	17.3	32.1	25.2	17.6
	22.0	30	44.4	29.4	14.2	42.5	28.7	15.0	40.5	27.9	15.9	38.4	27.2	16.7	35.7	26.2	17.9	34.7	25.8	18.2
	24.0	32	47.1	29.8	14.5	45.1	29.1	15.4	43.0	28.4	16.2	40.6	27.6	17.2	37.8	26.6	18.3	36.8	26.3	18.8
142 (0.11)	16.0	23	37.9	29.9	13.5	36.2	29.2	14.2	34.4	28.4	14.9	32.6	27.6	15.6	30.2	26.5	16.6	---	---	---
	18.0	25	40.4	30.7	13.8	38.6	29.9	14.5	36.7	29.1	15.3	34.8	28.3	16.1	32.3	27.3	17.1	31.4	27.0	17.4
	19.5	27	42.3	31.1	14.0	40.4	30.4	14.8	38.5	29.6	15.6	36.5	28.8	16.4	33.9	27.9	17.5	33.0	27.5	17.8
	22.0	30	45.6	31.8	14.4	43.6	31.1	15.2	41.6	30.4	16.0	39.4	29.6	16.9	36.6	28.6	18.1	35.6	28.3	18.5
	24.0	32	48.4	32.3	14.7	46.3	31.6	15.5	44.1	30.9	16.4	41.7	30.1	17.4	38.8	29.2	18.6	37.8	28.8	19.0
163 (0.13)	16.0	23	38.6	31.8	13.6	36.8	31.0	14.3	35.0	30.3	15.0	33.2	29.5	15.8	30.7	28.4	16.7	---	---	---
	18.0	25	41.1	32.6	13.9	39.3	31.9	14.6	37.3	31.1	15.4	35.4	30.3	16.2	32.9	29.3	17.2	32.0	28.9	17.6
	19.5	27	43.0	33.2	14.1	41.1	32.4	14.9	39.2	31.6	15.7	37.1	30.9	16.5	34.5	29.9	17.6	33.6	29.6	18.0
	22.0	30	46.4	34.0	14.5	44.4	33.2	15.3	42.3	32.5	16.2	40.1	31.8	17.1	37.2	30.8	18.2	36.2	30.4	18.6
	24.0	32	49.3	34.6	14.8	47.1	33.8	15.7	44.9	33.1	16.6	42.4	32.3	17.5	39.5	31.4	18.7	38.5	31.1	19.1

[UAT19J]

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
144 (0.06)	16.0	23	41.3	32.3	15.2	39.3	31.5	15.9	37.4	30.6	16.7	35.3	29.7	17.5	32.8	28.6	18.5	---	---	---
	18.0	25	44.0	33.1	15.4	42.0	32.2	16.2	39.8	31.3	17.0	37.7	30.4	17.9	34.9	29.3	19.0	34.1	29.0	19.4
	19.5	27	46.1	33.6	15.6	44.0	32.8	16.4	41.8	31.9	17.3	39.5	31.0	18.2	36.7	29.9	19.3	35.7	29.5	19.7
	22.0	30	49.8	34.4	15.9	47.4	33.5	16.8	45.1	32.7	17.7	42.6	31.8	18.6	39.6	30.7	19.8	38.6	30.4	20.3
	24.0	32	52.7	34.8	16.2	50.3	34.0	17.1	47.9	33.2	18.0	45.3	32.3	19.0	42.1	31.3	20.3	41.1	31.0	20.7
170 (0.08)	16.0	23	42.3	34.9	15.3	40.3	34.1	16.1	38.3	33.2	16.8	36.2	32.3	17.7	33.6	31.2	18.7	---	---	---
	18.0	25	45.1	35.8	15.6	43.0	35.0	16.4	40.8	34.1	17.2	38.6	33.2	18.1	35.8	32.1	19.2	34.9	31.7	19.5
	19.5	27	47.3	36.5	15.8	45.1	35.6	16.6	42.8	34.7	17.4	40.5	33.9	18.3	37.6	32.8	19.5	36.6	32.4	19.9
	22.0	30	51.0	37.3	16.1	48.6	36.5	17.0	46.2	35.7	17.9	43.7	34.8	18.8	40.6	33.7	20.0	39.6	33.4	20.5
	24.0	32	54.0	38.0	16.3	51.6	37.2	17.2	49.1	36.4	18.2	46.4	35.5	19.2	43.2	34.5	20.5	42.1	34.1	20.9
196 (0.10)	16.0	23	43.0	37.4	15.4	41.0	36.5	16.2	39.0	35.7	17.0	36.8	34.8	17.8	34.2	33.7	18.9	---	---	---
	18.0	25	45.9	38.4	15.7	43.7	37.6	16.5	41.5	36.7	17.3	39.3	35.8	18.2	36.4	34.7	19.3	35.5	34.4	19.7
	19.5	27	48.1	39.2	15.9	45.9	38.3	16.7	43.5	37.4	17.6	41.2	36.5	18.5	38.3	35.5	19.6	37.2	35.1	20.0
	22.0	30	51.9	40.2	16.2	49.4	39.3	17.1	47.0	38.5	18.0	44.5	37.6	19.0	41.3	36.6	20.2	40.3	36.3	20.6
	24.0	32	54.9	40.9	16.4	52.5	40.1	17.4	50.0	39.3	18.3	47.2	38.5	19.4	43.9	37.5	20.6	42.8	37.1	21.1

[UAT22J]

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
170 (0.08)	16.0	23	48.3	37.7	18.1	46.5	36.9	18.9	44.3	35.9	19.8	42.1	34.9	20.8	39.1	33.6	22.0	---	---	---
	18.0	25	51.7	38.7	18.6	49.7	37.8	19.5	47.4	36.9	20.4	45.0	35.8	21.4	41.8	34.5	22.7	40.6	34.1	23.1
	19.5	27	54.3	39.3	19.0	52.1	38.4	19.9	49.8	37.5	20.9	47.2	36.5	21.9	43.8	35.2	23.2	42.6	34.7	23.6
	22.0	30	58.8	40.3	19.7	56.4	39.4	20.7	53.9	38.4	21.7	51.0	37.4	22.7	47.4	36.1	24.1	46.1	35.7	24.5
	24.0	32	62.6	40.9	20.3	60.0	40.0	21.3	57.3	39.1	22.3	54.3	38.1	23.4	50.4	36.8	24.8	48.9	36.3	25.3
200 (0.10)	16.0	23	49.5	40.6	18.3	47.6	39.8	19.2	45.4	38.8	20.1	43.1	37.8	21.1	40.1	36.5	22.3	---	---	---
	18.0	25	53.0	41.7	18.8	50.9	40.9	19.7	48.6	39.9	20.7	46.1	38.9	21.7	42.8	37.6	23.0	41.6	37.1	23.4
	19.5	27	55.6	42.5	19.2	53.4	41.6	20.2	51.0	40.7	21.2	48.4	39.7	22.2	44.9	38.4	23.5	43.7	37.9	23.9
	22.0	30	60.3	43.6	19.9	57.8	42.7	20.9	55.2	41.8	22.0	52.3	40.8	23.0	48.6	39.5	24.4	47.2	39.0	24.9
	24.0	32	64.1	44.4	20.5	61.5	43.5	21.6	58.7	42.6	22.6	55.6	41.6	23.7	51.6	40.3	25.1	50.1	39.9	25.6
230 (0.12)	16.0	23	50.3	43.3	18.5	48.4	42.5	19.4	46.2	41.5	20.3	43.8	40.6	21.3	40.8	39.3	22.5	---	---	---
	18.0	25	53.9	44.6	19.0	51.8	43.7	19.9	49.4	42.8	20.9	46.9	41.8	21.9	43.5	40.5	23.2	42.3	40.0	23.6
	19.5	27	56.5	45.4	19.4	54.3	44.6	20.4	51.9	43.6	21.4	49.2	42.6	22.4	45.7	41.3	23.7	44.4	40.9	24.2
	22.0	30	61.3	46.7	20.1	58.8	45.8	21.1	56.1	44.9	22.2	53.2	43.9	23.3	49.4	42.6	24.6	48.0	42.2	25.1
	24.0	32	65.2	47.6	20.7	62.6	46.8	21.8	59.7	45.9	22.8	56.5	44.9	24.0	52.5	43.6	25.4	51.0	43.1	25.9

Symbols:

AFR	: Air flow rate	(m^3/min.)
BF	: Bypass factor	
EWB	: Entering wet bulb temp.	(°C WB)
EDB	: Entering dry bulb temp.	(°C DB)
TC	: Total cooling capacity	(x1,000 kcal/h)
SHC	: Sensible heat capacity	(x1,000 kcal/h)
PI	: Power input (Comp. + Cond. fan motor)	(kW)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacities.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Operation limit:
   Maximum entering air temp. to condenser is 52°C (125°F).
5. Direct interpolation is permissible.
   Do not extrapolate.

[UAT14JA] [50Hz]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
96 (0.06)	16.0	23	28.8	22.1	11.0	27.5	21.6	11.5	26.2	21.0	12.1	25.0	20.4	12.8	23.5	19.8	13.6	---	---	---
	18.0	25	30.8	22.7	11.2	29.3	22.1	11.8	28.0	21.5	12.4	26.7	21.0	13.0	25.2	20.3	13.9	24.7	20.1	14.2
	19.5	27	32.3	23.0	11.3	30.9	22.5	11.9	29.4	21.9	12.6	28.1	21.4	13.3	26.5	20.7	14.2	25.9	20.5	14.5
	22.0	30	35.0	23.6	11.6	33.4	23.0	12.2	31.9	22.4	12.9	30.4	21.9	13.6	28.8	21.3	14.6	28.3	21.1	14.9
	24.0	32	37.1	23.9	11.8	35.6	23.4	12.4	34.0	22.9	13.2	32.5	22.3	13.9	30.7	21.8	14.9	30.1	21.6	15.3
113 (0.08)	16.0	23	29.6	23.9	11.1	28.3	23.3	11.7	27.0	22.7	12.3	25.7	22.2	12.9	24.2	21.5	13.7	---	---	---
	18.0	25	31.7	24.6	11.3	30.2	23.9	11.9	28.8	23.4	12.5	27.5	22.8	13.2	25.9	22.2	14.1	25.4	22.0	14.4
	19.5	27	33.2	25.0	11.5	31.8	24.4	12.1	30.3	23.8	12.7	28.9	23.3	13.4	27.3	22.7	14.3	26.7	22.4	14.6
	22.0	30	36.0	25.6	11.7	34.4	25.0	12.3	32.8	24.5	13.0	31.3	23.9	13.8	29.6	23.3	14.7	29.1	23.2	15.1
	24.0	32	38.2	26.0	11.9	36.6	25.5	12.6	35.0	25.0	13.3	33.4	24.4	14.1	31.6	23.9	15.1	31.0	23.7	15.4
130 (0.10)	16.0	23	30.2	25.6	11.2	28.9	25.0	11.7	27.6	24.4	12.3	26.2	23.8	13.0	24.7	23.2	13.8	---	---	---
	18.0	25	32.4	26.3	11.4	30.8	25.7	12.0	29.4	25.1	12.6	28.1	24.6	13.3	26.4	23.9	14.2	25.9	23.7	14.5
	19.5	27	33.9	26.7	11.5	32.5	26.2	12.1	30.9	25.6	12.8	29.5	25.1	13.5	27.9	24.5	14.4	27.3	24.2	14.7
	22.0	30	36.7	27.5	11.8	35.1	26.9	12.4	33.5	26.3	13.1	31.9	25.8	13.9	30.2	25.2	14.8	29.7	25.1	15.2
	24.0	32	39.0	28.0	12.0	37.4	27.5	12.7	35.7	26.9	13.4	34.1	26.4	14.2	32.3	25.8	15.2	31.6	25.6	15.6

[UAT16JA]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
120 (0.08)	16.0	23	36.9	27.9	12.0	35.3	27.1	12.6	33.5	26.3	13.2	31.8	25.5	13.9	29.4	24.4	14.8	---	---	---
	18.0	25	39.4	28.5	12.3	37.6	27.7	12.9	35.8	26.9	13.6	33.9	26.1	14.3	31.5	25.1	15.2	30.6	24.7	15.5
	19.5	27	41.2	28.8	12.5	39.4	28.1	13.1	37.5	27.3	13.8	35.6	26.5	14.6	33.0	25.5	15.5	32.1	25.2	15.8
	22.0	30	44.4	29.4	12.8	42.5	28.7	13.5	40.5	27.9	14.3	38.4	27.2	15.1	35.7	26.2	16.1	34.7	25.8	16.4
	24.0	32	47.1	29.8	13.1	45.1	29.1	13.8	43.0	28.4	14.6	40.6	27.6	15.4	37.8	26.6	16.5	36.8	26.3	16.9
142 (0.11)	16.0	23	37.9	29.9	12.2	36.2	29.2	12.8	34.4	28.4	13.4	32.6	27.6	14.1	30.2	26.5	14.9	---	---	---
	18.0	25	40.4	30.7	12.4	38.6	29.9	13.1	36.7	29.1	13.7	34.8	28.3	14.5	32.3	27.3	15.4	31.4	27.0	15.7
	19.5	27	42.3	31.1	12.6	40.4	30.4	13.3	38.5	29.6	14.0	36.5	28.8	14.7	33.9	27.9	15.7	33.0	27.5	16.0
	22.0	30	45.6	31.8	13.0	43.6	31.1	13.7	41.6	30.4	14.4	39.4	29.6	15.2	36.6	28.6	16.3	35.6	28.3	16.6
	24.0	32	48.4	32.3	13.2	46.3	31.6	14.0	44.1	30.9	14.8	41.7	30.1	15.6	38.8	29.2	16.7	37.8	28.8	17.1
163 (0.13)	16.0	23	38.6	31.8	12.2	36.8	31.0	12.9	35.0	30.3	13.5	33.2	29.5	14.2	30.7	28.4	15.0	---	---	---
	18.0	25	41.1	32.6	12.5	39.3	31.9	13.2	37.3	31.1	13.8	35.4	30.3	14.6	32.9	29.3	15.5	32.0	28.9	15.8
	19.5	27	43.0	33.2	12.7	41.1	32.4	13.4	39.2	31.6	14.1	37.1	30.9	14.9	34.5	29.9	15.8	33.6	29.6	16.2
	22.0	30	46.4	34.0	13.1	44.4	33.2	13.8	42.3	32.5	14.5	40.1	31.8	15.4	37.2	30.8	16.4	36.2	30.4	16.7
	24.0	32	49.3	34.6	13.3	47.1	33.8	14.1	44.9	33.1	14.9	42.4	32.3	15.7	39.5	31.4	16.8	38.5	31.1	17.2

[UAT19JA]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
144 (0.06)	16.0	23	41.3	32.3	12.6	39.3	31.5	13.2	37.4	30.6	13.9	35.3	29.7	14.5	32.8	28.6	15.4	---	---	---
	18.0	25	44.0	33.1	12.8	42.0	32.2	13.5	39.8	31.3	14.1	37.7	30.4	14.9	34.9	29.3	15.8	34.1	29.0	16.1
	19.5	27	46.1	33.6	13.0	44.0	32.8	13.7	41.8	31.9	14.4	39.5	31.0	15.1	36.7	29.9	16.0	35.7	29.5	16.4
	22.0	30	49.8	34.4	13.2	47.4	33.5	14.0	45.1	32.7	14.7	42.6	31.8	15.5	39.6	30.7	16.5	38.6	30.4	16.8
	24.0	32	52.7	34.8	13.4	50.3	34.0	14.2	47.9	33.2	15.0	45.3	32.3	15.8	42.1	31.3	16.9	41.1	31.0	17.2
170 (0.08)	16.0	23	42.3	34.9	12.8	40.3	34.1	13.4	38.3	33.2	14.0	36.2	32.3	14.7	33.6	31.2	15.6	---	---	---
	18.0	25	45.1	35.8	13.0	43.0	35.0	13.6	40.8	34.1	14.3	38.6	33.2	15.0	35.8	32.1	15.9	34.9	31.7	16.2
	19.5	27	47.3	36.5	13.1	45.1	35.6	13.8	42.8	34.7	14.5	40.5	33.9	15.2	37.6	32.8	16.2	36.6	32.4	16.5
	22.0	30	51.0	37.3	13.4	48.6	36.5	14.1	46.2	35.7	14.9	43.7	34.8	15.7	40.6	33.7	16.7	39.6	33.4	17.0
	24.0	32	54.0	38.0	13.6	51.6	37.2	14.3	49.1	36.4	15.1	46.4	35.5	16.0	43.2	34.5	17.0	42.1	34.1	17.4
196 (0.10)	16.0	23	43.0	37.4	12.8	41.0	36.5	13.5	39.0	35.7	14.1	36.8	34.8	14.8	34.2	33.7	15.7	---	---	---
	18.0	25	45.9	38.4	13.1	43.7	37.6	13.7	41.5	36.7	14.4	39.3	35.8	15.1	36.4	34.7	16.0	35.5	34.4	16.4
	19.5	27	48.1	39.2	13.2	45.9	38.3	13.9	43.5	37.4	14.6	41.2	36.5	15.4	38.3	35.5	16.3	37.2	35.1	16.6
	22.0	30	51.9	40.2	13.5	49.4	39.3	14.2	47.0	38.5	15.0	44.5	37.6	15.8	41.3	36.6	16.8	40.3	36.3	17.1
	24.0	32	54.9	40.9	13.7	52.5	40.1	14.4	50.0	39.3	15.2	47.2	38.5	16.1	43.9	37.5	17.2	42.8	37.1	17.5

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°C WB)
EDB : Entering dry bulb temp. (°C DB)
TC : Total cooling capacity (x1,000 kcal/h)
SHC : Sensible heat capacity (x1,000 kcal/h)
PI : Power input (kW)
(Comp. + Cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacities.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Operation limit:
   Maximum entering air temp. to condenser is 52°C (125°F).
5. Direct interpolation is permissible.
   Do not extrapolate.

[UAT22JA] [50Hz]

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
170 (0.08)	16.0	23	48.3	37.7	15.5	46.5	36.9	16.3	44.3	35.9	17.1	42.1	34.9	17.9	39.1	33.6	18.9	---	---	---
	18.0	25	51.7	38.7	16.0	49.7	37.8	16.8	47.4	36.9	17.6	45.0	35.8	18.4	41.8	34.5	19.5	40.6	34.1	19.9
	19.5	27	54.3	39.3	16.3	52.1	38.4	17.1	49.8	37.5	18.0	47.2	36.5	18.8	43.8	35.2	19.9	42.6	34.7	20.3
	22.0	30	58.8	40.3	16.9	56.4	39.4	17.8	53.9	38.4	18.6	51.0	37.4	19.6	47.4	36.1	20.7	46.1	35.7	21.1
	24.0	32	62.6	40.9	17.4	60.0	40.0	18.3	57.3	39.1	19.2	54.3	38.1	20.2	50.4	36.8	21.3	48.9	36.3	21.8
200 (0.10)	16.0	23	49.5	40.6	15.7	47.6	39.8	16.5	45.4	38.8	17.3	43.1	37.8	18.1	40.1	36.5	19.2	---	---	---
	18.0	25	53.0	41.7	16.2	50.9	40.9	17.0	48.6	39.9	17.8	46.1	38.9	18.7	42.8	37.6	19.8	41.6	37.1	20.1
	19.5	27	55.6	42.5	16.5	53.4	41.6	17.4	51.0	40.7	18.2	48.4	39.7	19.1	44.9	38.4	20.2	43.7	37.9	20.6
	22.0	30	60.3	43.6	17.1	57.8	42.7	18.0	55.2	41.8	18.9	52.3	40.8	19.8	48.6	39.5	21.0	47.2	39.0	21.4
	24.0	32	64.1	44.4	17.7	61.5	43.5	18.5	58.7	42.6	19.5	55.6	41.6	20.4	51.6	40.3	21.6	50.1	39.9	22.0
230 (0.12)	16.0	23	50.3	43.3	15.9	48.4	42.5	16.6	46.2	41.5	17.4	43.8	40.6	18.3	40.8	39.3	19.3	---	---	---
	18.0	25	53.9	44.6	16.3	51.8	43.7	17.1	49.4	42.8	18.0	46.9	41.8	18.8	43.5	40.5	19.9	42.3	40.0	20.3
	19.5	27	56.5	45.4	16.7	54.3	44.6	17.5	51.9	43.6	18.4	49.2	42.6	19.3	45.7	41.3	20.4	44.4	40.9	20.8
	22.0	30	61.3	46.7	17.3	58.8	45.8	18.2	56.1	44.9	19.1	53.2	43.9	20.0	49.4	42.6	21.2	48.0	42.2	21.6
	24.0	32	65.2	47.6	17.8	62.6	46.8	18.7	59.7	45.9	19.6	56.5	44.9	20.6	52.5	43.6	21.8	51.0	43.1	22.2

[UAT30H]

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
250 (0.17)	16.0	23	79.0	57.1	27.6	76.5	55.9	28.9	73.5	54.5	30.2	70.5	53.1	31.7	66.7	51.3	33.4	---	---	---
	18.0	25	83.4	57.9	27.9	80.7	56.7	29.3	77.8	55.4	30.7	74.8	54.1	32.2	70.8	52.3	34.1	69.6	51.8	34.7
	19.5	27	86.9	58.5	28.1	84.1	57.2	29.5	81.1	56.0	31.0	77.9	54.6	32.6	74.0	53.0	34.5	72.7	52.5	35.2
	22.0	30	92.8	59.1	28.5	89.9	58.0	30.0	86.7	56.7	31.6	83.3	55.5	33.3	79.3	53.9	35.3	77.9	53.4	36.0
	24.0	32	97.1	59.3	28.8	94.5	58.4	30.4	91.3	57.3	32.0	87.9	56.0	33.8	83.6	54.5	35.9	82.2	54.1	36.6
295 (0.27)	16.0	23	81.3	58.9	27.9	78.7	57.7	29.2	75.7	56.2	30.6	72.6	54.8	32.0	68.7	53.0	33.8	---	---	---
	18.0	25	85.9	59.8	28.2	83.1	58.5	29.6	80.1	57.2	31.1	77.0	55.8	32.6	72.9	54.0	34.4	71.6	53.5	35.1
	19.5	27	89.5	60.3	28.5	86.6	59.1	29.9	83.5	57.8	31.4	80.2	56.4	33.0	76.2	54.8	34.9	74.8	54.2	35.6
	22.0	30	95.5	61.0	28.8	92.5	59.8	30.4	89.2	58.6	32.0	85.8	57.2	33.6	81.6	55.7	35.7	80.2	55.2	36.4
	24.0	32	100.0	61.3	29.1	97.3	60.3	30.7	94.0	59.1	32.4	90.5	57.9	34.2	86.1	56.3	36.3	84.6	55.8	37.0
340 (0.36)	16.0	23	83.3	60.0	28.2	80.6	58.7	29.5	77.6	57.2	30.9	74.4	55.7	32.3	70.4	53.8	34.1	---	---	---
	18.0	25	88.0	60.8	28.5	85.2	59.5	29.9	82.1	58.1	31.3	78.9	56.7	32.9	74.7	54.9	34.8	73.4	54.3	35.4
	19.5	27	91.7	61.4	28.7	88.7	60.1	30.2	85.6	58.7	31.7	82.2	57.3	33.3	78.1	55.6	35.3	76.6	55.0	35.9
	22.0	30	97.9	62.0	29.1	94.8	60.8	30.6	91.4	59.5	32.3	87.9	58.2	34.0	83.6	56.5	36.0	82.2	56.0	36.7
	24.0	32	102.5	62.3	29.4	99.7	61.3	31.0	96.3	60.0	32.7	92.7	58.8	34.5	88.2	57.2	36.7	86.7	56.7	37.4

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°C WB)
EDB : Entering dry bulb temp. (°C DB)
TC : Total cooling capacity (x1,000 kcal/h)
SHC : Sensible heat capacity (x1,000 kcal/h)
PI : Power input (kW)
(Comp. + Cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▒▒▒ shows nominal cooling capacities.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Operation limit:
   Maximum entering air temp. to condenser is 52°C (125°F).
5. Direct interpolation is permissible.
   Do not extrapolate.

[UAT05J] [60Hz]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
47 (0.23)	16.0	23	13.3	9.7	5.2	12.8	9.5	5.5	12.2	9.2	5.8	11.5	8.9	6.0	10.7	8.5	6.4	---	---	---
	18.0	25	14.2	9.9	5.3	13.7	9.7	5.6	13.0	9.4	5.9	12.3	9.1	6.2	11.3	8.7	6.6	11.0	8.6	6.7
	19.5	27	14.9	10.1	5.4	14.4	9.9	5.7	13.7	9.6	6.0	12.9	9.2	6.3	11.9	8.9	6.7	11.5	8.7	6.8
	22.0	30	16.1	10.3	5.6	15.4	10.0	5.9	14.8	9.8	6.2	14.0	9.5	6.6	12.9	9.1	7.0	12.5	8.9	7.1
	24.0	32	17.1	10.4	5.7	16.4	10.2	6.1	15.7	9.9	6.4	14.9	9.6	6.7	13.7	9.2	7.1	---	---	---
55 (0.26)	16.0	23	13.6	10.3	5.2	13.1	10.1	5.5	12.5	9.8	5.8	11.8	9.5	6.1	10.9	9.1	6.4	---	---	---
	18.0	25	14.5	10.5	5.4	14.0	10.3	5.7	13.3	10.0	6.0	12.6	9.7	6.3	11.6	9.3	6.6	11.3	9.2	6.7
	19.5	27	15.2	10.7	5.5	14.7	10.5	5.8	14.0	10.2	6.1	13.2	9.9	6.4	12.2	9.5	6.8	11.8	9.3	6.9
	22.0	30	16.5	10.9	5.6	15.8	10.7	6.0	15.1	10.4	6.3	14.3	10.1	6.6	13.2	9.7	7.0	12.8	9.6	7.2
	24.0	32	17.5	11.1	5.8	16.8	10.8	6.1	16.1	10.6	6.5	15.2	10.3	6.8	14.0	9.9	7.2	---	---	---
63 (0.29)	16.0	23	13.8	10.8	5.3	13.3	10.6	5.6	12.7	10.3	5.9	12.0	10.0	6.1	11.1	9.6	6.5	---	---	---
	18.0	25	14.7	11.1	5.4	14.2	10.8	5.7	13.5	10.5	6.0	12.8	10.2	6.3	11.8	9.8	6.7	11.5	9.7	6.8
	19.5	27	15.4	11.2	5.5	14.9	11.0	5.8	14.2	10.7	6.1	13.4	10.4	6.5	12.4	10.0	6.8	12.0	9.9	6.9
	22.0	30	16.8	11.5	5.7	16.1	11.3	6.0	15.3	11.0	6.3	14.5	10.7	6.7	13.4	10.3	7.1	13.0	10.2	7.2
	24.0	32	17.8	11.7	5.8	17.1	11.4	6.2	16.4	11.2	6.5	15.4	10.9	6.9	14.2	10.5	7.3	---	---	---

[UAT06J]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
54 (0.13)	16.0	23	14.7	11.4	6.1	14.2	11.2	6.4	13.5	10.9	6.7	12.8	10.6	7.0	11.8	10.1	7.4	---	---	---
	18.0	25	15.7	11.7	6.3	15.2	11.5	6.6	14.5	11.2	6.9	13.7	10.9	7.2	12.7	10.5	7.6	12.3	10.3	7.8
	19.5	27	16.5	11.9	6.4	15.8	11.6	6.7	15.2	11.4	7.0	14.4	11.0	7.4	13.3	10.6	7.8	12.9	10.5	7.9
	22.0	30	17.8	12.2	6.6	17.1	11.9	6.9	16.3	11.6	7.3	15.6	11.3	7.6	14.4	10.9	8.0	13.9	10.7	8.2
	24.0	32	19.0	12.4	6.8	18.2	12.1	7.1	17.4	11.8	7.4	16.4	11.5	7.8	15.3	11.1	8.2	---	---	---
63 (0.15)	16.0	23	15.0	12.2	6.2	14.5	12.0	6.5	13.8	11.7	6.8	13.1	11.4	7.1	12.1	10.9	7.5	---	---	---
	18.0	25	16.1	12.5	6.4	15.5	12.3	6.7	14.8	12.0	7.0	14.0	11.7	7.3	13.0	11.3	7.7	12.6	11.1	7.8
	19.5	27	16.9	12.8	6.5	16.2	12.5	6.8	15.5	12.2	7.1	14.7	11.9	7.4	13.6	11.5	7.9	13.2	11.3	8.0
	22.0	30	18.2	13.1	6.7	17.5	12.8	7.0	16.7	12.5	7.3	15.9	12.2	7.7	14.7	11.8	8.1	14.2	11.7	8.3
	24.0	32	19.4	13.3	6.8	18.6	13.0	7.1	17.8	12.8	7.5	16.8	12.4	7.9	15.6	12.1	8.3	---	---	---
72 (0.17)	16.0	23	15.2	12.9	6.2	14.7	12.7	6.5	14.0	12.4	6.8	13.3	12.1	7.1	12.3	11.7	7.6	---	---	---
	18.0	25	16.4	13.3	6.4	15.7	13.1	6.7	15.0	12.8	7.0	14.2	12.5	7.3	13.2	12.0	7.8	12.8	11.9	7.9
	19.5	27	17.2	13.6	6.5	16.5	13.3	6.8	15.7	13.0	7.1	14.9	12.7	7.5	13.8	12.3	7.9	13.4	12.1	8.1
	22.0	30	18.5	13.9	6.7	17.8	13.6	7.0	17.0	13.4	7.4	16.2	13.1	7.7	14.9	12.7	8.2	14.4	12.5	8.3
	24.0	32	19.7	14.2	6.9	18.9	13.9	7.2	18.1	13.6	7.5	17.1	13.3	7.9	15.9	12.9	8.4	---	---	---

[UAT09J]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
73 (0.23)	16.0	23	21.7	15.6	8.0	20.9	15.2	8.4	20.0	14.8	8.8	19.0	14.3	9.3	17.9	13.8	9.8	---	---	---
	18.0	25	23.2	16.0	8.2	22.4	15.6	8.6	21.4	15.1	9.1	20.4	14.7	9.6	19.1	14.1	10.2	18.7	13.9	10.4
	19.5	27	24.4	16.2	8.4	23.4	15.8	8.8	22.5	15.3	9.3	21.4	14.9	9.8	20.1	14.4	10.4	19.6	14.1	10.6
	22.0	30	26.5	16.5	8.6	25.4	16.1	9.1	24.3	15.7	9.6	23.2	15.2	10.2	21.9	14.7	10.9	21.4	14.5	11.1
	24.0	32	28.1	16.7	8.9	27.0	16.3	9.4	25.9	15.9	9.9	24.7	15.5	10.5	23.2	14.9	11.2	---	---	---
85 (0.26)	16.0	23	22.2	16.4	8.1	21.4	16.0	8.5	20.5	15.6	8.9	19.5	15.2	9.4	18.3	14.6	10.0	---	---	---
	18.0	25	23.8	16.8	8.3	22.9	16.4	8.7	21.9	16.0	9.2	20.9	15.6	9.7	19.6	15.0	10.3	19.2	14.8	10.5
	19.5	27	25.0	17.1	8.5	24.0	16.7	8.9	23.0	16.3	9.4	21.9	15.8	9.9	20.6	15.3	10.5	20.1	15.1	10.8
	22.0	30	27.1	17.5	8.7	26.0	17.0	9.2	24.9	16.6	9.7	23.8	16.2	10.3	22.4	15.7	11.0	21.9	15.5	11.2
	24.0	32	28.8	17.7	9.0	27.7	17.3	9.5	26.5	16.9	10.0	25.3	16.5	10.6	23.8	15.9	11.3	---	---	---
97 (0.29)	16.0	23	22.6	17.2	8.2	21.8	16.8	8.6	20.9	16.4	9.0	19.8	15.9	9.5	18.6	15.4	10.0	---	---	---
	18.0	25	24.2	17.7	8.4	23.3	17.3	8.8	22.3	16.8	9.3	21.3	16.4	9.8	19.9	15.8	10.4	19.5	15.7	10.6
	19.5	27	25.4	17.9	8.5	24.4	17.5	9.0	23.4	17.1	9.5	22.3	16.6	10.0	21.0	16.1	10.6	20.5	15.9	10.9
	22.0	30	27.6	18.3	8.8	26.5	17.9	9.3	25.3	17.5	9.8	24.2	17.1	10.4	22.8	16.6	11.1	22.3	16.4	11.3
	24.0	32	29.3	18.6	9.1	28.2	18.2	9.6	27.0	17.8	10.1	25.7	17.4	10.7	24.2	16.9	11.4	---	---	---

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°C WB)
EDB : Entering dry bulb temp. (°C DB)
TC : Total cooling capacity (x1,000 kcal/h)
SHC : Sensible heat capacity (x1,000 kcal/h)
PI : Power input (kW)
(Comp. + Cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacities.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Operation limit:
   Maximum entering air temp. to condenser is 49°C (120°F).
5. Direct interpolation is permissible. Do not extrapolate.

[UAT10J] [60Hz]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
77 (0.24)	16.0	23	23.8	16.8	10.1	22.9	16.4	10.5	22.0	16.0	11.0	21.0	15.4	11.6	19.7	14.8	12.2	---	---	---
	18.0	25	25.3	17.1	10.4	24.5	16.7	10.9	23.4	16.2	11.4	22.4	15.8	12.0	21.1	15.2	12.7	20.6	15.0	12.9
	19.5	27	26.5	17.3	10.7	25.6	16.9	11.2	24.6	16.5	11.7	23.5	16.0	12.3	22.0	15.4	13.0	21.5	15.2	13.3
	22.0	30	28.7	17.6	11.1	27.6	17.[illegible]	11.6	26.5	16.8	12.2	25.3	16.3	12.8	23.9	15.7	13.7	23.3	15.5	13.9
	24.0	32	30.4	17.8	11.4	29.3	17.4	12.0	28.2	17.0	12.6	26.9	16.5	13.3	25.3	16.0	14.1	---	---	---
90 (0.27)	16.0	23	24.4	17.7	10.2	23.5	17.3	10.7	22.6	16.9	11.2	21.5	16.3	11.7	20.2	15.7	12.4	---	---	---
	18.0	25	26.0	18.1	10.6	25.1	17.7	11.1	24.0	17.2	11.6	23.0	16.7	12.2	21.6	16.1	12.9	21.1	15.9	13.1
	19.5	27	27.2	18.3	10.8	26.3	17.9	11.3	25.2	17.4	11.9	24.1	17.0	12.5	22.6	16.4	13.2	22.1	16.2	13.5
	22.0	30	29.4	18.7	11.2	28.3	18.2	11.8	27.2	17.8	12.4	26.0	17.3	13.0	24.5	16.8	13.9	23.9	16.5	14.1
	24.0	32	31.2	18.9	11.6	30.1	18.5	12.2	28.9	18.0	12.8	27.6	17.6	13.5	26.0	17.0	14.4	---	---	---
103 (0.30)	16.0	23	24.9	18.5	10.4	23.9	18.1	10.8	23.0	17.7	11.3	21.9	17.2	11.9	20.6	16.6	12.6	---	---	---
	18.0	25	26.5	18.9	10.7	25.6	18.5	11.2	24.4	18.0	11.7	23.4	17.6	12.3	22.0	17.0	13.0	21.5	16.8	13.3
	19.5	27	27.7	19.2	10.9	26.8	18.8	11.5	25.7	18.3	12.0	24.5	17.9	12.6	23.0	17.2	13.4	22.5	17.1	13.7
	22.0	30	29.9	19.6	11.4	28.8	19.1	11.9	27.7	18.7	12.6	26.5	18.3	13.2	25.0	17.7	14.0	24.3	17.5	14.3
	24.0	32	31.8	19.8	11.7	30.7	19.4	12.3	29.4	19.0	13.0	28.1	18.5	13.7	26.5	18.0	14.5	---	---	---

[UAT12J]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
81 (0.08)	16.0	23	28.5	20.6	10.5	27.4	20.0	11.0	26.3	19.5	11.5	25.0	18.9	12.0	23.4	18.1	12.7	---	---	---
	18.0	25	30.3	20.9	10.8	29.1	20.4	11.3	28.0	19.8	11.9	26.6	19.2	12.5	24.8	18.5	13.2	24.3	18.2	13.4
	19.5	27	31.8	21.2	11.1	30.5	20.6	11.6	29.2	20.1	12.2	27.9	19.5	12.8	26.0	18.7	13.6	25.3	18.5	13.8
	22.0	30	34.2	21.5	11.5	32.8	21.0	12.1	31.5	20.5	12.7	30.0	19.9	13.4	28.1	19.2	14.2	27.4	18.9	14.5
	24.0	32	36.2	21.7	11.9	34.9	21.2	12.5	33.4	20.7	13.2	31.9	20.2	13.8	29.7	19.4	14.7	---	---	---
95 (0.11)	16.0	23	29.3	21.9	10.7	28.1	21.3	11.2	27.0	20.8	11.7	25.7	20.2	12.2	24.0	19.5	12.9	---	---	---
	18.0	25	31.1	22.3	11.0	29.9	21.8	11.5	28.7	21.3	12.1	27.3	20.7	12.7	25.5	19.9	13.4	24.9	19.6	13.7
	19.5	27	32.6	22.6	11.3	31.3	22.1	11.8	30.0	21.6	12.4	28.6	21.0	13.0	26.7	20.2	13.8	26.0	20.0	14.0
	22.0	30	35.1	23.0	11.7	33.7	22.5	12.3	32.3	22.0	12.9	30.8	21.4	13.6	28.8	20.7	14.4	28.1	20.4	14.7
	24.0	32	37.2	23.3	12.1	35.8	22.8	12.7	34.3	22.3	13.4	32.7	21.8	14.1	30.5	21.0	14.9	---	---	---
109 (0.13)	16.0	23	29.8	23.1	10.8	28.6	22.6	11.3	27.5	22.1	11.8	26.2	21.5	12.4	24.4	20.7	13.1	---	---	---
	18.0	25	31.7	23.6	11.1	30.5	23.1	11.7	29.2	22.6	12.2	27.8	22.0	12.8	26.0	21.2	13.6	25.4	21.0	13.8
	19.5	27	33.2	24.0	11.4	31.9	23.4	12.0	30.6	22.9	12.5	29.1	22.3	13.2	27.2	21.6	13.9	26.5	21.3	14.2
	22.0	30	35.8	24.5	11.9	34.3	23.9	12.5	32.9	23.4	13.1	31.4	22.9	13.7	29.3	22.1	14.6	28.6	21.9	14.9
	24.0	32	37.9	24.8	12.2	36.5	24.3	12.9	34.9	23.8	13.5	33.3	23.3	14.2	31.1	22.5	15.1	---	---	---

[UAT14JA]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI	48 TC	48 SHC	48 PI
96 (0.06)	16.0	23	31.4	23.4	13.2	30.1	22.8	13.8	28.9	22.2	14.5	27.6	21.6	15.2	26.1	20.9	16.1	---	---	---
	18.0	25	33.5	23.9	13.5	32.2	23.3	14.1	30.8	22.7	14.8	29.5	22.2	15.6	27.9	21.5	16.5	27.3	21.2	16.9
	19.5	27	35.1	24.2	13.7	33.7	23.7	14.4	32.4	23.1	15.1	31.0	22.5	15.9	29.3	21.8	16.9	28.8	21.7	17.2
	22.0	30	38.0	24.8	14.0	36.5	24.2	14.7	35.0	23.6	15.5	33.5	23.1	16.4	31.8	22.4	17.5	31.2	22.2	17.9
	24.0	32	40.3	25.1	14.3	38.8	24.5	15.1	37.2	24.0	15.9	35.7	23.4	16.8	33.8	22.8	18.0	---	---	---
113 (0.08)	16.0	23	32.4	25.2	13.4	31.1	24.6	14.0	29.8	24.0	14.7	28.5	23.4	15.4	26.9	22.7	16.3	---	---	---
	18.0	25	34.6	25.8	13.7	33.2	25.2	14.3	31.8	24.6	15.0	30.4	24.0	15.8	28.8	23.4	16.8	28.2	23.1	17.1
	19.5	27	36.2	26.2	13.9	34.8	25.6	14.6	33.4	25.1	15.3	32.0	24.5	16.1	30.2	23.8	17.1	29.7	23.6	17.5
	22.0	30	39.2	26.8	14.2	37.7	26.3	15.0	36.1	25.7	15.8	34.6	25.1	16.6	32.8	24.5	17.7	32.2	24.3	18.1
	24.0	32	41.6	27.2	14.5	40.0	26.6	15.3	38.4	26.1	16.1	36.8	25.6	17.0	34.9	24.9	18.2	---	---	---
130 (0.10)	16.0	23	33.1	26.9	13.5	31.8	26.3	14.2	30.5	25.7	14.8	29.1	25.1	15.6	27.5	24.4	16.5	---	---	---
	18.0	25	35.4	27.6	13.8	33.9	27.0	14.5	32.5	26.4	15.2	31.1	25.8	16.0	29.4	25.1	17.0	28.8	24.9	17.3
	19.5	27	37.0	28.0	14.0	35.6	27.4	14.7	34.2	26.9	15.5	32.7	26.3	16.3	30.9	25.6	17.3	30.4	25.4	17.7
	22.0	30	40.1	28.7	14.4	38.5	28.2	15.1	36.9	27.6	15.9	35.4	27.0	16.8	33.5	26.4	17.9	32.9	26.2	18.3
	24.0	32	42.5	29.2	14.7	40.9	28.6	15.4	39.3	28.1	16.3	37.6	27.6	17.2	35.7	26.9	18.4	---	---	---

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°C WB)
EDB : Entering dry bulb temp. (°C DB)
TC : Total cooling capacity (x1,000 kcal/h)
SHC : Sensible heat capacity (x1,000 kcal/h)
PI : Power input (kW)
(Comp. + Cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. [shaded] shows nominal cooling capacities.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Operation limit:
   Maximum entering air temp. to condenser is 49°C (120°F).
5. Direct interpolation is permissible.
   Do not extrapolate.

[UAT16JA] [60Hz]

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
120 (0.08)	16.0	23	40.6	29.7	15.0	39.0	28.9	15.7	37.2	28.1	16.5	35.5	27.2	17.2	33.2	26.2	18.3	---	---	---
	18.0	25	43.3	30.3	15.4	41.6	29.5	16.2	39.8	28.7	16.9	37.9	27.9	17.8	35.5	26.8	18.9	34.6	26.5	19.2
	19.5	27	45.5	30.7	15.7	43.7	30.0	16.5	41.8	29.2	17.3	39.7	28.3	18.2	37.2	27.3	19.3	36.4	26.9	19.7
	22.0	30	49.2	31.4	16.2	47.3	30.6	17.1	45.3	29.8	17.9	43.1	29.0	18.9	40.3	28.0	20.1	39.5	27.6	20.5
	24.0	32	52.3	31.8	16.6	50.3	31.0	17.5	48.2	30.3	18.5	45.9	29.5	19.4	43.0	28.5	20.7	---	---	---
142 (0.10)	16.0	23	41.9	31.9	15.3	40.2	31.1	16.0	38.4	30.2	16.7	36.6	29.4	17.5	34.2	28.4	18.6	---	---	---
	18.0	25	44.7	32.6	15.7	42.9	31.8	16.4	41.1	31.0	17.2	39.1	30.2	18.1	36.6	29.1	19.2	35.7	28.8	19.6
	19.5	27	46.9	33.1	16.0	45.1	32.3	16.8	43.1	31.5	17.6	41.0	30.7	18.5	38.4	29.7	19.6	37.5	29.3	20.0
	22.0	30	50.8	33.8	16.5	48.8	33.1	17.3	46.7	32.3	18.2	44.5	31.5	19.2	41.6	30.4	20.4	40.7	30.1	20.9
	24.0	32	54.0	34.3	16.9	51.9	33.6	17.8	49.7	32.9	18.8	47.3	32.0	19.8	44.4	31.0	21.1	---	---	---
163 (0.13)	16.0	23	42.8	33.8	15.4	41.0	33.0	16.2	39.2	32.2	16.9	37.4	31.4	17.7	34.9	30.3	18.8	---	---	---
	18.0	25	45.6	34.6	15.8	43.8	33.8	16.6	42.0	33.0	17.4	39.9	32.2	18.3	37.4	31.2	19.4	36.5	30.8	19.8
	19.5	27	47.9	35.1	16.1	46.0	34.4	16.9	44.0	33.6	17.8	41.9	32.8	18.7	39.2	31.7	19.9	38.3	31.4	20.3
	22.0	30	51.9	36.0	16.7	49.8	35.2	17.5	47.7	34.5	18.4	45.4	33.7	19.4	42.5	32.6	20.7	41.6	32.3	21.1
	24.0	32	55.1	36.6	17.1	53.0	35.9	18.0	50.7	35.1	19.0	48.3	34.3	20.0	45.3	33.3	21.3	---	---	---

[UAT19JA]

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
144 (0.06)	16.0	23	44.0	33.6	16.2	42.1	32.8	16.9	40.2	31.9	17.7	38.1	31.0	18.5	35.6	29.9	19.5	---	---	---
	18.0	25	47.0	34.4	16.5	45.0	33.6	17.3	43.0	32.7	18.1	40.9	31.8	19.0	38.1	30.7	20.0	37.2	30.3	20.4
	19.5	27	49.3	35.0	16.8	47.3	34.1	17.6	45.1	33.3	18.4	42.9	32.4	19.3	40.1	31.3	20.5	39.1	30.9	20.9
	22.0	30	53.4	35.8	17.2	51.2	34.9	18.1	48.9	34.1	19.0	46.5	33.2	20.0	43.5	32.1	21.2	42.4	31.8	21.6
	24.0	32	56.8	36.3	17.6	54.5	35.5	18.5	52.0	34.7	19.4	49.5	33.8	20.5	46.3	32.8	21.8	---	---	---
170 (0.08)	16.0	23	45.3	36.3	16.4	43.4	35.5	17.2	41.4	34.6	17.9	39.3	33.7	18.8	36.7	32.6	19.8	---	---	---
	18.0	25	48.4	37.3	16.8	46.4	36.4	17.5	44.3	35.6	18.4	42.1	34.7	19.2	39.3	33.5	20.3	38.3	33.1	20.7
	19.5	27	50.8	37.9	17.0	48.7	37.1	17.8	46.5	36.2	18.7	44.2	35.3	19.6	41.3	34.2	20.8	40.3	33.8	21.2
	22.0	30	55.0	38.9	17.5	52.7	38.0	18.3	50.4	37.2	19.3	47.9	36.3	20.2	44.8	35.2	21.5	43.7	34.9	21.9
	24.0	32	58.5	39.5	17.8	56.1	38.7	18.7	53.6	37.9	19.7	51.0	37.0	20.8	47.7	36.0	22.1	---	---	---
196 (0.10)	16.0	23	46.3	38.9	16.6	44.3	38.0	17.3	42.3	37.2	18.1	40.1	36.2	18.9	37.5	35.1	20.0	---	---	---
	18.0	25	49.4	40.0	16.9	47.4	39.1	17.7	45.3	38.3	18.6	43.0	37.4	19.4	40.1	36.2	20.5	39.1	35.8	20.9
	19.5	27	51.9	40.7	17.2	49.8	39.8	18.0	47.5	39.0	18.9	45.2	38.1	19.8	42.2	37.0	21.0	41.2	36.6	21.4
	22.0	30	56.2	41.8	17.6	53.8	40.9	18.5	51.5	40.1	19.5	48.9	39.3	20.4	45.8	38.1	21.7	44.6	37.8	22.1
	24.0	32	59.8	42.6	18.0	57.3	41.8	18.9	54.8	40.9	19.9	52.1	40.1	21.0	48.7	39.0	22.3	---	---	---

[UAT22JA]

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
170 (0.07)	16.0	23	53.7	40.3	19.6	51.6	39.3	20.4	49.4	38.3	21.3	47.1	37.3	22.2	44.0	35.9	23.3	---	---	---
	18.0	25	57.1	41.1	20.2	55.0	40.2	21.0	52.6	39.2	21.9	50.1	38.1	22.9	47.0	36.8	24.1	45.8	36.3	24.5
	19.5	27	59.7	41.7	20.6	57.5	40.7	21.5	55.1	39.7	22.4	52.5	38.7	23.4	49.2	37.4	24.7	48.0	36.9	25.2
	22.0	30	64.4	42.5	21.3	61.9	41.5	22.3	59.3	40.6	23.3	56.6	39.6	24.4	53.1	38.3	25.7	51.8	37.9	26.2
	24.0	32	68.2	43.0	21.9	65.7	42.1	22.9	62.9	41.2	24.0	60.0	40.2	25.1	56.3	38.9	26.6	---	---	---
200 (0.09)	16.0	23	55.1	43.2	19.9	53.0	42.3	20.8	50.7	41.3	21.6	48.3	40.2	22.5	45.2	38.8	23.7	---	---	---
	18.0	25	58.6	44.2	20.5	56.4	43.3	21.4	54.0	42.3	22.3	51.4	41.2	23.3	48.2	39.9	24.5	47.0	39.4	24.9
	19.5	27	61.3	44.9	20.9	59.0	43.9	21.8	56.5	42.9	22.8	53.9	41.9	23.8	50.5	40.6	25.1	49.3	40.1	25.6
	22.0	30	66.1	45.8	21.7	63.5	44.9	22.6	60.9	44.0	23.7	58.1	42.9	24.8	54.5	41.7	26.1	53.2	41.2	26.6
	24.0	32	70.0	46.5	22.3	67.4	45.6	23.3	64.6	44.7	24.4	61.6	43.7	25.5	57.8	42.4	27.0	---	---	---
230 (0.12)	16.0	23	56.1	46.0	20.2	54.0	45.0	21.0	51.6	44.0	21.9	49.2	42.9	22.8	46.0	41.6	24.0	---	---	---
	18.0	25	59.7	47.1	20.7	57.4	46.1	21.6	55.0	45.2	22.5	52.4	44.1	23.5	49.1	42.8	24.8	47.9	42.3	25.2
	19.5	27	62.4	47.8	21.1	60.1	46.9	22.1	57.5	45.9	23.1	54.9	44.9	24.1	51.4	43.6	25.4	50.2	43.1	25.8
	22.0	30	67.3	49.0	21.9	64.7	48.0	22.9	62.0	47.1	23.9	59.2	46.1	25.0	55.5	44.8	26.4	54.2	44.4	26.9
	24.0	32	71.3	49.7	22.5	68.6	48.9	23.5	65.8	47.9	24.6	62.7	47.0	25.8	58.9	45.7	27.3	---	---	---

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°C WB)
EDB : Entering dry bulb temp. (°C DB)
TC : Total cooling capacity (x1,000 kcal/h)
SHC : Sensible heat capacity (x1,000 kcal/h)
PI : Power input (kW)
(Comp. + Cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacities.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Operation limit:
   Maximum entering air temp. to condenser is 49°C (120°F).
5. Direct interpolation is permissible.
   Do not extrapolate.

[UAT30H] **[60Hz]**

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
250 (0.16)	16.0	23	87.5	61.4	35.5	84.7	60.0	36.8	81.6	58.5	38.3	78.3	56.9	39.9	74.0	54.8	41.8	---	---	---
	18.0	25	92.5	62.2	35.8	89.6	60.8	37.2	86.4	59.3	38.8	83.0	57.8	40.5	78.6	55.8	42.5	77.1	55.2	43.1
	19.5	27	96.3	62.7	36.0	93.3	61.3	37.5	89.9	59.9	39.2	86.5	58.4	40.9	82.1	56.5	43.0	80.6	55.9	43.7
	22.0	30	103.0	63.3	36.4	100.0	62.1	38.0	96.2	60.5	39.7	92.5	59.1	41.6	88.0	57.3	43.8	86.5	56.7	44.5
	24.0	32	107.8	63.4	36.7	104.9	62.3	38.4	101.0	60.9	40.2	97.1	59.4	42.1	92.9	57.9	44.4	---	---	---
295 (0.26)	16.0	23	90.1	63.4	35.8	87.2	61.9	37.2	84.0	60.4	38.7	80.6	58.7	40.3	76.2	56.6	42.2	---	---	---
	18.0	25	95.2	64.2	36.2	92.2	62.8	37.7	88.9	61.3	39.2	85.4	59.7	40.9	80.9	57.6	42.9	79.4	57.0	43.6
	19.5	27	99.1	64.7	36.4	96.0	63.3	38.0	92.6	61.9	39.6	89.0	60.2	41.3	84.5	58.3	43.4	83.0	57.7	44.1
	22.0	30	106.0	65.4	36.8	103.0	64.2	38.4	99.0	62.6	40.2	95.2	61.0	42.0	90.6	59.2	44.2	89.0	58.6	45.0
	24.0	32	111.0	65.5	37.1	108.0	64.3	38.8	104.0	62.9	40.6	100.0	61.4	42.5	95.6	59.8	44.9	---	---	---
340 (0.36)	16.0	23	92.3	64.6	36.2	89.4	63.1	37.6	86.1	61.5	39.1	82.6	59.8	40.7	78.1	57.6	42.6	---	---	---
	18.0	25	97.6	65.4	36.5	94.5	64.0	38.0	91.1	62.4	39.6	87.5	60.7	41.3	82.9	58.6	43.3	81.4	58.0	44.0
	19.5	27	101.6	65.9	36.8	98.4	64.5	38.3	94.9	62.9	40.0	91.2	61.3	41.7	86.6	59.3	43.8	85.1	58.7	44.5
	22.0	30	108.6	66.6	37.2	105.6	65.3	38.8	101.5	63.6	40.6	97.6	62.1	42.4	92.9	60.2	44.7	91.2	59.6	45.4
	24.0	32	113.8	66.6	37.5	110.7	65.5	39.2	106.6	63.9	41.0	102.5	62.4	42.9	98.0	60.8	45.3	---	---	---

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°C WB)
EDB : Entering dry bulb temp. (°C DB)
TC : Total cooling capacity (x1,000 kcal/h)
SHC : Sensible heat capacity (x1,000 kcal/h)
PI : Power input (kW)
(Comp. + Cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▨ shows nominal cooling capacities.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Operation limit:
   Maximum entering air temp. to condenser is 49° C (120° F).
5. Direct interpolation is permissible.
   Do not extrapolate.

8. Fan performance

(1) Performance data

Model	Air flow rate m^3/min.	ESP	0	5	10	15	20	25	30	35	40	45	50	PD 1 stage	PD 2 stages
UAT05J	47	r.p.m.	790	930	1060	1180	1300	1410	1520	–	–	–	–	1	2
		kW	0.20	0.26	0.34	0.42	0.52	0.61	0.71						
	55	r.p.m.	920	1040	1160	1260	1370	1480	1580	–	–	–	–	1	2
		kW	0.32	0.39	0.48	0.56	0.67	0.78	0.89						
	63	r.p.m.	1090	1190	1290	1390	1470	1570	–	–	–	–	–	2	3
		kW	0.62	0.61	0.71	0.81	0.91	1.02							
UAT06J	54	r.p.m.	940	1060	1170	1280	1390	1500	1590	–	–	–	–	1	2
		kW	0.32	0.40	0.48	0.57	0.67	0.78	0.89						
	63	r.p.m.	1060	1200	1300	1390	1480	1580	–	–	–	–	–	1	2
		kW	0.50	0.59	0.69	0.79	0.89	1.01							
	72	r.p.m.	1250	1340	1430	1520	–	–	–	–	–	–	–	2	3
		kW	0.75	0.86	0.96	1.07									
UAT09J	73	r.p.m.	730	830	930	1010	1090	1170	1250	1330	1400	1480	1550	1	2
		kW	0.36	0.47	0.58	0.70	0.82	0.95	1.09	1.25	1.42	1.60	1.80		
	85	r.p.m.	850	940	1020	1100	1170	1240	1310	1380	1450	1510	1580	1	2
		kW	0.57	0.69	0.82	0.95	1.09	1.23	1.38	1.54	1.71	1.88	2.07		
	97	r.p.m.	970	1050	1120	1200	1260	1330	1390	1450	1510	–	–	2	3
		kW	0.85	0.99	1.13	1.28	1.43	1.58	1.74	1.91	2.08				
UAT10J	77	r.p.m.	780	870	960	1050	1120	1200	1270	1350	1420	1490	1560	1	2
		kW	0.43	0.54	0.66	0.78	0.91	1.05	1.19	1.35	1.52	1.70	1.89		
	90	r.p.m.	910	990	1070	1150	1210	1280	1350	1410	1480	1540	–	1	2
		kW	0.69	0.82	0.96	1.09	1.23	1.38	1.54	1.70	1.87	2.05			
	103	r.p.m.	1040	1110	1180	1250	1320	1380	1440	1490	–	–	–	2	3
		kW	1.03	1.18	1.33	1.49	1.65	1.81	1.98	2.15					
UAT12J	81	r.p.m.	950	1030	1110	1180	1250	1320	1390	1460	1530	1600	–	1	2
		kW	0.67	0.79	0.92	1.06	1.20	1.35	1.51	1.68	1.87	2.06			
	95	r.p.m.	1110	1180	1250	1310	1380	1440	1500	–	–	–	–	1	2
		kW	1.08	1.23	1.38	1.52	1.68	1.85	2.02						
	109	r.p.m.	1270	1340	1400	–	–	–	–	–	–	–	–	2	3
		kW	1.63	1.80	1.97										
UAT14J(A)	96	r.p.m.	610	720	820	910	1000	1070	1140	1200	1260	1320	–	1	2
		kW	0.42	0.58	0.76	0.95	1.14	1.34	1.55	1.75	1.97	2.20			
	113	r.p.m.	710	810	900	990	1060	1140	1200	1260	–	–	–	1	2
		kW	0.69	0.87	1.07	1.29	1.51	1.74	1.97	2.20					
	130	r.p.m.	820	910	990	1060	1140	–	–	–	–	–	–	2	3
		kW	1.05	1.26	1.48	1.72	1.97								
UAT16J(A)	120	r.p.m.	730	820	910	990	1070	1150	1210	1270	1330	1390	–	1	2
		kW	0.78	0.96	1.17	1.39	1.62	1.86	2.10	2.34	2.59	2.84			
	142	r.p.m.	870	940	1020	1090	1160	1230	1290	1350	1410	1460	–	2	3
		kW	1.29	1.51	1.74	1.99	2.25	2.52	2.80	3.08	3.36	3.65			
	163	r.p.m.	990	1060	1330	1190	1260	1320	1380	–	–	–	–	2	3
		kW	1.95	2.20	2.46	2.73	3.01	3.31	3.62						
UAT19J(A)	144	r.p.m.	740	820	900	980	1050	1120	1190	1260	1320	1380	–	1	2
		kW	1.01	1.20	1.41	1.63	1.87	2.12	2.39	2.66	2.95	3.23			
	170	r.p.m.	870	940	1010	1080	1140	1200	1260	1330	1380	–	–	1	2
		kW	1.66	1.88	2.12	2.36	2.63	2.90	3.19	3.50	3.81				
	196	r.p.m.	1010	1070	1130	1180	1240	1300	1350	–	–	–	–	2	3
		kW	2.54	2.80	3.07	3.34	3.63	3.93	4.24						
UAT22J(A)	170	r.p.m.	830	900	970	1040	1100	1170	1230	1290	1350	–	–	1	2
		kW	1.53	1.75	1.98	2.22	2.47	2.74	3.02	3.31	3.62				
	200	r.p.m.	970	1040	1100	1150	1210	1270	1320	1380	–	–	–	2	3
		kW	2.49	2.74	3.01	3.28	3.57	3.86	4.16	4.48					
	230	r.p.m.	1120	1170	1230	1280	1330	1380	–	–	–	–	–	2	3
		kW	3.79	4.08	4.38	4.68	5.00	5.33							
UAT30H	250	r.p.m.	670	730	780	840	890	940	990	1040	1080	1130	1170	–	–
		kW	2.33	2.86	3.01	3.38	3.76	4.15	4.57	5.01	5.46	5.91	6.35		
	265	r.p.m.	710	760	820	870	920	970	1010	1060	1110	1150	1190	–	–
		kW	2.77	3.12	3.49	3.87	4.27	4.68	5.11	5.56	6.03	6.51	6.98		
	280	r.p.m.	760	800	850	900	950	990	1040	1080	1130	1170	–	–	–
		kW	3.27	3.64	4.03	4.42	4.84	5.26	5.71	6.17	6.65	7.14			
	295	r.p.m.	790	840	890	930	980	1020	1070	1110	1150	–	–	–	–
		kW	3.82	4.21	4.62	5.04	5.46	5.91	6.36	6.85	7.33				
	310	r.p.m.	830	880	920	970	1010	1050	1090	–	–	–	–	–	–
		kW	4.44	4.84	5.27	5.70	6.15	6.62	7.08						
	325	r.p.m.	870	910	960	1000	1040	1080	–	–	–	–	–	–	–
		kW	5.11	5.54	5.98	6.44	6.90	7.38							
	340	r.p.m.	910	950	990	1030	–	–	–	–	–	–	–	–	–
		kW	5.85	6.30	6.76	7.23									

Symbols:

r.p.m.	:	Fan speed	(r.p.m.)
kW	:	Required motor output	(kW)
ESP	:	External static pressure	(mmH_2O)
PD	:	Pressure drop through optional built-in electric heater	(mmH_2O)

Note:

▒▒ shows the operating range of the standard fan motor.
In case the fan motor is used out of the range, change motor size.

(2) Specifications (factory set)

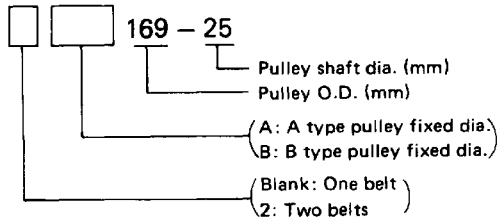
Model		UAT05J	UAT06J	UAT09J	UAT10J	UAT12J
Pulley: Fan side	Y1, YH, TH	A169-25(fixed dia.)	A169-25(fixed dia.)	A169-25(fixed dia.)	A169-25(fixed dia.)	A169-25(fixed dia.)
Pulley: Motor side	TH	AL109-100-19(variable dia.)	AL124-115-19(variable dia.)	AL109-95-24(variable dia.)	AL109-100-24(variable dia.)	AL124-115-24(variable dia.)
	Y1, YH	AL134-125-19(variable dia.)	AL149-140-19(variable dia.)	AL124-110-24(variable dia.)	AL124-115-24(variable dia.)	AL149-140-24(variable dia.)
V belt: size x No.	TH	A39 x 1	A41 x 1	A42 x 1	A43 x 1	A44 x 1
	Y1, YH	A40 x 1	A42 x 1	A43 x 1	A44 x 1	A46 x 1

Model		UAT14J(A)	UAT16J(A)	UAT19J(A)	UAT22J(A)
Pulley: Fan side	Y1, YH, TH	B235-35(fixed dia.)	B235-35(fixed dia.)	2B235-35(fixed dia.)	2B235-35(fixed dia.)
Pulley: Motor side	Y1, YH	B161-24	B171-28	2B171-28	2B191-28
	TH	B136-24	B151-28	2B143-28	2B161-29
V belt: size x No.	Y1, YH	B-46 x 1	B-44 x 1	B-44 x 2	B-46 x 2
	TH	B-44 x 1	B-42 x 1	B-41 x 2	B-43 x 2

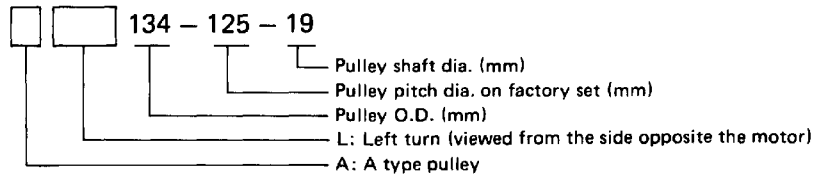
Model		UAT30H
Pulley: Fan side	Y1	2B247-35(fixed dia.)
	T0	2B291-35(fixed dia.)
Pulley: Motor side	Y1	2B171-38(fixed dia.)
	T0	
V belt: size x No.	Y1	B64 x 2
	T0	B66 x 2

(3) Nomenclature

- **Fixed pitch pulley**



- **Variable pitch pulley**



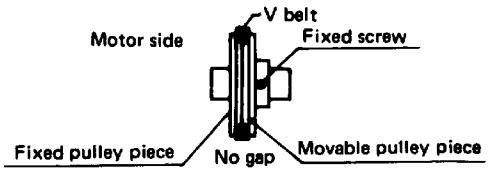
(4) Adjusting range of fan motor pulley

Model	No. of turns	Gap (mm)	Pitch dia. (mm)		Fan speed 50/60Hz (r.p.m.)	
			TO, TH	YH, Y1	TO, TH	YH, Y1***
UAT05J	0	0	100**	125**	885/1060	1110/1330
	1	1.5	95	120	840/1005	1065/1275
	2	3.0	90	115	795/955	1020/1220
	3	4.5	85	110	(750)*/900	975/1170
	4	6.0	80	105	(710)*/850	930/1115
	5	7.5	75	100	(665)*/795	885/1060
UAT06J	0	0	115**	140**	1020/1220	1245/1490
	1	1.5	110	135	975/1170	1200/1435
	2	3.0	105	130	(930)*/1115	1155/1380
	3	4.5	100	125	(885)*/1060	1110/1330
	4	6.0	95	120	(840)*/1005	1065/1275
	5	7.5	90	115	(795)*/955	1020/1220
UAT09J	0	0	100	115	885/1060	1020/1220
	1	1.5	95**	110**	840/1005	975/1170
	2	3.0	90	105	795/955	930/1115
	3	4.5	85	100	750/900	885/1060
	4	6.0	80	95	(710)*/850	840/1005
	5	7.5	75	90	(665)*/795	795/955
UAT10J	0	0	100**	115**	885/1060	1020/1220
	1	1.5	95	110	840/1005	975/1170
	2	3.0	90	105	795/955	930/1115
	3	4.5	85	100	(750)*/900	885/1060
	4	6.0	80	95	(710)*/850	840/1005
	5	7.5	75	90	(665)*/795	795/955
UAT12J	0	0	115**	140**	1020/1220	1245/1490
	1	1.5	110	135	975/1170	1200/1435
	2	3.0	105	130	(930)*/1115	1155/1280
	3	4.5	100	125	(885)*/1060	1110/1330
	4	6.0	95	120	(840)*/1005	1065/1275
	5	7.5	90	115	(795)*/955	1020/1220
UAT14J	–	–	–	150**	–	950/–
UAT16J	–	–	–	160**	–	1015/–
UAT19J	–	–	–	160**	–	1015/–
UAT22J	–	–	–	180**	–	1140/–
UAT14JA	–	–	125**	150**	790/950	950/1140
UAT16JA	–	–	140**	160**	890/1060	1015/1210
UAT19JA	–	–	132**	160**	840/1000	1015/1210
UAT22JA	–	–	150**	180**	950/1140	1140/1370
UAT30H	–	–	160**	160**	810/980	960/–

* denotes range of fan motor pulley out of the operation range (Refer to (1) Performance data)
** Factory set
*** For Y1 model, fan speed is denoted on the left side of the column.

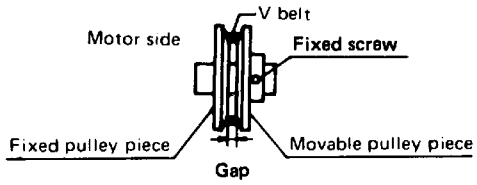
Pulley adjusting method

[Max. dia.]



Turn the movable pulley piece counterclockwise viewed from the side opposite the motor by the number of turns tabulated.

[Min. dia.]



(Refer to Gap in the table on the left.)

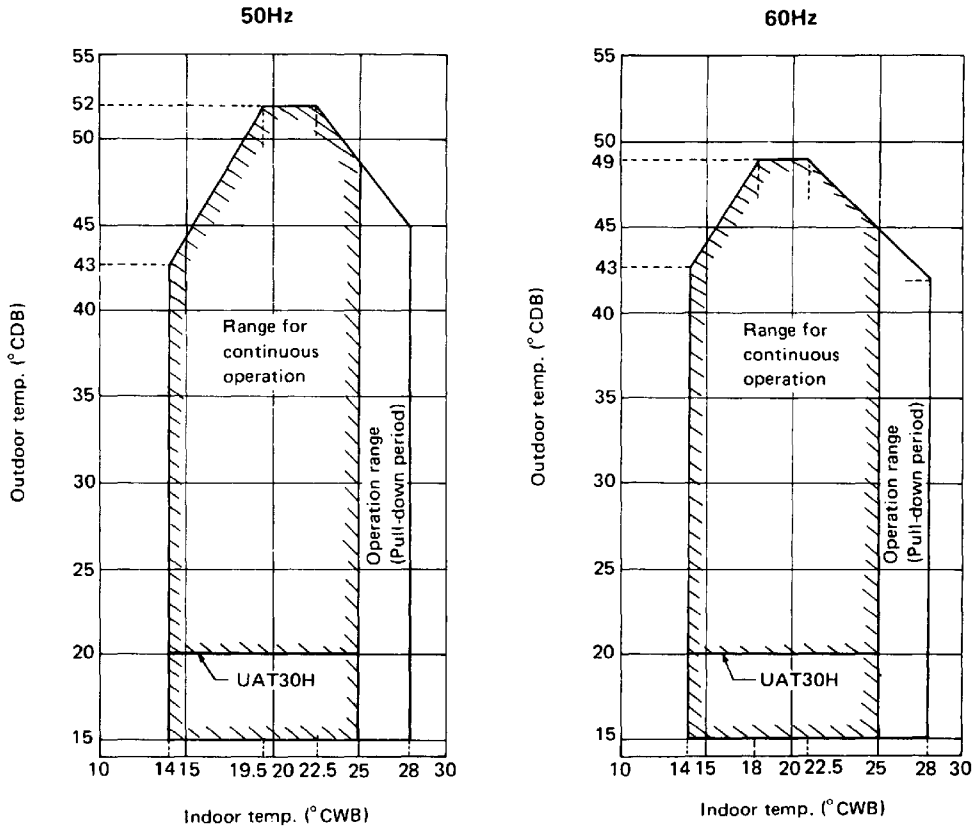
How to adjust the variable pitch pulley

- After stopping, loosen the belt, remove the screw from the movable pulley piece and turn the movable piece in the direction shown the required number of turns (tabulated in the Table).
- Insert the screw into one of two holes, from which it can contact with the flat face of the fixed-pulley piece when it is tightened up.
- Retighten the screw.
- Align the pulleys of the fan and the motor and adjust the tension of V belts.

(5) Operating range

Model	UAT05J	UAT06J	UAT09J	UAT10J	UAT12J	UAT14J(A)	UAT16J(A)	UAT19J(A)	UAT22J(A)	UAT30H
Air flow rate (m^3/min.)	47~63	54~72	73~97	77~103	81~109	96~130	120~163	144~196	170~230	250~340
Max. fan speed (r.p.m.)	1600	1600	1600	1600	1600	1300	1400	1400	1400	1400
Max. replaceable motor (kW)	1.5	1.5	2.2	2.2	2.2	2.2	3.7	5.5	5.5	7.5

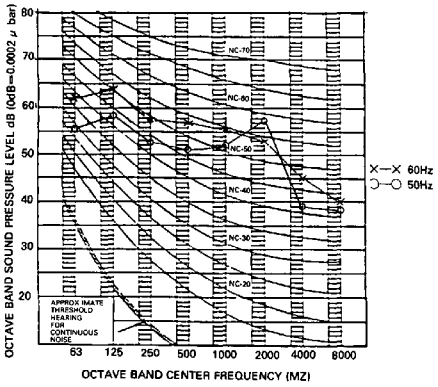
9. Operation limit



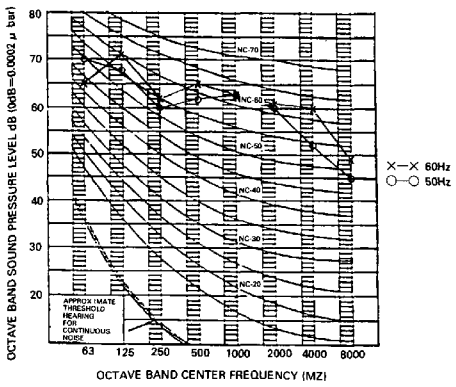
Note: The graphs are made based on standard air flow rate.

10. Operation noise

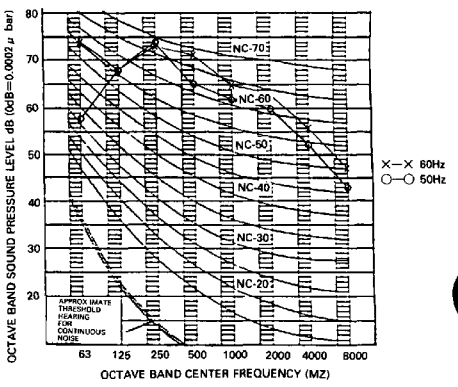
UAT05J



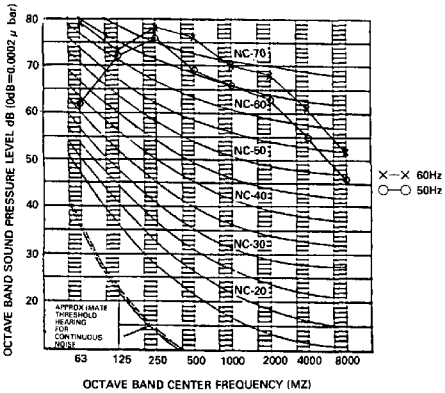
UAT06J



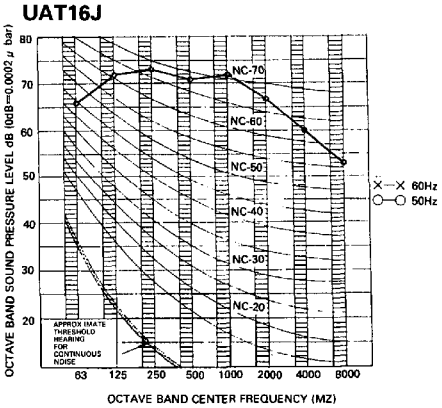
UAT09J



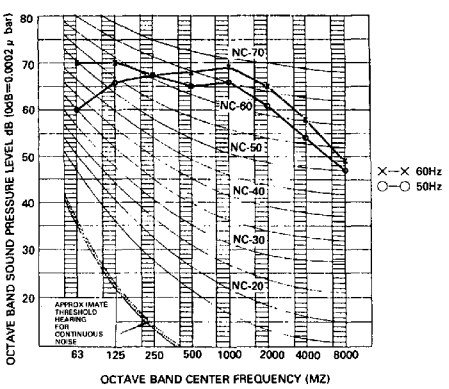
UAT10J
UAT12J



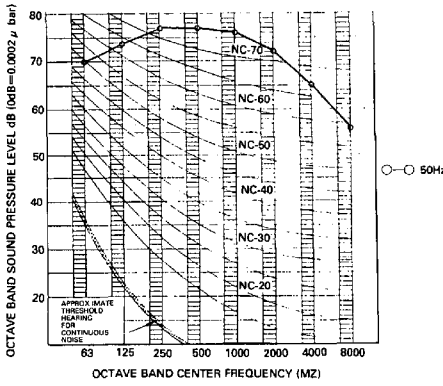
UAT14J
UAT16J



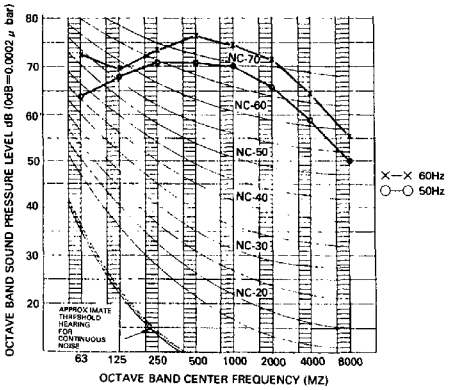
UAT14JA
UAT16JA



UAT19J
UAT22J



UAT19JA
UAT22JA



11. Electric characteristics

Unit			Starting method	Cooling									Heating by optional heater					
				*1 Power supply			Comp.(each)		CFM (each)		EFM		*2 Power supply		EH			
															1 stage		2 stage	
Model	Type	Volts–Ph–Hz		MCA	TOCA	MFA	LRA	RLA	kW	FLA	kW	FLA	MCA	MFA	kW	FLA	kW	FLA
UAT05J	Y1	380–3–50	Direct	12.6	14.8	20	52	7.8	0.19	1.0	0.75	1.8	19.8	25	5	6.4	5+5	12.8
		400–3–50					54	7.6								6.7		13.4
		415–3–50					56	7.4								7.0		14.0
	YH	346–3–50		14.9	16.3		52	8.6				2.3	19.6			5.8		11.6
		380–3–50					57	8.0								6.4		12.8
		380–3–60					52	9.3								6.4		12.8
		400–3–60					54	8.9								6.7		13.4
	TH	220–3–50		25.5	25.6	40	96	13.7		1.8		3.6	34.5	40		10.1		20.2
		220–3–60					87	16.1								10.1		20.2
		230–3–60					92	15.4								11.1		22.2
		240–3–60					93	14.8								12.0		24.0
UAT06J	Y1	380–3–50		14.5	16.6	20	74	9.3	0.4	1.1		1.8	19.8	25		6.4		12.8
		400–3–50					78	9.0								6.7		13.4
		415–3–50					81	9.1								7.0		14.0
	YH	346–3–50		18.1	20.1	25	75	10.0	0.65	1.8		2.3	19.6			5.8		11.6
		380–3–50					82	9.4								6.4		12.8
		380–3–60					73	11.2								6.4		12.8
		400–3–60					77	10.6								6.7		13.4
	TH	220–3–50		29.7	31.2	45	141	16.4		3.6		3.6	34.5	45		10.1		20.2
		220–3–60					125	18.0								10.1		20.2
		230–3–60					130	17.4								11.1		22.2
		240–3–60					136	16.8								12.0		24.0
UAT09J	Y1	380–3–50		20.4	21.9	30	93	11.7	0.9	2.4	1.5	3.2	35.3	40	9	11.5	9+9	23.0
		400–3–50					98	11.6								12.1		24.2
		415–3–50					102	11.8								12.5		25.0
	YH	346–3–50		23.9	29.2	35	88	13.0	1.0	2.8		3.6	34.8			10.4		20.8
		380–3–50					97	12.3								11.5		23.0
		380–3–60					83	14.0								11.5		23.0
		400–3–60					87	13.4								12.1		24.2
	TH	220–3–50		41.8	47.0	60	176	21.1		4.3		6.0	61.8	70		18.2		36.4
		220–3–60					152	25.2								18.2		36.4
		230–3–60					159	24.2								19.9		39.8
		240–3–60					166	23.3								21.7		43.4
UAT10J	Y1	380–3–50		23.9	25.9	35	121	14.6	0.9	2.4		3.2	35.3	40		11.5		23.0
		400–3–50					127	14.3								12.1		24.2
		415–3–50					132	14.2								12.5		25.0
	YH	346–3–50		29.1	31.2	45	121	16.2	1.7	3.6		3.6	34.8	45		10.4		20.8
		380–3–50					133	15.4								11.5		23.0
		380–3–60					115	17.5								11.5		23.0
		400–3–60					121	16.8								12.1		24.2
	TH	220–3–50		51.3	59.0	80	224	26.6		7.0		6.0	61.8	80		18.2		36.4
		220–3–60					195	30.6								18.2		36.4
		230–3–60					204	29.5								19.9		39.8
		240–3–60					213	28.4								21.7		43.4
UAT12J	Y1	380–3–50		24.7	25.9	40	121	15.3	0.9	2.4		3.2	35.3	40		11.5		23.0
		400–3–50					127	15.0								12.1		24.2
		415–3–50					132	14.9								12.5		25.0
	YH	346–3–50		30.8	31.2	45	121	16.7	1.7	3.6		3.6	34.8	45		10.4		20.8
		380–3–50					133	15.9								11.5		23.0
		380–3–60					115	18.9								11.5		23.0
		400–3–60					121	18.2								12.1		24.2
	TH	220–3–50		54.0	59.0	80	224	27.4		7.0		6.0	61.8	80		18.2		36.4
		220–3–60					195	32.8								18.2		36.4
		230–3–60					204	31.4								19.9		39.8
		240–3–60					213	30.4								21.7		43.4
UAT14J	Y1	380–3–50	Sequence direct	30.5	35.8	40	74	10.0	0.9	2.4		3.2	56.3	70		19.1		38.2
		400–3–50					78	9.7								20.1		40.2
		415–3–50					81	9.6								20.9		41.8
UAT14JA	YH	346–3–50		32.3	35.6	40	75	10.8	0.19	1.0	1.5	3.7	54.9	70	15	17.4	15 + 15	34.8
		380–3–50					82	10.1								19.1		38.2
		380–3–60					73	11.8								19.1		38.2
		400–3–60					77	11.2								20.1		40.2
	TH	220–3–50		53.8	62.0	70	141	17.5	0.19	1.5	1.5	5.8	97.5	110		33.1		66.2
		220–3–60					125	20.0								33.1		66.2
		230–3–60					130	19.3								34.6		69.2
		240–3–60					136	18.7								36.1		

Unit			Starting method	Cooling									Heating by optional heater					
				*1 Power supply			Comp.(each)		CFM (each)		EFM		*2 Power supply		EH			
															1 stage		2 stage	
Model	Type	Volts–Ph–Hz		MCA	TOCA	MFA	LRA	RLA	kW	FLA	kW	FLA	MCA	MFA	kW	FLA	kW	FLA
UAT16J	Y1	380–3–50	Sequence direct	35.0	41.2	45	93	11.4	0.9	2.4	2.2	4.5	57.9	70	15	19.1	15 + 15	38.2
		400–3–50					98	11.2								20.1		40.2
		415–3–50					102	11.4								20.9		41.8
UAT16JA	YH	346–3–50		38.3	41.0	50	88	12.3	0.19	1.0	2.2	5.2	56.7	70		17.4		34.8
		380–3–50					97	11.9								19.1		38.2
		380–3–60					83	13.8								19.1		38.2
		400–3–60					87	13.2								20.1		40.2
	TH	220–3–50		64.8	68.0	80	176	20.4	0.19	1.5	2.2	8.2	100.5	110		33.1		66.2
		220–3–60					152	23.8								34.6		69.2
		230–3–60					159	22.8								36.1		72.2
		240–3–60					166	22.1										
UAT19J	Y1	380–3–50		41.6	45.8	50	93	11.7	1.5	3.9	3.7	7.5	78.9	90	20	25.5	20 + 20	51.0
		400–3–50					98	11.6								26.8		53.6
		415–3–50					102	11.7								27.8		55.6
UAT19JA	YH	346–3–50		43.4	48.0	50	88	12.7	0.28	1.1	3.7	8.3	77.4	90		23.2		46.4
		380–3–50					97	12.3								25.5		51.0
		380–3–60					93	14.6								25.5		51.0
		400–3–60					87	13.9								26.8		53.6
	TH	220–3–50		74.1	84.0	90	176	21.0	0.28	1.7	3.7	14	138	150		44.1		88.2
		220–3–60					152	25.2								44.1		88.2
		230–3–60					159	24.2								46.1		92.2
		240–3–60					166	23.4								48.1		96.2
UAT22J	Y1	380–3–50		48.8	57.0	60	121	14.9	1.5	3.9	3.7	7.5	78.9	90		25.5		51.0
		400–3–50					127	14.8								26.8		53.6
		415–3–50					132	14.9								27.8		55.6
UAT22JA	YH	346–3–50		50.3	52.0	60	121	16.1	0.28	1.1	3.7	8.3	77.4	90		23.2		46.4
		380–3–50					133	15.5								25.5		51.0
		380–3–60					115	17.7								25.5		51.0
		400–3–60					121	16.8								26.8		53.6
	TH	220–3–50		88.0	94.0	110	224	26.6	0.28	1.7	3.7	14	138	150		44.1		88.2
		220–3–60					195	30.5								44.1		88.2
		230–3–60					204	29.4								46.1		92.2
		240–3–60					213	28.5								48.1		96.2
UAT30H	Y1	380–3–50	Star/ Delta	84.5	84.2	125	91	47.8	1.5	3.6	5.5	12.2	Use field supplied duct heater.					
		400–3–50					98	46.5										
		415–3–50					101	48.5										
	T0	200–3–50		192	196	300	195	92.6	2.5	11.0	5.5	23.2						
		200–3–60					168	109										
		220–3–60					190	99.7										

Symbols:

MCA : Min. Circuit Amps.
TOCA : Total Overcurrent Amps.
MFA : Max. Fuse Amps.
LRA : Locked Rotor Amps
RLA : Rated Load Amps.
CFM : Condenser Fan Motor
EFM : Evaporator Fan Motor
kW : Fan Motor or Heater Rated Output
FLA : Full Load Amps.
EH : Optional built-in electric heater.

Notes:

1. Cooling: Comp, CFM, EFM are in operation.
   Heating: EH, EFM are in operation.
2. *1 shows the power current of cooling operation and heating operation by 1 stage EH.
   *2 shows the power current of heating operation by 2 stage EH.
3. RLA is based on the following
   Indoor temp. 27°CDB/19.5°CWB
   Outdoor temp. 35°CDB
4. TOCA means the total value of each OC settings.
5. Voltage range
   Units are suitable for use on electrical systems where voltage supplied to its terminals is not below or above listed range limits.
6. Maximum allowable voltage unbalance between phases is 2 %.
7. MCA / MFA
   (a) Cooling operation
   MCA = 1.25 X RLA + ea. FLA
   MFA = 2.25 X RLA + ea. FLA
   (b) Heating operation
   MCA = 1.25 X [FLA(EFM) + FLA(heater)]
   MFA = 4 X FLA(EFM) + FLA(heater)
   * MFA – Next lower standard fuse ratings
   * Values with parentheses show that on cooling condition.
8. Select wire size based on the value of MCA.
10. Heater (Option)
    Use the following factor to determine heater capacity for your particular voltage.

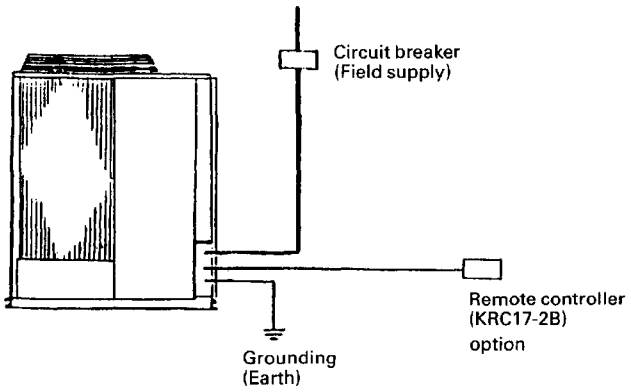
Type	Rating (V)	Voltage (V)	Multiplication factor
Y1	415	380	0.84
		400	0.93
		415	1.00
YH	400	346	0.70
		380	0.84
		400	0.93
TH	240	220	0.84
		230	0.92
		240	1.00

11. Voltage range is as follows.

Type	Hz	Max. V	Min. V
Y1	50	456	342
YH	50	418	311
	60	440	342
TH	50	242	198
	60	264	
T0	50	220	180
	60	242	

12. Wiring connections

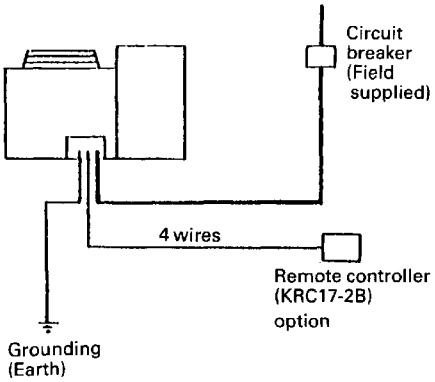
UAT30H



Notes:

1. All wiring components and materials to be procured on the site must comply with the applicable local and national codes.
2. Use copper conductors only.
3. As for details, see wiring diagram.
4. Install circuit breaker for safety.
5. All field wiring and components must be provided by licensed electrician.
6. Unit shall be grounded in compliance with the applicable local and national codes.
7. Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installtaion.

UAT05~12J



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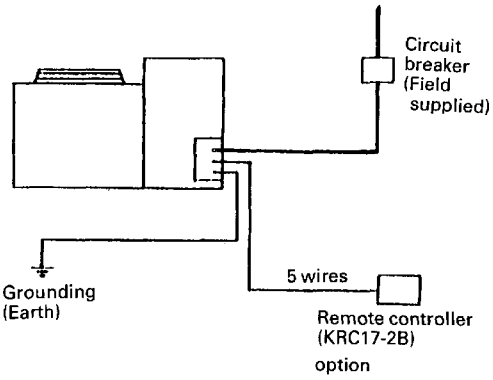


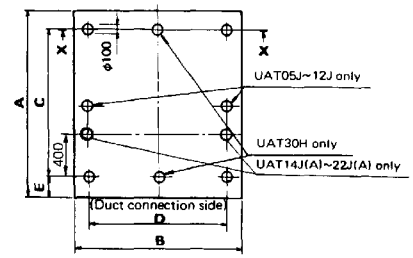
Line voltage
24 volt line

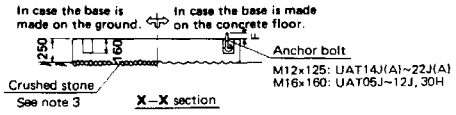
13. Foundation

Model	A	B	C	D	E	F
UAT05J•06J	1420	1190	2x595 =1190	1010	115	Max. 20
UAT09J•10J•12J	1600	1380	2x685 =1370	1200	115	Max. 20
UAT14J(A)•16J(A)	1860	2005	1050	1825	500	Max. 22
UAT19J(A)•22J(A)	1960	2185	1100	2005	500	Max. 22
UAT30H	1580	2860	1380	2x1200 =2400	100	Max. 40

Notes:

1. Provide a concrete flat and level base.
2. Provide a ditch around the unit.
3. In case of roof-top installation, check the strength and water-proof of the roof.

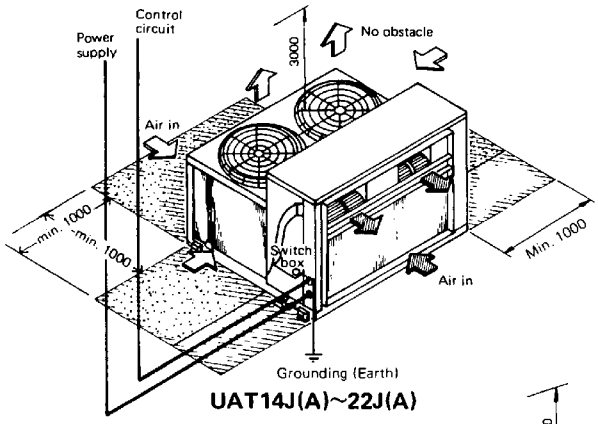




15. Service space

(Unit: mm)

- Install the unit in such a location which is flat and strong enough to support its weight.
- Provide a trap of over 50mm in the drain piping for water seal.
- All field wiring shown in the figure must comply with applicable local and national codes.
- Service spacing should be provided as shown in the figure. If any obstacles are around the unit, distributed air is short-circuited so that the unit stops frequently and access to the unit is difficult for inspection and after-sales services.



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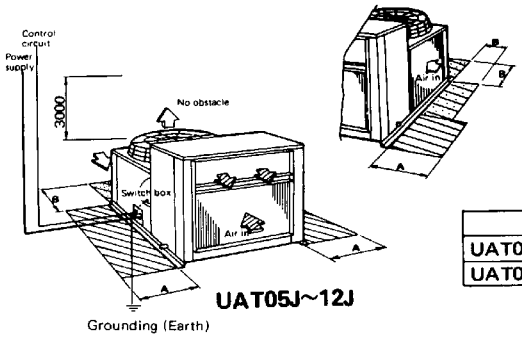
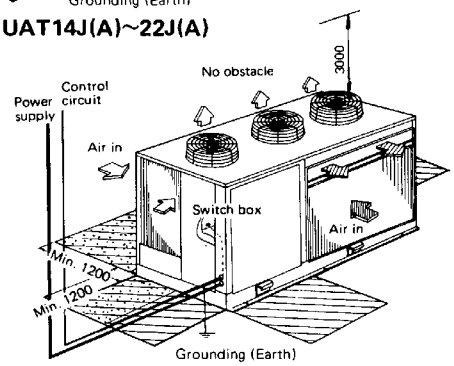


UAT05J~12J

Spacing for air flow

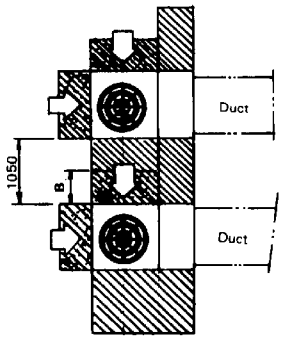
Spacing for service

Model	A	B
UAT05J, 06J	1050	500
UAT09J, 10J, 12J	1050	700



UAT30H

- In case multiple units are installed face to face, leave space between two units at least as shown in the figure.



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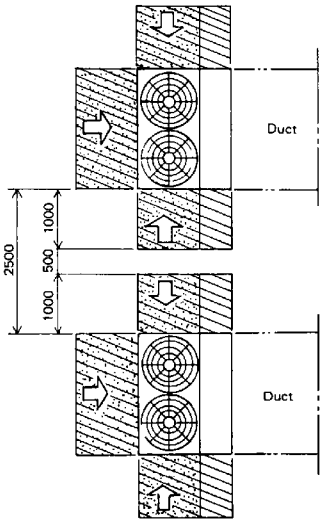

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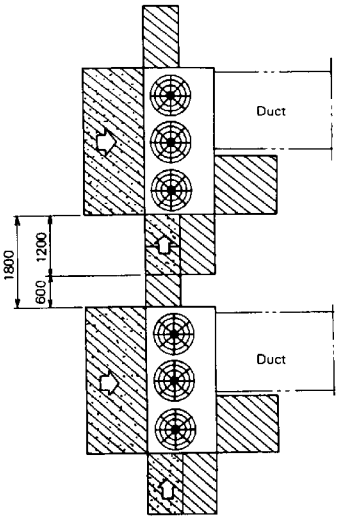


UAT30H

2-2 Air Cooled Single Packaged Air Conditioners-Heat Pump Roof Top Type UATY Series

1. Features

The Daikin Air Cooled Heat Pump System Single Packaged Air Conditioners (UATY series) are available in 5 models from 12,100/13,300 kcal/h to 48,000/53,400 kcal/h for cooling and from 13,000/14,400 kcal/h to 50,000/55,500 kcal/h for heating (50/60Hz).
These units are easily installed in any type of buildings (new or existing), and are designed to be ducted, so they can be installed on roof tops, verandas or on the ground. They are designed to be operative in a wide ambient temperature range from 20°C to 46°C for cooling and from −10°C to +15.5°C for heating.

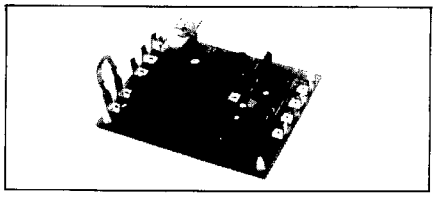
Easy and economical installation

- The unit is assembled, internally wired and charged with refrigerant in the factory and is subject to stringent test operation before delivery. All that is required on the spot is to connect ducting and main power supply, which reduces installation work and costs greatly. The unit is particularly compact and light, ensuring easy handling and installation.

Main components

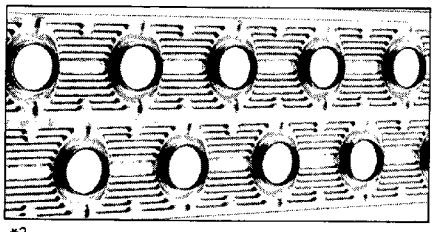
- **The casing** is made of cold rolled steel plate and treated against rust and then finished with baked acryl resin paint. Since the unit is installed outdoors, the casting is completely weather-proof.
- **The compressor** is compact, highly efficient, powerful and durable, and is hermetically sealed reciprocating compressor which has been developed with Daikin's own technique.
  The 2-pole hermetically sealed reciprocating compressor is held by spring in the compressor casing to minimize operation vibration. In addition, the 2-pole compressor is installed with rubber isolation isolators to reduce vibration transferring outside. A complete set of the safety devices such as electronic recycling guard timer, overcurrent relay, compressor thermal protector encased in the motor coil, etc. are equipped, ensuring a long life and trouble-free operation. Furthermore, an accumulator is mounted to enhance reliability.
  - ▲ **Electronic recycling guard timer:** This protects the compressor from frequent on-off operation.

Electronic recycling guard timer

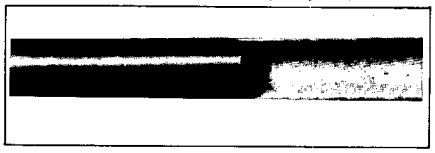


- **The indoor coil and outdoor coil** are of the unique cross fin coil type. Waffle louver fins*1 and Hi-X copper tubes*2 (internal surface of the tubes is modified by serration) are adopted to increase heat exchange coefficient greatly.

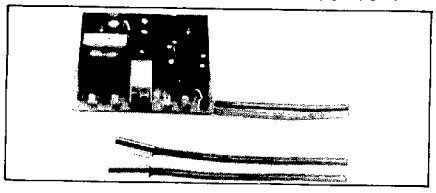
*1 Waffle louver fins (U.S. PAT No.4,434,844)



*2 Hi-X tube (U.S. PAT No. 4,480,684)



- **The powerful indoor fan and motor**
  The fan is of the quiet two-coupled dual suction multi-blade type and is driven by a V-belt. Accurate air flow rate is obtained by adjusting the variable pitch pulley, which ensures easy ducting. The motor is equipped with an overcurrent relay for safe operation.
- **The outdoor fan and motor**
  The outdoor fan is the direct drive propeller fan and draws the air from the right side and the rear of the unit and discharges it upwards together with operation noise, which ensures quiet operation. The motor is of the 6- or 8-pole water-proof induction type and is equipped with a fan motor thermal protector or an overcurrent relay for safe operation. Non-lubrication bearings are used for maintenance-free operation.
- **The microcomputer type deicer**
  The microcomputer type deicer is capable of sensing both refrigerant and outdoor temperature with its highly sensible dual thermistors, and eliminates such waste as that defrosting is accomplished although the outdoor coil is frosted only thinly when outdoor temperature is low. Thus, the microcomputer type deicer not only saves unnecessary power, but also ensures constant comfortable heating. In addition, the deicer is capable of selecting defrosting cycles, longer or shorter depending on the volume of frost on the outdoor coil.



- **The remote controller (Option):**
  The remote controller, 17-2B for operation with 24V low voltage is available which encases a sensible thermostat to ensure accurate temperature control.
- **The auxiliary electric heater (Option):**
  The heater listed in page 41 is available as an option for more comfortable heating. The heater is mounted in the unit discharge air passage.

2. Specifications

Model				UATY05J	UATY09J	UATY12J	UATY16J	UATY22J
*1 cooling capacity			kcal/h	12,100	19,000	25,500	36,100	48,000
			Btu/h	48,000	75,400	101,200	143,300	190,500
			kW	14.1	22.1	29.7	42.0	55.8
*2 Heating capacity			kcal/h	13,000	20,000	26,900	39,000	50,000
			Btu/h	51,600	79,400	106,800	154,800	198,500
			kW	15.1	23.3	31.3	45.3	58.1
Capacity steps			%	100—0	100—0	100—0	100—50—0	100—50—0
Connections	Drain piping			FPS3/4B	FPS3/4B	FPS3/4B	FPS1B	FPS1B
	Ducting	Return (HXW)	mm	503X720	555X980	555X980	605X1,412	805X1,610
		Supply (HXW)	mm	190X720	234X980	234X980	275X1,412	275X1,610
Casing/color				Paintable galvanized steel plate/Ivory white				
Compressor	Type			Hermetically sealed reciprocating				
	No.XModel			1X2T55LG	1X3T55NG	1X3T55VG	2X3T55NG	2X3T55VG
	No. of clylinders			2	3	3	3	3
	Speed		r.p.m	2,900	2,900	2,900	2,900	2,900
Refrigeration oil	Model			SUNISO 3GSD				
	Charge		ℓ	2.1	3.2	3.2	2X3.0	2X3.0
Outdoor coil	Type			Cross fin coil (Waffle louver aluminum fins and Hi-X copper tubes)				
	(RowXstage)XNo.			2X26	2X30	2X30	(2X34)X2	(2X38)X2
	Fin pitch		mm	2.5	2.5	2.5	2.5	2.5
	Face area		m^2	0.945	1.398	1.398	2X(1.124)	2X(1.373)
Outdoor fan	Type			Propeller				
	No.XModel			1XP60E	1XP70F	1XP70F	2XP70F	2XP80F
	Drive			Direct				
	Air flow rate		m^3/min	98	190	200	2X180	2X235
			cfm	3,460	6,710	7,060	2X6,350	2X8,250
	Motor output		kW	0.19	0.9	1.5	2X1.5	2X1.5
Indoor coil	Type			Cross fin coil (Waffle louver aluminum fins and Hi-X copper tubes)				
	RowXstage			2X22	2X24	3X24	3X24	3X32
	Fin pitch		mm	2.5	2.5	2.0	2.0	2.0
	Face area		m^2	0.402	0.597	0.597	0.861	1.309
Indoor fan	Type			Dual suction multi-blade				
	Model			2D1$^5/_8$A	2D1$^3/_4$G2	2D1$^3/_4$G2	2D2E	2D2E
	Drive			Adjustable belt			Belt	
	Air flow rate		m^3/min	55	85	95	142	200
			cfm	1,940	3,000	3,350	5,010	7,060
	Motor speed		r.p.m	1,420	1,420	1,420	1,420	1,420
	Motor output		kW	0.75	1.5	1.5	2.2	3.7
Refrigerant	Model			R22				
	No.of refrigerant circuit			1	1	1	2	2
	Change		kg	3.1	4.8	4.9	2X(4.2)	2X(5.4)
Control				Capillary tube				
Defrosting method				Deicer with thermostat and timer				
Dimensions	(HXWXD)		mm	900X980X1,270	1,000X1,175X1,450	1,000X1,175X1,450	1,100X1,785X1,660	1,300X1,965X1,760
Weight			kg	245	340	345	580	650
Safety devices				High pressure switch, compressor thermal protector, outdoor fan motor protector (UATY05J), crankcase heater, recycling guard timer, overcurrent relay (compressor and indoor fan motor), outdoor fan motor overcurrent relay (except UATY05J), fuse				

Notes:

1. Nominal capacities are based on the following conditions.
   - *1 Cooling : Indoor temp. 27°CDB/19.5°CWB (80°FDB/67°FWB)
     Outdoor temp. 35°CDB (95°FDB)
   - *2 Heating : Indoor temp.21°CDB (70°FDB)
     Outdoor temp.7°CDB/6°CWB (45°FDB/43°FWB)
2. The above cooling capacities are gross capacities which do not include a deducution for indoor fan motor heat.
3. The above heating capacities are net capacities which include an addition for indoor fan motor heat.

Conversion formulae		
Btu/h	= kcal/h	x 3.97
kW	= kcal/h	x 0.001163
Inches	= mm	x 0.0394
Pounds	= kg	x 2.205
Psi	= kg/cm^2	x 14.22
KPa	= kg/cm^2	x 98.07
cfm	= m^3/min.	x 35.3
US Gallons	= Liter	x 0.264
UK Gallons	= Liter	x 0.220

Ex. 12,100 kcal/h = 12,100 x 3.97
= 48,000 Btu/h

■ Power supply

SYMBOL	Power supply	Available model
Y1	3 ϕ, 380~415V, 50Hz (4 wires)	UATY05JY1
		UATY09JY1
		UATY12JY1
		UATY16JY1
		UATY22JY1

3. Standard accessories

1. **Operation manual**
2. **Fuse**
3. **Plug for drain (UATY16·22)**

4. Optional accessories

※ **1. Auxiliary electric heater**

● **Specifications**

Kit		NEH275A05Y			NEH275A05T			NEH279A09Y			NEH279A09T		
Relevent models		UATY05J			UATY05J			UATY09J, UATY12J			UATY09J, UATY12J		
Power supply	V	380	400	415	220	230	240	380	400	415	220	230	240
Heating capacity	kcal/h	3,600	4,000	4,300	3,600	4,000	4,300	6,500	7,200	7,740	6,500	7,100	7,740
	kW	4.2	4.6	5.0	4.2	4.6	5.0	7.6	8.4	9.0	7.6	8.3	9.0

Kit		NEH2715A16Y			NEH2715A16T			NEH2720A22Y			NEH2720A22T		
Relevant model		UATY16J			UATY16J			UATY22J			UATY22J		
Power supply	V	380	400	415	220	230	240	380	400	415	220	230	240
Heating capacity	kcal/h	10,840	11,950	12,900	10,840	11,870	12,900	14,450	16,000	17,200	14,450	15,820	17,200
	kW	12.6	13.9	15	12.6	13.8	15	16.8	18.6	20	16.8	18.4	20

Note: Components: Electric heater, mounting plate for electric heater, safety devices assembly (thermal fuse, firestat), mounting plate for safety devices assembly, magnetic contactor, magnetic relay.
Field supplied: Thermostat
See page 2-43 & 2-45 for wiring diagrams.

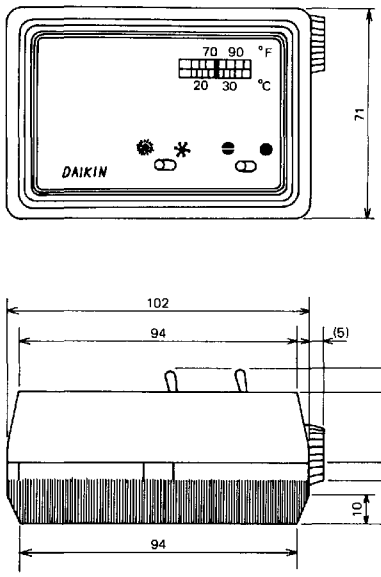
※ **2. Fan motor pulley change** (Evaporator fan)

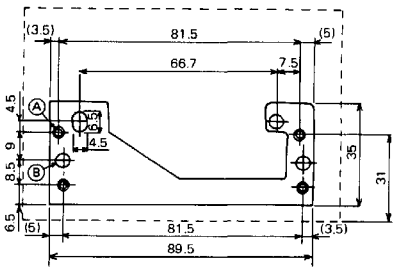
※ **3. Fan motor 1 size larger** (Evaporator fan)

4. Remote controller KRC17-2B

(Unit: mm)

KRC17-2B





Ⓐ Screw hole for remote controller (2-M4)
Ⓑ Screw hole for wall mounting (ϕ4.4)

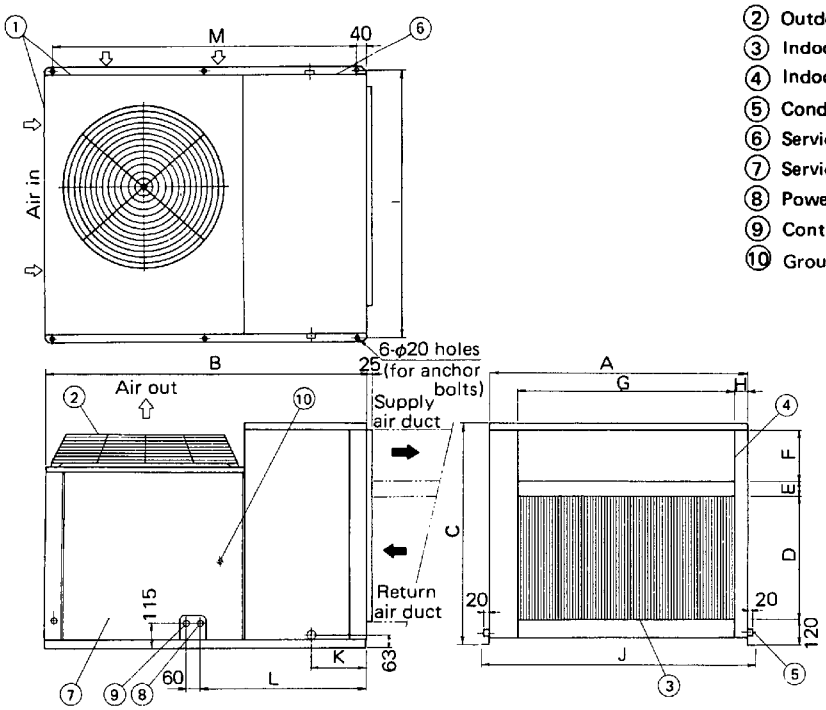
Note: The screws for remote controller and terminal for connecting wires (11 pcs) are attached.

Note: ※ These options should be attached in DAIKIN factory.

5. Dimensions

(Unit: mm)

UATY05J~12J

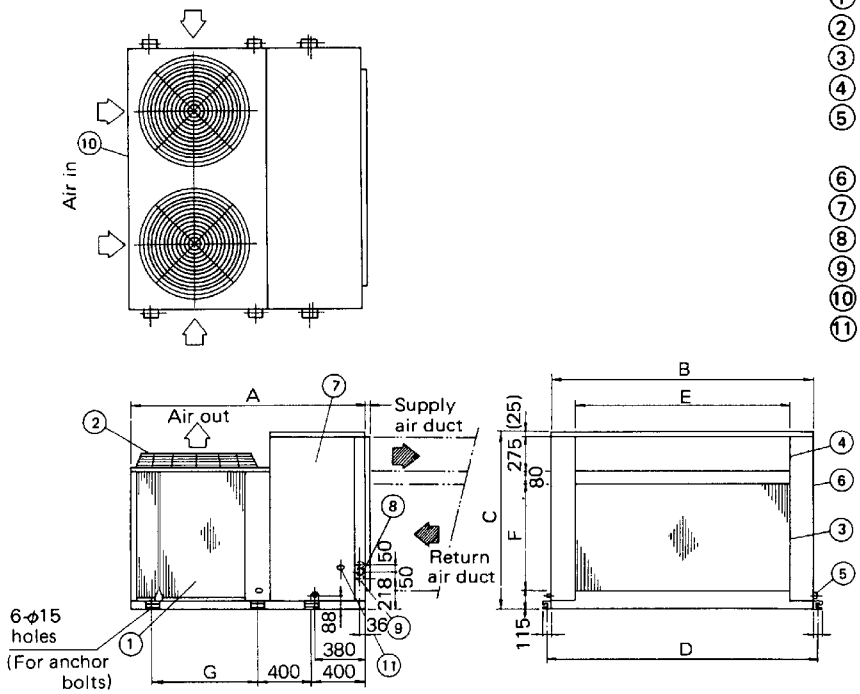


① Outdoor coil air inlet
② Outdoor coil air outlet
③ Indoor coil air inlet conn.
④ Indoor coil air outlet conn.
⑤ Condensate drain conn. (Both sides)
⑥ Service panel for fan motor
⑦ Service panel for switch box and compressor
⑧ Power supply intake φ33 hole
⑨ Control wire intake φ33 hole
⑩ Grounding terminal in switch box M6 bolt

Model	A	B	C	D	E	F	G	H	I	J	K	L	M
UATY05J	980	1270	900	503	62	190	720	130	1010	1040	232	672	2x595=1190
UATY09J·12J	1175	1450	1000	555	65	234	980	63	1200	1230	252	750	2x685=1370

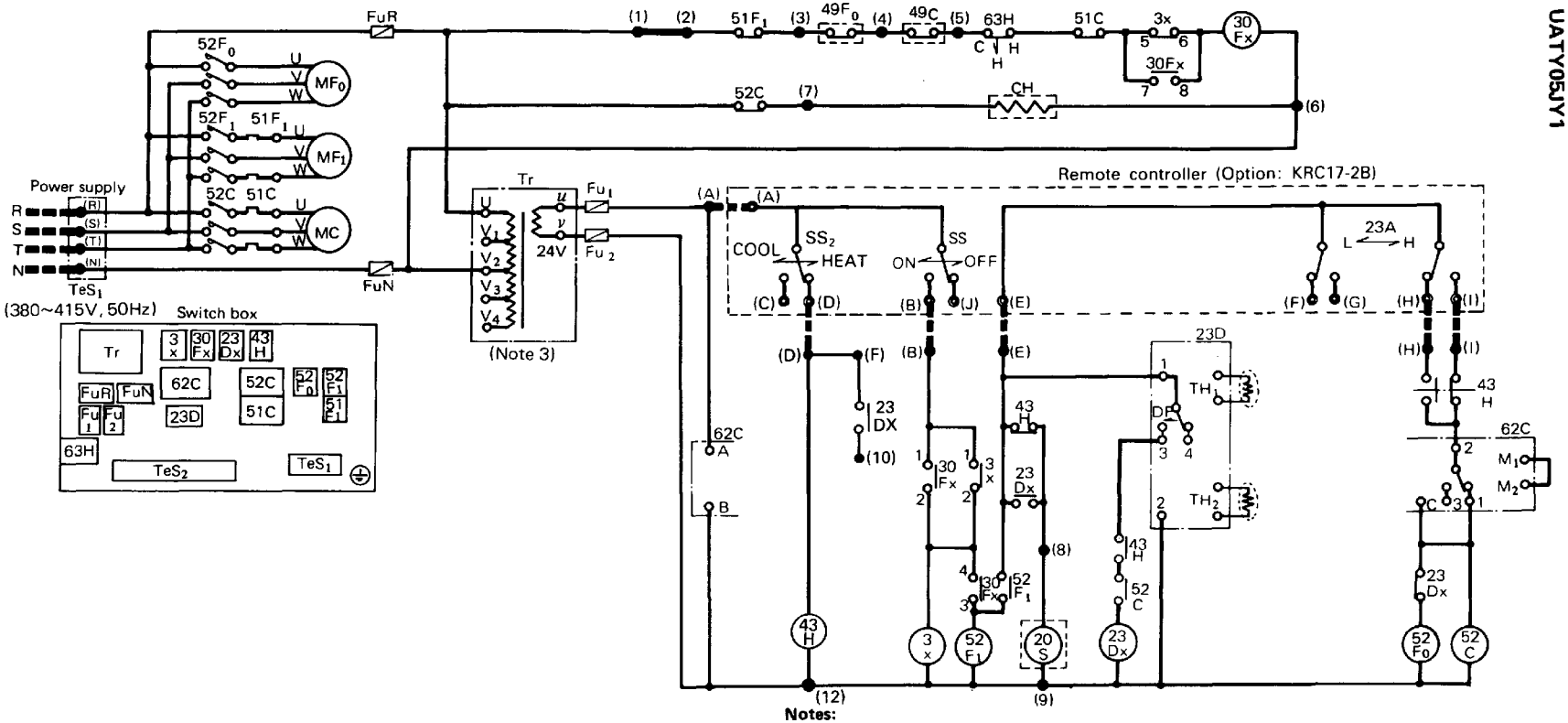
(Unit: mm)

UATY16J·22J



① Outdoor coil air inlet
② Outdoor coil air outlet
③ Indoor coil air inlet conn.
④ Indoor coil air outlet conn.
⑤ Condensate drain conn. (Both sides)
⑥ Service panel for fan motor
⑦ Service panel for switch box
⑧ Control wire intake φ39 hole
⑨ Power supply intake φ39 hole
⑩ Service panel for compressor.
⑪ Grounding terminal in switch box M6 bolt

Model	A	B	C	D	E	F	G
UATY16J	1660	1785	1100	1825	1412	605	650
UATY22J	1760	1965	1300	2005	1610	805	700

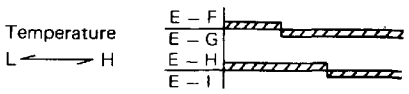


Notes:

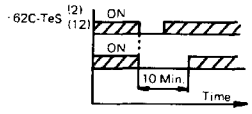
1. ▬▬ : Jumper
   —●— : Terminal of "TeS"
   ◎ : Terminal of remote controller
2. ▬▬ : Field wiring
3. Connection to transformer is as follows. Change the connection according to power supply.

Power supply	Terminals	Primary/secondary	Remarks
–	U-V_1	–	–
380V	U-V_2	220V/24V	Facotry connection
400V	U-V_3	230V/24V	Change connection
415V	U-V_4	240V/24V	on the spot

4. Unused connections (C), (J), (F) and (G) of the remote controller (KRC17-2B) should be insulated by closed-end connectors respectively to prevent against electric leakage.
5. Function of 23A:
   ▨ part shows "ON".



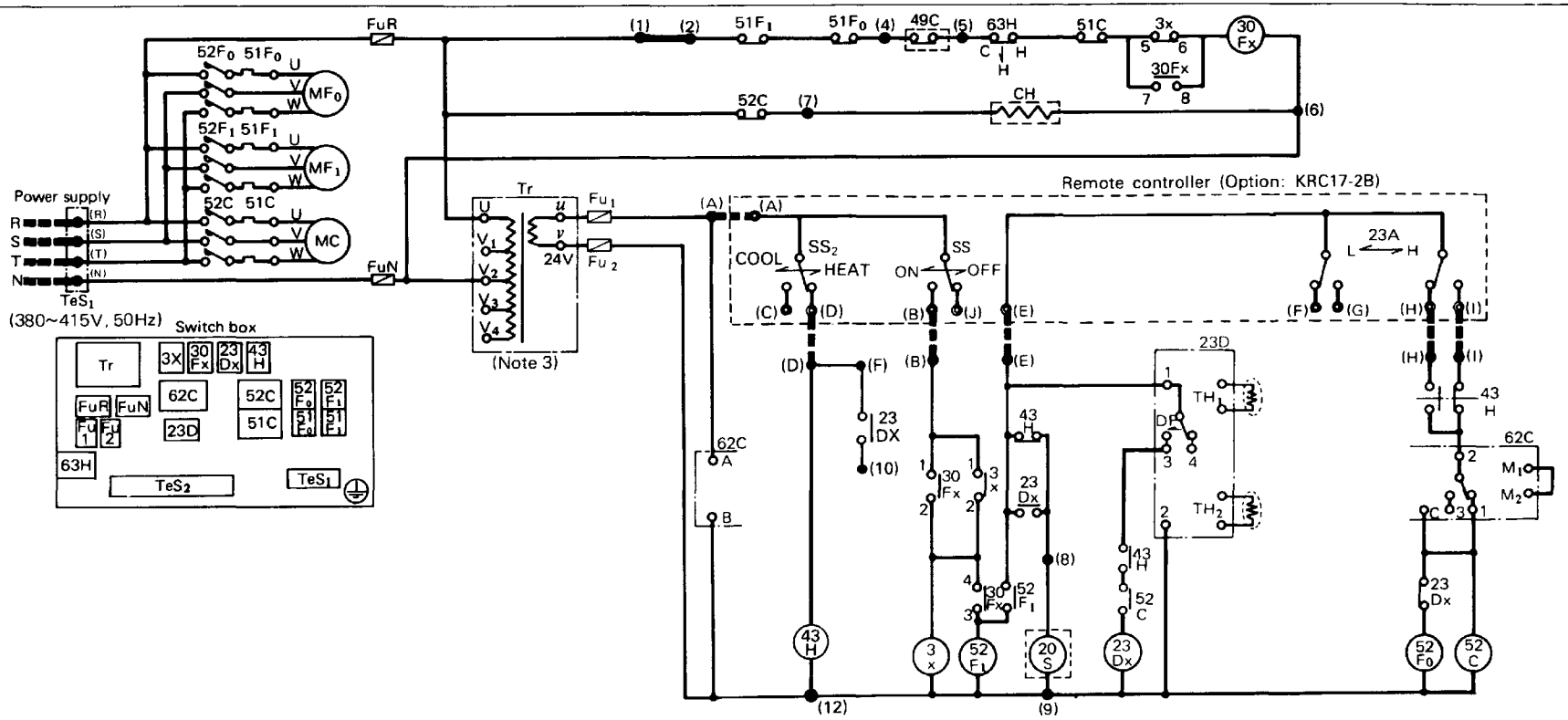
6. Time chart of 62C



Symbols:

3X	:	Magnetic relay	63H	:	High pressure switch
20S	:	4-way solenoid valve	CH	:	Crankcase heater
23D	:	Deicer	Fu	:	Fuse (250V, 10A)
23Dx	:	Magnetic relay	FuR,N	:	Fuse (600V, 5A)
30Fx	:	Magnetic relay	MC	:	Motor (Comp.)
43H	:	Magnetic relay	MF_0	:	Motor (Outdoor fan)
49C	:	Comp. thermal protector	MF_1	:	Motor (Indoor fan)
$49F_0$	:	Fan motor thermal protector (MF_0)	TeS	:	Terminal strip
51C	:	Overcurrent relay (MC)	TH_1	:	Thermistor (Ref. Temp.)
$51F_1$	:	Overcurrent relay (MF_1)	TH_2	:	Thermistor (Outdoor temp.)
52C	:	Magnetic switch (MC)	Tr	:	Transformer (150VA)
$52F_0$	:	Magnetic switch (MF_0)	**Remote controller (Option)**		
$52F_1$	:	Magnetic switch (MF_1)	23A	:	Thermostat
62C	:	Recycling guard timer	SS	:	Selector switch (ON/OFF)

DU129–505A

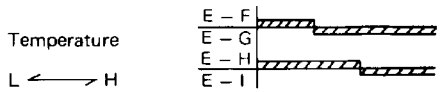


Notes:

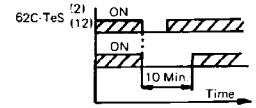
1. ▬ : Jumper
   —●— : Terminal of "TeS"
   ◎ : Terminal of connector
2. ▬ ▬ : Field wiring
3. Connection to transformer is as follows. Change the connection according to power supply.

Power supply	Terminals	Primary/secondary	Remarks
–	U-V_1	–	–
380V	U-V_2	220V/24V	Facotry connection
400V	U-V_3	230V/24V	Change connection
415V	U-V_4	240V/24V	on the spot

4. Unused connections (C), (J), (F) and (G) of the remote controller (KRC17-2B) should be insulated by closed-end connectors respectively to prevent against electric leakage.
5. Function of 23A:
   ▨ part shows "ON".



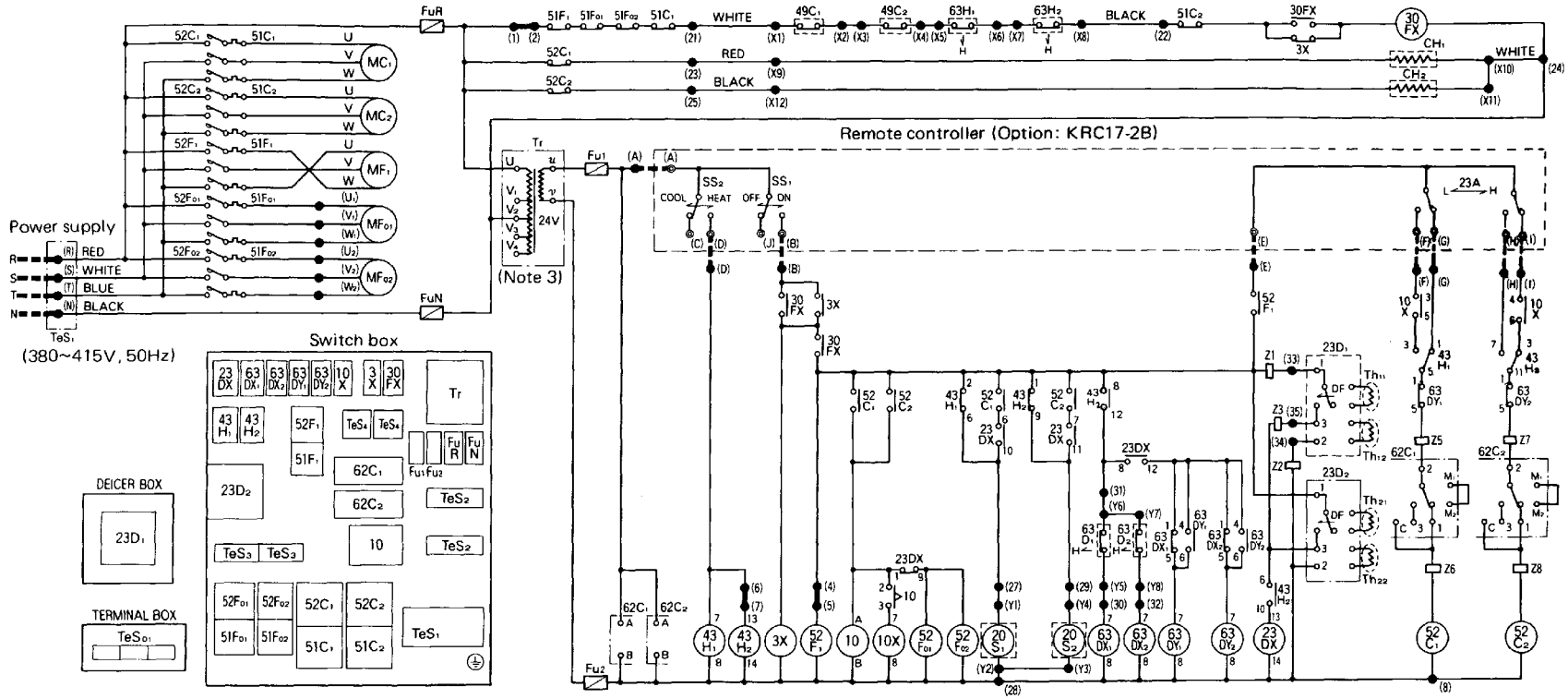
6. Time chart of 62C



Symbols:

3X	:	Magnetic relay	63H	:	High pressure switch
20S	:	4-way solenoid valve	CH	:	Crankcase heater
23D	:	Deicer	Fu	:	Fuse (250V, 10A)
23Dx	:	Magnetic relay	FuR,N	:	Fuse (600V, 5A)
30Fx	:	Magnetic relay	MC	:	Motor (Comp.)
43H	:	Magnetic relay	MF_0	:	Motor (Outdoor fan)
49C	:	Comp. thermal protector	MF_1	:	Motor (Indoor fan)
51C	:	Overcurrent relay (MC)	TeS	:	Terminal strip
$51F_0$	:	Overcurrent relay (MF_0)	TH_1	:	Thermistor (Ref. Temp.)
$51F_1$	:	Overcurrent relay (MF_1)	TH_2	:	Thermistor (Outdoor temp.)
52C	:	Magnetic switch (MC)	Tr	:	Transformer (150VA)
$52F_0$	:	Magnetic switch (MF_0)	**Remote controller (Option)**		
$52F_1$	:	Magnetic switch (MF_1)	23A	:	Thermostat
62C	:	Recycling guard timer	SS	:	Selector switch (ON/OFF)

DU131—5028



Symbols:

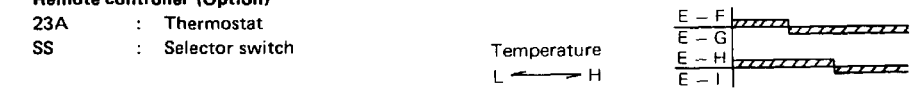
3X	:	Magnetic relay	63D	:	Press. switch (Defrost)
10	:	Timer (5 sec.)	63DX•Y	:	Magnetic relay
10X	:	Magnetic relay	63H	:	High pressure switch
20S	:	4-way solenoid valve	CH	:	Crankcase heater
23D	:	Deicer	Fu	:	Fuse (250V, 15A)
23Dx	:	Magnetic relay	FuR,N	:	Fuse (600V, 5A)
30Fx	:	Magnetic relay	MC	:	Motor (Comp.)
43H	:	Magnetic relay	MF_0	:	Motor (Outdoor fan)
49C	:	Comp. thermal protector (MC)	MF_1	:	Motor (Indoor fan)
51C	:	Overcurrent relay (MC)	TeS	:	Terminal strip
$51F_0$	:	Overcurrent relay (MF_0)	$Th_{11,21}$	:	Thermistor (Ref. Temp.)
$51F_1$	:	Overcurrent relay (MF_1)	$Th_{12,22}$	:	Thermistor (Outdoor temp.)
52C	:	Magnetic switch (MC)	Tr	:	Transformer (200VA)
$52F_0$	:	Magnetic switch (MF_0)	**Remote controller (Option)**		
$52F_1$	:	Magnetic switch (MF_1)	23A	:	Thermostat
62C	:	Recycling guard timer (5 Min.)	SS	:	Selector switch

Notes:

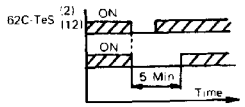
1. ▬ : Jumper
   ●— : Terminal of "TeS", —□— : Tab
   ◎ : Terminal of remote controller
2. ■■■ : Field wiring
3. Connection to transformer is as follows. Change the connection according to power supply.

Power supply	Terminals	Primary/secondary	Remarks
—	U-V_1	—	—
380V	U-V_2	220V/24V	Factory connection
400V	U-V_3	230V/24V	Change connection
415V	U-V_4	240V/24V	on the spot

4. Unused connections (C) and (J) of the remote controller (KRC17-2B) should be insulated by closed-end connectors respectively to prevent against electric leakage.
5. Function of 23A:
   ▨ parts shows "ON".



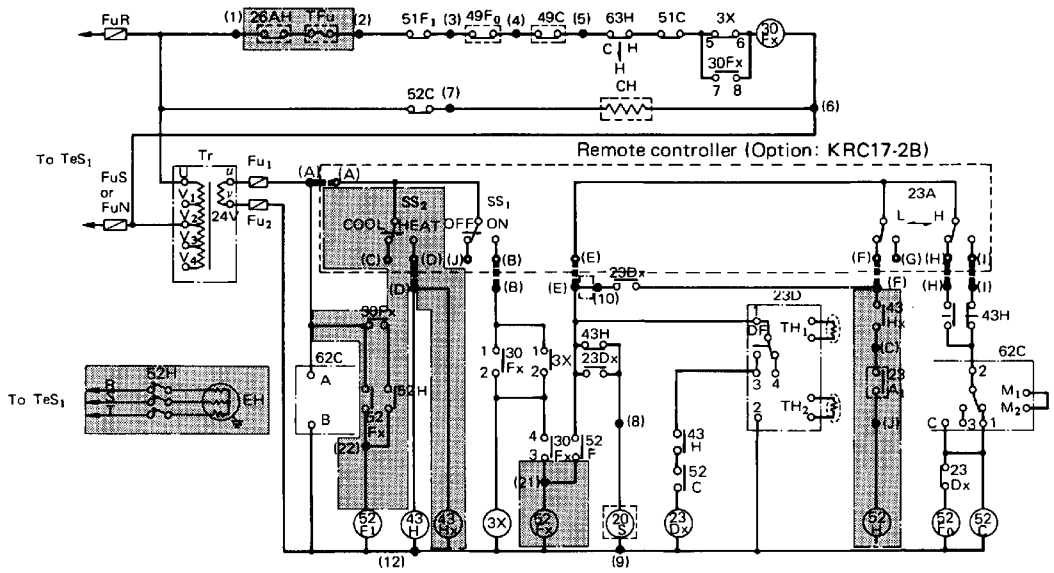
6. Time chart of 62C:



DU135–505A

(2) Wiring diagrams with optional remote controller (KRC17-2B) and auxiliary electric heater.

UATY05JY1

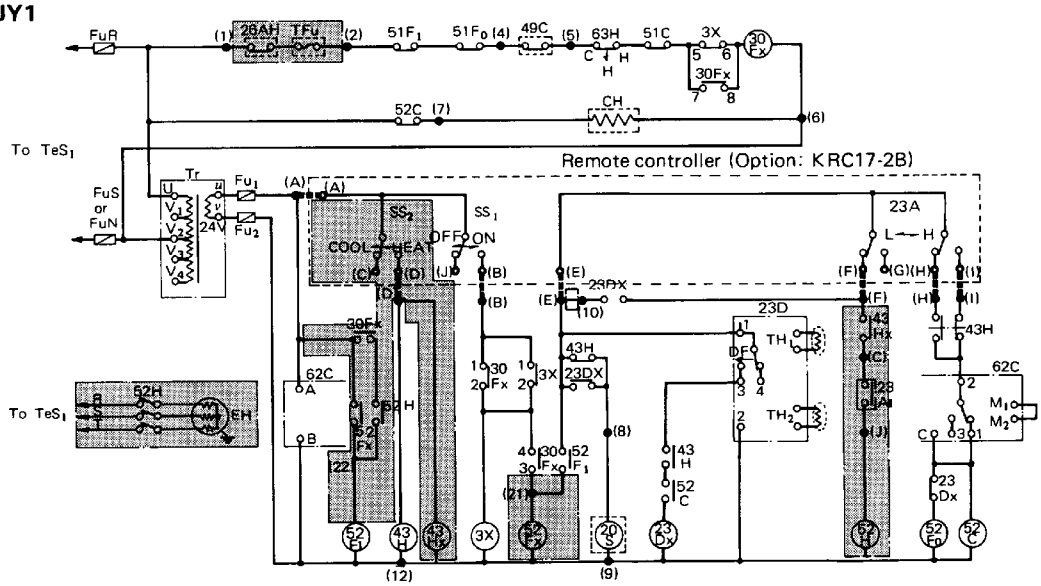


Symbols of additional parts:

$23A_1$	:	Thermostat (field supplied)
26AH	:	Firestat
43Hx	:	Magnetic relay
52Fx	:	Magnetic relay
52H	:	Magnetic contactor (EH)
EH	:	Auxiliary electric heater
SS_2	:	Selector switch (COOL/HEAT)
TFu	:	Thermal fuse

Note:
The wiring shown in ▨ is altered when the optional remote controller, KRC17-2B with SS_2 is attached instead of the standard one and the auxiliary electric heater is mounted. In this case, remove the jumper between (D) and (F) of TeS_2. However, the other details remain unchanged as shown in the standard wiring diagram.

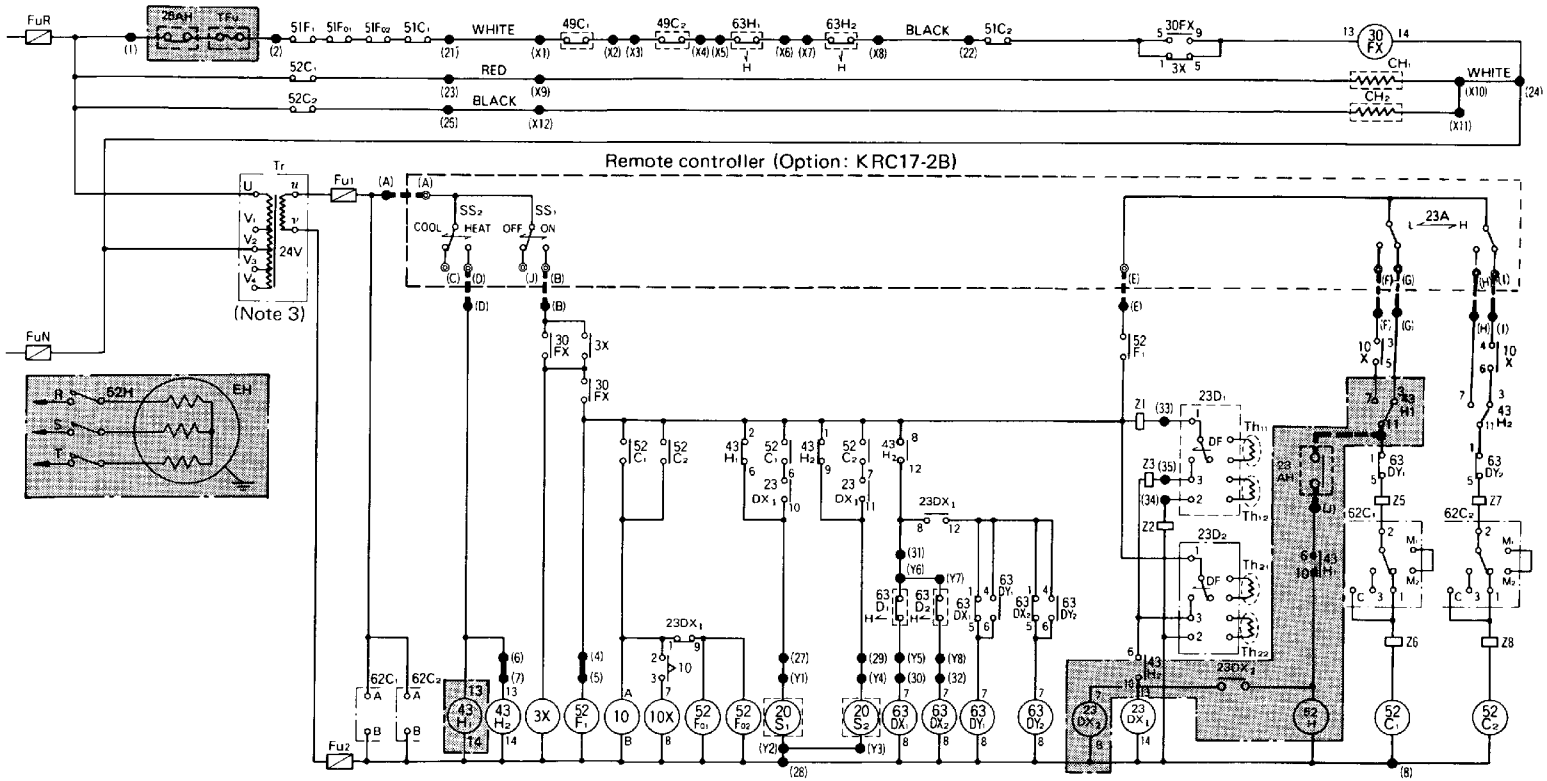
UATY09J·12JY1



Symbols of additional parts:

$23A_1$	:	Thermostat (field supplied)
26AH	:	Firestat
43Hx	:	Magnetic relay
52Fx	:	Magnetic relay
52H	:	Magnetic contactor (EH)
EH	:	Auxiliary electric heater
SS_2	:	Selector switch (COOL/HEAT)
TFu	:	Thermal fuse

Note:
The wiring shown in ▨ is altered when the optional remote controller, KRC17-2B with SS_2 is attached instead of the standard one and the auxiliary electric heater is mounted. In this case, remove the jumper between (D) and (F) of TeS_2. However, the other details remain unchanged as shown in the standard wiring diagram.



Symbols of additional parts:

23AH	:	Thermostat (field supplied)
26AH	:	Firestat
$23X_1$	:	Magnetic relay
EH	:	Auxiliary electric heater
TFu	:	Thermal fuse (110°C)

Note:

The wiring shown in ▨ is altered when the optional remote controller, KRC17-2B with SS_2 is attached instead of the standard one and the auxiliary electric heater is mounted. In this case, remove the jumper between (D) and (F) of TeS_2. However, the other details remain unchanged as shown in the standard wiring diagram.

7. Capacity Tables

● **Cooling capacity** **[50Hz]**

[UATY05J]

Indoor air AFR (BF)	EWB	Outdoor temp. (°CDB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI
47 (0.23)	16.0	11.6	11.5	4.5	11.0	11.0	4.7	10.4	10.4	5.0	9.8	9.8	5.3	—	—	—
	18.0	12.4	10.3	4.6	11.9	10.1	4.8	11.3	9.8	5.1	10.6	9.5	5.5	9.8	9.2	5.9
	19.5	13.0	9.3	4.7	12.4	9.1	4.9	11.9	8.9	5.3	11.2	8.6	5.6	10.4	8.3	6.0
	22.0	14.2	7.7	4.8	13.6	7.5	5.1	12.9	7.3	5.4	12.2	7.0	5.8	11.4	6.7	6.3
	24.0	15.2	6.4	4.9	14.5	6.2	5.2	13.8	6.0	5.6	13.1	5.7	6.0	—	—	—
55 (0.26)	16.0	11.8	11.8	4.5	11.2	11.2	4.8	10.6	10.6	5.0	10.0	10.0	5.4	—	—	—
	18.0	12.7	11.0	4.6	12.1	10.8	4.9	11.5	10.5	5.2	10.8	10.3	5.5	10.0	9.9	5.9
	19.5	13.3	9.9	4.7	12.7	9.7	5.0	12.1	9.5	5.3	11.4	9.2	5.6	10.6	8.9	6.1
	22.0	14.5	8.2	4.8	13.9	7.9	5.2	13.2	7.7	5.5	12.5	7.4	5.9	11.6	7.1	6.3
	24.0	15.5	6.7	5.0	14.8	6.5	5.3	14.1	6.2	5.7	13.4	6.0	6.0	—	—	—
63 (0.28)	16.0	12.0	12.0	4.5	11.4	11.4	4.8	10.8	10.8	5.1	10.1	10.1	5.4	—	—	—
	18.0	12.9	11.7	4.6	12.3	11.5	4.9	11.7	11.2	5.2	11.0	10.9	5.5	10.1	10.1	6.0
	19.5	13.5	10.5	4.7	12.9	10.3	5.0	12.3	10.0	5.3	11.6	9.8	5.7	10.8	9.5	6.1
	22.0	14.7	8.5	4.9	14.1	8.3	5.2	13.4	8.1	5.5	12.7	7.8	5.9	11.8	7.5	6.4
	24.0	15.7	6.9	5.0	15.0	6.7	5.3	14.3	6.5	5.7	13.6	6.2	6.1	—	—	—

[UATY09J]

Indoor air AFR (BF)	EWB	Outdoor temp. (°CDB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI
73 (0.23)	16.0	18.3	18.0	6.3	17.5	17.5	6.7	16.6	16.6	7.0	15.6	15.6	7.4	—	—	—
	18.0	19.6	16.1	6.5	18.6	15.7	6.8	17.8	15.3	7.2	16.8	14.9	7.6	15.5	14.3	8.1
	19.5	20.6	14.6	6.6	19.6	14.2	7.0	18.6	13.8	7.3	17.6	13.4	7.7	16.3	12.9	8.3
	22.0	22.3	12.1	6.8	21.3	11.7	7.2	20.2	11.3	7.6	19.1	10.9	8.0	17.8	10.4	8.5
	24.0	23.6	10.0	6.9	22.7	9.7	7.3	21.5	9.3	7.7	20.4	8.9	8.2	—	—	—
85 (0.26)	16.0	18.7	18.7	6.4	17.8	17.8	6.7	16.9	16.9	7.1	15.9	15.9	7.5	—	—	—
	18.0	20.0	17.2	6.5	19.0	16.7	6.9	18.1	16.4	7.3	17.1	15.9	7.7	15.8	15.4	8.2
	19.5	21.0	15.5	6.6	20.0	15.1	7.0	19.0	14.7	7.4	17.9	14.3	7.8	16.6	13.8	8.3
	22.0	22.7	12.7	6.8	21.7	12.3	7.2	20.6	11.9	7.6	19.5	11.5	8.1	18.1	11.0	8.6
	24.0	24.1	10.4	7.0	23.1	10.1	7.4	21.9	9.7	7.8	20.8	9.3	8.3	—	—	—
97 (0.29)	16.0	19.0	19.0	6.4	18.1	18.1	6.8	17.1	17.1	7.1	16.1	16.1	7.5	—	—	—
	18.0	20.3	18.1	6.6	19.3	17.7	6.9	18.4	17.3	7.3	17.3	16.9	7.7	16.0	16.0	8.2
	19.5	21.3	16.3	6.7	20.3	15.9	7.1	19.3	15.5	7.4	18.2	15.1	7.9	16.8	14.6	8.4
	22.0	23.0	13.2	6.9	22.0	12.9	7.3	20.9	12.5	7.7	19.8	12.1	8.1	18.4	11.6	8.7
	24.0	24.4	10.7	7.0	23.4	10.4	7.4	22.2	10.0	7.9	21.1	9.6	8.3	—	—	—

[UATY12J]

Indoor air AFR (BF)	EWB	Outdoor temp. (°CDB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI
81 (0.08)	16.0	24.3	23.9	8.5	23.3	23.3	8.9	22.2	22.2	9.3	20.9	20.9	9.8	—	—	—
	18.0	26.1	21.4	8.7	24.9	20.9	9.2	23.8	20.4	9.6	22.4	19.8	10.1	20.7	19.1	10.8
	19.5	27.4	19.4	8.9	26.2	18.9	9.4	24.9	18.4	9.9	23.6	17.9	10.4	21.7	17.1	11.0
	22.0	29.7	16.1	9.3	28.5	15.6	9.8	27.1	15.1	10.3	25.5	14.5	10.8	23.6	13.8	11.5
	24.0	31.6	13.4	9.6	30.2	12.9	10.1	28.7	12.4	10.6	27.2	11.9	11.2	—	—	—
95 (0.10)	16.0	24.9	24.9	8.6	23.8	23.8	9.0	22.7	22.7	9.4	21.4	21.4	9.9	—	—	—
	18.0	26.7	23.1	8.8	25.5	22.6	9.3	24.3	22.1	9.8	22.9	21.6	10.3	21.2	20.9	10.9
	19.5	28.0	20.9	9.0	26.8	20.4	9.5	25.5	19.9	10.0	24.1	19.3	10.5	22.2	18.6	11.2
	22.0	30.4	17.1	9.4	29.1	16.6	9.9	27.7	16.1	10.4	26.1	15.5	11.0	24.1	14.8	11.7
	24.0	32.3	14.0	9.7	30.9	13.5	10.2	29.4	13.0	10.8	27.8	12.5	11.3	—	—	—
109 (0.12)	16.0	25.3	25.3	8.6	24.2	24.2	9.1	23.1	23.1	9.5	21.7	21.7	10.0	—	—	—
	18.0	27.1	24.8	8.9	25.9	24.3	9.4	24.7	23.8	9.8	23.3	23.2	10.3	21.5	21.5	11.0
	19.5	28.4	22.3	9.1	27.2	21.8	9.6	25.9	21.3	10.1	24.5	20.7	10.6	22.6	20.0	11.3
	22.0	30.9	18.0	9.5	29.6	17.5	10.0	28.1	17.0	10.5	26.5	16.5	11.1	24.5	15.8	11.8
	24.0	32.8	14.5	9.8	31.4	14.1	10.3	29.9	13.6	10.9	28.2	13.1	11.4	—	—	—

[50Hz]

[UATY16J]

Indoor air AFR (BF)	EWB	Outdoor temp. (°CDB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI
120 (0.08)	16.0	34.7	34.7	13.6	33.0	33.0	14.3	31.3	31.3	15.0	29.4	29.4	15.8	—	—	—
	18.0	37.0	30.9	13.9	35.3	30.2	14.6	33.4	29.4	15.4	31.6	28.6	16.2	29.1	27.6	17.2
	19.5	38.9	28.0	14.1	37.1	27.3	14.9	35.2	26.5	15.7	33.1	25.7	16.5	30.6	24.7	17.6
	22.0	42.1	23.1	14.5	40.2	22.4	15.3	38.1	21.6	16.2	36.0	20.9	17.1	33.2	19.9	18.2
	24.0	44.7	19.1	14.8	42.7	18.4	15.7	40.6	17.7	16.6	38.3	16.9	17.5	—	—	—
142 (0.10)	16.0	35.6	35.6	13.8	33.9	33.9	14.4	32.1	32.1	15.2	30.2	30.2	15.9	—	—	—
	18.0	38.0	33.7	14.1	36.2	33.0	14.8	34.3	32.2	15.5	32.4	31.4	16.4	29.9	29.9	17.4
	19.5	39.9	30.4	14.3	38.1	29.6	15.0	36.1	28.9	15.8	34.0	28.1	16.7	31.4	27.1	17.8
	22.0	43.2	24.7	14.7	41.2	24.0	15.5	39.1	23.2	16.3	36.9	22.4	17.2	34.1	21.5	18.4
	24.0	45.9	20.1	15.0	43.8	19.4	15.8	41.6	18.6	16.7	39.3	17.9	17.7	—	—	—
163 (0.12)	16.0	36.2	36.2	13.9	34.5	34.5	14.5	32.6	32.6	15.3	30.7	30.7	16.0	—	—	—
	18.0	38.6	36.2	14.2	36.8	35.4	14.9	34.9	34.7	15.7	33.0	33.0	16.5	30.4	30.4	17.5
	19.5	40.6	32.4	14.4	38.7	31.7	15.2	36.7	30.9	16.0	34.6	30.1	16.8	31.9	29.1	17.9
	22.0	43.9	26.1	14.8	41.9	25.4	15.6	39.8	24.6	16.5	37.5	23.9	17.4	34.7	22.9	18.5
	24.0	46.7	20.9	15.1	44.5	20.2	15.9	42.3	19.5	16.9	40.0	18.8	17.8	—	—	—

[UATY22J]

Indoor air AFR (BF)	EWB	Outdoor temp. (°CDB) 25 TC	25 SHC	25 PI	30 TC	30 SHC	30 PI	35 TC	35 SHC	35 PI	40 TC	40 SHC	40 PI	46 TC	46 SHC	46 PI
170 (0.07)	16.0	45.6	45.6	18.4	43.7	43.7	19.3	41.6	41.6	20.2	39.4	39.4	21.2	—	—	—
	18.0	48.9	42.5	18.9	46.8	41.6	19.8	44.6	40.7	20.8	42.2	39.7	21.8	39.0	38.4	23.1
	19.5	51.4	38.4	19.3	49.2	37.5	20.3	46.9	36.6	21.2	44.4	35.6	22.3	41.0	34.3	23.6
	22.0	55.8	31.4	20.0	53.4	30.5	21.0	50.9	29.6	22.1	48.2	28.7	23.1	44.6	27.4	24.5
	24.0	59.4	25.7	20.6	56.9	24.9	21.7	54.1	23.9	22.7	51.2	23.0	23.8	—	—	—
200 (0.09)	16.0	46.7	46.7	18.6	44.7	44.7	19.5	42.6	42.6	20.4	40.3	40.3	21.4	—	—	—
	18.0	50.0	46.3	19.2	47.9	45.4	20.1	45.6	44.5	21.0	43.2	43.2	22.1	39.9	39.9	23.4
	19.5	52.6	41.6	19.6	50.4	40.7	20.5	48.0	39.8	21.5	45.4	38.8	22.5	42.0	37.5	23.9
	22.0	57.1	33.6	20.3	54.7	32.7	21.3	52.1	31.8	22.3	49.3	30.9	23.4	45.6	29.6	24.8
	24.0	60.8	27.1	20.9	58.2	26.2	21.9	55.4	25.3	23.0	52.4	24.3	24.1	—	—	—
230 (0.11)	16.0	47.5	47.5	18.8	45.4	45.4	19.7	43.3	43.3	20.6	41.0	41.0	21.6	—	—	—
	18.0	50.8	49.9	19.3	48.7	48.7	20.2	46.3	46.3	21.2	43.9	43.9	22.2	40.5	40.5	23.6
	19.5	53.5	44.6	19.7	51.2	43.7	20.7	48.8	42.8	21.7	46.1	41.9	22.7	42.7	40.6	24.1
	22.0	58.0	35.6	20.5	55.6	34.7	21.5	52.9	33.8	22.5	50.1	32.9	23.6	46.3	31.7	25.0
	24.0	61.8	28.3	21.1	59.1	27.5	22.1	56.3	26.6	23.2	53.3	25.6	24.3	—	—	—

Symbols:

AFR : Air flow rate (m^3/min)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
TC : Total cooling capacity (×1000 kcal/h)
SHC : Sensible heat capacity (×1000 kcal/h)
PI : Power input (kW)
(Comp. + outdoor fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. ▨ shows nominal capacities.
3. SHC is based on 27°C dry bulb temp. of air entering indoor coil.
   Below 27°CDB, subtract Δ SCC from SHC.
   Above 27°CDB, add Δ SCC to SHC.
   Δ SCC = Capacity correction for SHC for other dry bulb than 27°C.
   = 0.29 × 60 × AFR(m^3/min) × (1 − BF)
   × (DB − 27°C)
4. Direct interpolation is permissible.
   Do not extrapolate.

● **Heating capacity** **[50Hz]**

[UATY05J]

Indoor air		Outdoor temp. (°CWB)									
AFR	EDB	−5		0		6		10		15	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
47	16	9.6	4.1	11.2	4.3	13.2	4.5	14.6	4.7	—	—
	18	9.4	4.1	11.1	4.3	13.0	4.6	14.5	4.8	—	—
	20	9.3	4.1	11.0	4.4	12.9	4.6	14.3	4.8	16.1	5.1
	21	9.3	4.1	10.9	4.4	12.8	4.7	14.2	4.9	16.0	5.2
	22	9.2	4.2	10.8	4.4	12.8	4.7	14.1	4.9	15.9	5.3
	24	9.1	4.2	10.7	4.5	12.6	4.8	13.9	5.0	15.7	5.4
55	16	9.7	4.0	11.3	4.2	13.4	4.4	14.8	4.6	—	—
	18	9.6	4.0	11.2	4.2	13.2	4.5	14.7	4.7	—	—
	20	9.4	4.1	11.1	4.3	13.1	4.6	14.5	4.8	16.3	5.1
	21	9.4	4.1	11.0	4.3	13.0	4.6	14.4	4.8	16.2	5.1
	22	9.3	4.1	10.9	4.3	12.9	4.6	14.3	4.9	16.1	5.2
	24	9.2	4.1	10.8	4.4	12.7	4.7	14.1	4.9	15.9	5.3
63	16	9.8	4.0	11.4	4.2	13.5	4.4	14.9	4.6	—	—
	18	9.6	4.0	11.3	4.2	13.3	4.4	14.8	4.6	—	—
	20	9.5	4.0	11.2	4.2	13.2	4.5	14.6	4.7	16.4	5.0
	21	9.4	4.0	11.1	4.3	13.1	4.5	14.5	4.8	16.3	5.1
	22	9.4	4.1	11.0	4.3	13.0	4.6	14.4	4.8	16.2	5.1
	24	9.2	4.1	10.9	4.3	12.8	4.7	14.2	4.9	16.0	5.2

[UATY09J]

Indoor air		Outdoor temp. (°CWB)									
AFR	EDB	−5		0		6		10		15	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
73	16	14.7	6.7	17.3	7.1	20.4	7.7	22.6	8.0	—	—
	18	14.5	6.8	17.1	7.2	20.1	7.8	22.3	8.1	—	—
	20	14.3	6.8	16.8	7.3	19.8	7.9	22.0	8.3	24.8	8.8
	21	14.1	6.9	16.7	7.3	19.7	7.9	21.8	8.3	24.6	8.9
	22	14.0	6.9	16.6	7.4	19.6	8.0	21.7	8.4	24.5	9.0
	24	13.8	7.0	16.3	7.5	19.4	8.1	21.4	8.5	24.1	9.1
85	16	14.9	6.6	17.5	7.0	20.7	7.5	22.9	7.9	—	—
	18	14.7	6.7	17.3	7.1	20.4	7.6	22.6	8.0	—	—
	20	14.5	6.7	17.0	7.2	20.1	7.7	22.3	8.1	25.1	8.7
	21	14.3	6.8	16.9	7.2	20.0	7.8	22.1	8.2	24.9	8.7
	22	14.2	6.8	16.8	7.3	19.9	7.9	22.0	8.3	24.8	8.8
	24	14.0	6.8	16.5	7.4	19.6	8.0	21.7	8.4	24.4	9.0
97	16	15.0	6.5	17.7	7.0	20.9	7.4	23.1	7.8	—	—
	18	14.8	6.6	17.5	7.0	20.6	7.5	22.8	7.9	—	—
	20	14.6	6.6	17.2	7.1	20.3	7.7	22.5	8.0	25.3	8.6
	21	14.4	6.7	17.1	7.1	20.2	7.7	22.3	8.1	25.1	8.6
	22	14.3	6.7	17.0	7.2	20.1	7.8	22.2	8.2	25.0	8.7
	24	14.1	6.8	16.7	7.3	19.8	7.9	21.9	8.3	24.6	8.9

[UATY12J]

Indoor air		Outdoor temp. (°CWB)									
AFR	EDB	−5		0		6		10		15	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
81	16	19.0	8.5	22.5	9.0	27.3	9.7	30.8	10.3	—	—
	18	18.9	8.6	22.3	9.2	27.0	9.9	30.5	10.4	—	—
	20	18.8	8.7	22.2	9.3	26.7	10.0	30.1	10.6	34.8	11.4
	21	18.8	8.8	22.2	9.4	26.6	10.1	30.0	10.7	34.6	11.5
	22	18.7	8.8	22.1	9.4	26.5	10.2	29.8	10.8	34.4	11.6
	24	18.6	8.9	21.9	9.5	26.2	10.4	29.5	11.0	34.0	11.8
95	16	19.2	8.4	22.8	8.8	27.6	9.5	31.1	10.1	—	—
	18	19.1	8.4	22.6	9.0	27.3	9.7	30.8	10.2	—	—
	20	19.0	8.5	22.5	9.1	27.0	9.8	30.4	10.4	35.2	11.2
	21	19.0	8.6	22.4	9.2	26.9	9.9	30.3	10.5	35.0	11.3
	22	18.9	8.7	22.3	9.2	26.8	10.0	30.1	10.6	34.8	11.4
	24	18.8	8.8	22.1	9.3	26.5	10.1	29.8	10.7	34.4	11.6
109	16	19.3	8.2	23.0	8.7	27.8	9.4	31.3	9.9	—	—
	18	19.2	8.3	22.8	8.8	27.5	9.5	31.0	10.1	—	—
	20	19.1	8.4	22.7	8.9	27.2	9.7	30.6	10.2	35.5	11.0
	21	19.1	8.5	22.6	9.0	27.1	9.7	30.5	10.3	35.3	11.1
	22	19.0	8.5	22.5	9.1	27.0	9.8	30.3	10.4	35.1	11.2
	24	18.9	8.6	22.3	9.2	26.7	10.0	30.0	10.6	34.7	11.4

[50Hz]

[UATY16J]

Indoor air		Outdoor temp. (°CWB)									
AFR	EDB	−5		0		6		10		15	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
120	16	27.8	12.3	33.1	13.1	39.7	14.1	44.3	14.8	—	—
	18	27.4	12.4	32.6	13.3	39.2	14.3	43.7	15.0	—	—
	20	26.9	12.5	32.1	13.4	386	14.5	43.1	15.2	49.2	16.2
	21	26.7	12.6	31.9	13.5	38.3	14.6	42.8	15.3	48.8	16.4
	22	26.5	12.6	31.6	13.5	38.0	14.7	42.5	15.4	48.5	16.5
	24	26.0	12.7	31.1	13.7	37.4	14.9	41.8	15.7	47.8	16.8
142	16	28.3	12.1	33.7	12.8	40.4	13.8	45.1	14.5	—	—
	18	27.9	12.2	33.2	13.0	39.9	14.0	44.5	14.7	—	—
	20	27.4	12.3	32.7	13.1	39.3	14.2	43.9	14.9	50.1	15.9
	21	27.2	12.3	32.5	13.2	39.0	14.3	43.6	15.0	49.7	16.0
	22	27.0	12.4	32.2	13.3	38.7	14.3	43.3	15.1	49.4	16.1
	24	26.5	12.5	31.7	13.4	38.1	14.5	42.6	15.3	48.7	16.4
163	16	28.7	11.9	34.1	12.6	40.9	13.6	45.7	14.2	—	—
	18	28.3	12.0	33.6	12.8	40.4	13.8	45.1	14.5	—	—
	20	27.7	12.1	33.1	12.9	39.8	13.9	44.5	14.7	50.7	15.6
	21	27.5	12.1	32.9	13.0	39.5	14.0	44.2	14.8	50.3	15.8
	22	27.3	12.2	32.6	13.1	39.2	14.1	43.8	14.9	50.0	15.9
	24	26.8	12.3	32.1	13.2	38.6	14.3	43.1	15.1	49.3	16.2

[UATY22J]

Indoor air		Outdoor temp. (°CWB)									
AFR	EDB	−5		0		6		10		15	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
170	16	35.7	16.0	42.1	16.8	50.6	17.9	56.8	18.8	—	—
	18	35.6	16.1	41.8	17.0	50.1	18.2	56.3	19.1	—	—
	20	35.3	16.3	41.4	17.2	49.6	18.4	55.8	19.4	64.2	20.7
	21	35.2	16.4	41.3	17.3	49.4	18.6	55.5	19.5	63.9	20.9
	22	35.1	16.5	41.1	17.4	49.1	18.7	55.2	19.6	63.5	21.0
	24	34.8	16.7	40.7	17.6	48.6	18.9	54.6	19.9	62.8	21.3
200	16	36.1	15.6	42.6	16.4	51.2	17.5	57.5	18.4	—	—
	18	36.0	15.8	42.3	16.6	50.7	17.8	57.0	18.7	—	—
	20	35.7	16.0	41.9	16.8	50.2	18.0	56.4	18.9	64.9	20.3
	21	35.6	16.0	41.8	16.9	50.0	18.2	56.1	19.1	64.6	20.4
	22	35.5	16.1	41.6	17.0	49.7	18.3	55.8	19.2	64.2	20.6
	24	35.2	16.3	41.2	17.3	49.2	18.5	55.2	19.5	63.5	20.9
230	16	36.4	15.4	42.9	16.2	51.6	17.3	58.0	18.1	—	—
	18	36.3	15.5	42.6	16.4	51.1	17.5	57.5	18.4	—	—
	20	36.0	15.7	42.2	16.6	50.6	17.8	56.8	18.7	65.4	19.9
	21	35.9	15.8	42.1	16.7	50.4	17.9	56.5	18.8	65.1	20.1
	22	35.8	15.9	41.9	16.8	50.1	18.0	56.2	18.9	64.7	20.2
	24	35.5	16.0	41.5	17.0	49.6	18.2	55.6	19.2	64.0	20.6

Symbols:

AFR : Air flow rate (m^3/min)
EDB : Entering dry bulb temp. (°CDB)
TC : Total heating capacity (×1000 kcal/h)
PI : Power input (kW)
(Comp. + indoor fan motor
+ outdoor fan motor)

Notes:

1. Ratings shown are net capacities which include a deduction for indoor fan motor heat.
2. ▨ shows nominal capacities.
3. Capacities are based on the follwing conditions.
   Outdoor air : 85 % RH. However, the condition on nominal capacity is 7°CDB/ 6°CWB.
4. Direct interpolation is permissible.
   Do not extrapolate.

- **Heating capacity at low outdoor temperature.**
  The heating capacities tabulated do not include capacity drop during frosting period and defrosting operation. Namely, the integrated heating capacities in consideration with capacity drop during frosting period and defrosting operation are obtained from the following formula.

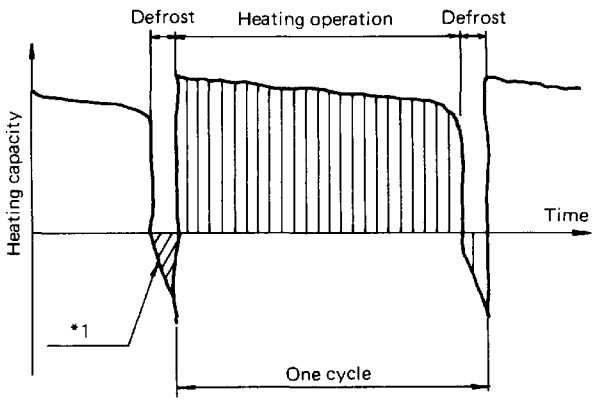
  Integrated heating capacity = (Capacity tabulated) X (Integrated correction factor during frosting period) (kcal/h)

- **Correction factor for obtaining integrated heating capacity**

Entering air temp. to air cooled heat exchanger [°CWB RH=85%]	−6	−4	−2	0	2	4	6
Integrated correction factor during frosting period	0.95	0.89	0.87	0.87	0.89	0.91	1.00

Note:
Integrated heating capacity means that heating capacity during one cycle (between defrosting period and defrosting period) as shown on the right, which is integrated and converted to heating capacity per hour.

- **Cool air discharge**
  During defrosting in the zone marked with *1, the unit is under cooling operation, discharging the cool air from the indoor side.
  It is advisable to attach a duct heater on the spot to heat the air for constant heating or make heating temperature higher.
  Defrosting time changes depending on the outdoor air temperature. At normal conditions, it takes 6~8 minutes or at most 10 minutes before heating operation restarts.



Note:
In case the surface of the heat exchanger is covered with snow, heating capacity drops temporarily although it differs with outdoor temperature (°CWB), relative humidity (RH) and frosting volume.

8. Fan performance

(1) Performance data

Model	AFR		External static pressure (mmH_2O)										PD (Optional EH)
			0	5	10	15	20	25	30	35	40	45	50	
UATY05J	47	r.p.m.	790	930	1050	1180	1300	1410	1520	–	–	–	–	1
		kW	0.20	0.26	0.34	0.42	0.52	0.61	0.71					
	55	r.p.m.	920	1040	1160	1260	1370	1480	1580	–	–	–	–	1
		kW	0.32	0.39	0.48	0.56	0.67	0.78	0.89					
	63	r.p.m.	1090	1190	1290	1390	1470	1570	–	–	–	–	–	2
		kW	0.52	0.61	0.71	0.81	0.91	1.02						
UATY09J	73	r.p.m.	730	830	930	1010	1090	1170	1250	1330	1400	1480	1550	1
		kW	0.36	0.47	0.58	0.70	0.82	0.95	1.09	1.25	1.42	1.60	1.80	
	85	r.p.m.	850	940	1020	1100	1170	1240	1310	1380	1450	1510	1580	1
		kW	0.57	0.69	0.82	0.96	1.09	1.23	1.38	1.54	1.71	1.88	2.07	
	97	r.p.m.	970	1050	1120	1200	1260	1330	1390	1450	1510	–	–	2
		kW	0.85	0.99	1.13	1.28	1.43	1.58	1.74	1.91	2.08			
UATY12J	81	r.p.m.	960	1030	1110	1180	1260	1320	1390	1460	1530	1600	–	1
		kW	0.67	0.79	0.92	1.06	1.20	1.35	1.51	1.68	1.87	2.06		
	95	r.p.m.	1110	1180	1250	1310	1380	1440	1500	–	–	–	–	1
		kW	1.08	1.23	1.38	1.52	1.68	1.85	2.02					
	109	r.p.m.	1270	1340	1400	–	–	–	–	–	–	–	–	2
		kW	1.63	1.80	1.97									
UATY16J	120	r.p.m.	730	820	910	990	1070	1150	1210	1270	1330	1390	–	–
		kW	0.78	0.96	1.17	1.39	1.62	1.86	2.10	2.33	2.59	2.84		
	142	r.p.m.	870	940	1020	1090	1160	1230	1290	1350	–	–	–	–
		kW	1.20	1.51	1.74	1.99	2.25	2.52	2.80	3.08				
	163	r.p.m.	990	1060	1130	1190	1260	1320	1380	–	–	–	–	–
		kW	1.95	2.20	2.46	2.73	3.01	3.31	3.62					
UATY22J	170	r.p.m.	830	900	970	1040	1100	1170	1230	1290	1350	–	–	–
		kW	1.53	1.75	1.98	2.22	2.47	2.74	3.02	3.31	3.62			
	200	r.p.m.	970	1040	1100	1150	1210	1270	1320	1380	–	–	–	–
		kW	2.49	2.74	3.01	3.28	3.57	3.86	4.16	4.48				
	230	r.p.m.	1120	1170	1230	1280	1330	1380	–	–	–	–	–	–
		kW	3.79	4.08	4.38	4.68	5.00	5.33						

Symbols:

AFR : Air flow rate (m^3/min.)
r.p.m. : Fan speed (r.p.m.)
kW : Brake horsepower input to fan (kW)
PD : Pressure drop through optional auxiliary electric heater (mmH_2O)
EH : Electric heater

Note:

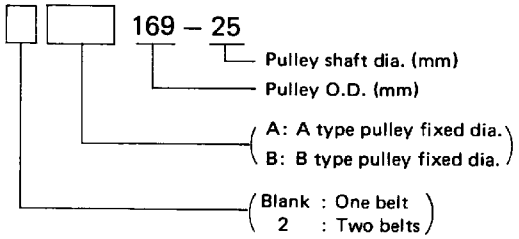
▒▒ shows the operating range of the standard fan motor. In case the fan motor is used out of the range, change motor size.

(2) Specifications (factory set)

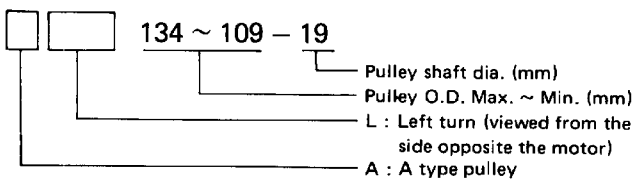
Model		UATY05J	UATY09J	UATY12J	UATY16J	UATY22J
Pulley:Fan side	Y1	A169-25 (fixed dia.)	A169-25 (fixed dia.)	A169-25 (fixed dia.)	B235-35 (fixed dia.)	2B235-35 (fixed dia.)
Pulley:Motor side	Y1	AL134-109-19 (variable dia.)	AL124-99-24 (variable dia.)	AL149-124-24 (varible dia.)	B171-28 (fixed dia.)	2B191-28 (fixed dia.)
V belt:size	Y1	A40×1	A43×1	A46×1	B44×1	B46×2

(3) Nomenclature

- **Fixed pitch pulley**



- **Variable pitch pulley**



(4) Adjusting range of fan motor pulley

Model	No. of turns	Gap (mm)	Pitch dia. (mm) Y1	Fan speed (r.p.m) Y1
UATY05J	0	0	125**	1110
	1	1.5	120	1065
	2	3.0	115	1020
	3	4.5	110	975
	4	6.0	105	930
	5	7.5	100	885
UATY09J	0	0	115	1020
	1	1.5	110**	975
	2	3.0	105	930
	3	4.5	100	885
	4	6.0	95	840
	5	7.5	90	795
UATY12J	0	0	140**	1245
	1	1.5	135	1200
	2	3.0	130	1155
	3	4.5	125	1110
	4	6.0	120	1065
	5	7.5	115	1020
UATY16J	-	-	160**	1015
UATY22J	-	-	180**	1140

* denotes range of fan motor pulley out of the operation range (Refer to (1) Performance data)

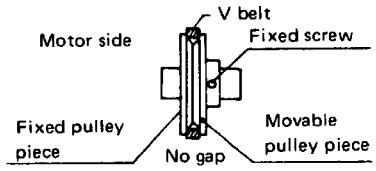
** Factory set

(5) Operating range

Model	UATY05J	UATY09J	UATY12J	UATY16J	UATY22J
Air flow rate (m^3/min.)	47~63	73~97	81~109	120~163	170~230
Max. fan speed (r.p.m.)	1600	1600	1600	1400	1400
Max. replaceable motor (kW)	1.5	2.2	2.2	3.7	5.5

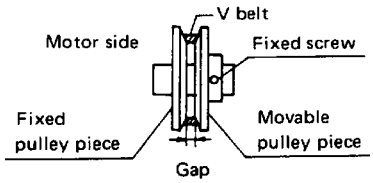
Pulley adjusting method

[Max. dia.]



Turn the movable pulley piece counterclockwise viewed from the side opposite the motor by the number of turns tabulated.

[Min. dia]

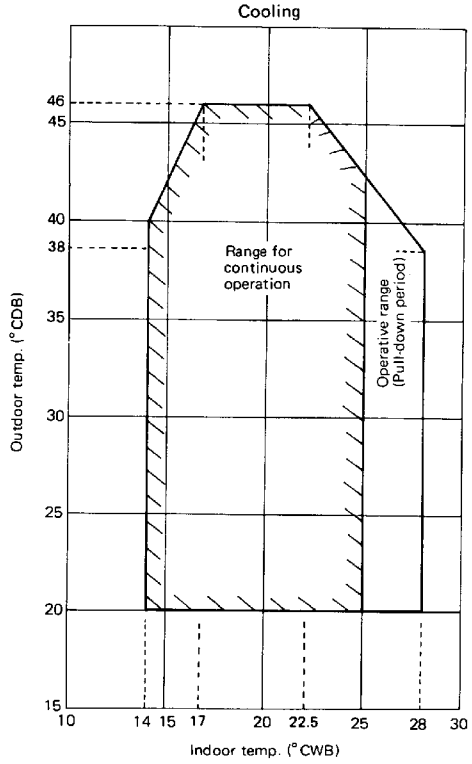


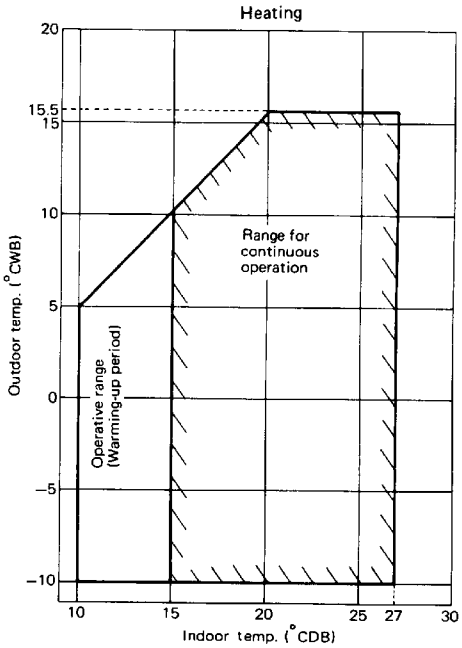
(Refer to Gap in the table on the left)

How to adjust the variable pitch pulley

- After stopping, loosen the belt, remove the screw from the movable pulley piece and turn the movable piece in the direction shown the required number of times (tabulated in the Table).
- Insert the screw into one of two holes, from which it can contact with the flat face of the fixed-pulley piece when it is tightened up.
- Retighten the screw.
- Align the pulleys of the fan and the motor and adjust the tension of V belts.

9. Operation limit

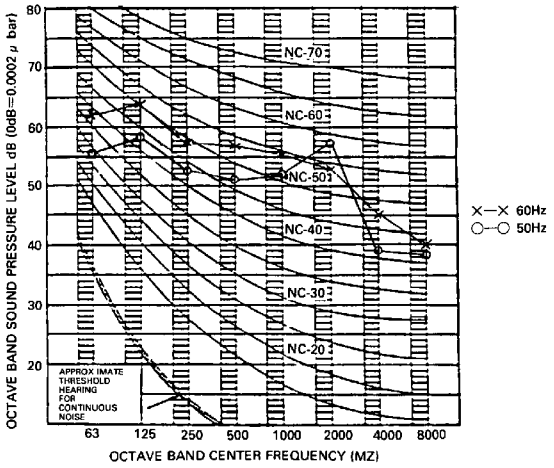




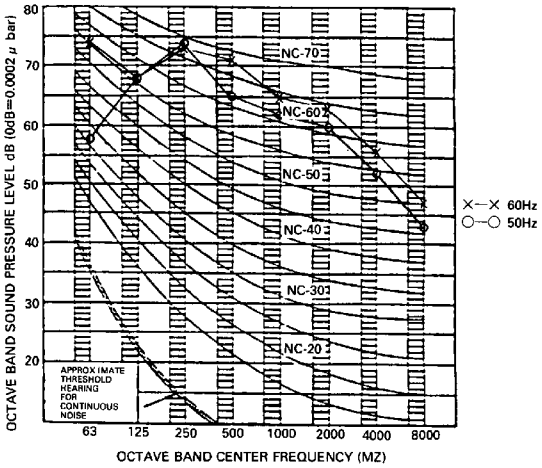
Note: Air flow rate is standard.

10. Operation noise

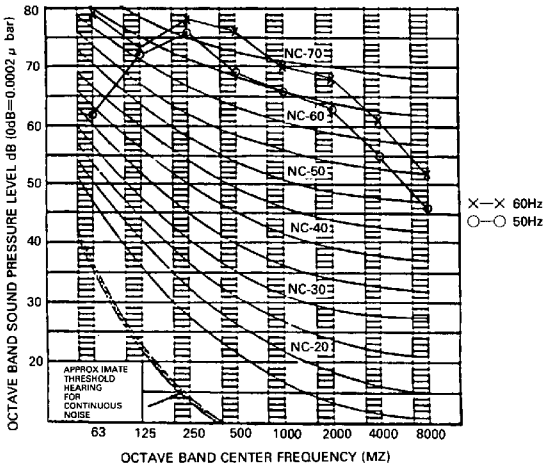
UATY05J



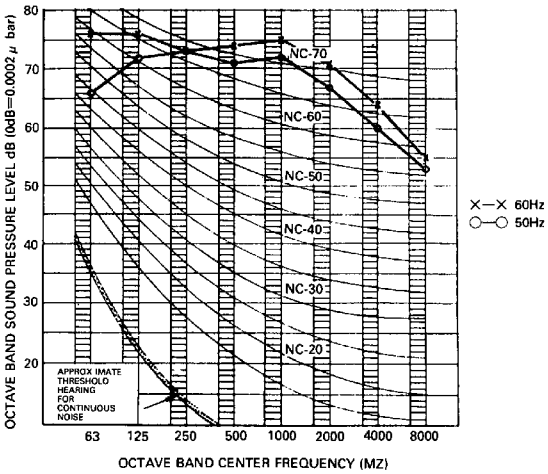
UATY09J



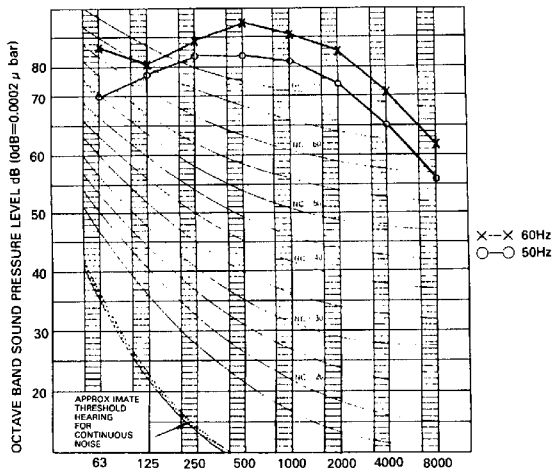
UATY12J



UATY16J



UATY22J



11. Electric characteristics

Model	Type	Volts-Ph-Hz	Voltage Range	Standard unit									With electric heater (option)			
				Power supply			Comp.		OFM		IFM		Power supply		Heater	
				MCA	TOCA	MFA	LRA	RLA	kW	FLA	kW	FLA	MCA	MFA	kW	FLA
UATY05J	Y1*	380-3-50 400-3-50 415-3-50	Max. 456V Min. 342V	12.7	16.6	20	52 54 56	7.9 7.7 7.5	0.19	1.0	0.75	1.8	21.4	30	5	6.4 6.8 7.0
UATY09J		380-3-50 400-3-50 415-3-50		20.6	21.9	30	93 98 102	12.1 11.9 12.2	0.9	1.7	1.5	3.6	36.2	45	9	11.5 12.1 12.5
UATY12J		380-3-50 400-3-50 415-3-50		25.5	27.2	40	121 127 132	15.3 15.0 14.9	1.5	2.8	1.5	3.6	41.2	50	9	11.5 12.1 12.5
UATY16J		380-3-50 400-3-50 415-3-50		36.2	45.8	45	93ea 98ea 102ea	11.6ea 11.4ea 11.6ea	1.5ea	2.8ea	2.2	4.5	62.3	70	15	19.1 20.1 20.9
UATY22J		380-3-50 400-3-50 415-3-50		47.3	57.0	60	121ea 127ea 132ea	15.2ea 15.1ea 15.1ea	1.5ea	2.8ea	3.7	7.5	82.1	90	20	25.5 26.8 27.8

Symbols:

MCA : Min. Circuit Amps.
TOCA : Total Overcurrent Amps.
MFA : Max. Fuse Amps. (See Note 7)
LRA : Locked Rotor Amps.
RLA : Rated Load Amps.
OFM : Outdoor Fan Motor
IFM : Indoor Fan Motor
kW : Fan Motor Rated Output
FLA : Full Load Amps.
* : 4 wire system

Notes:

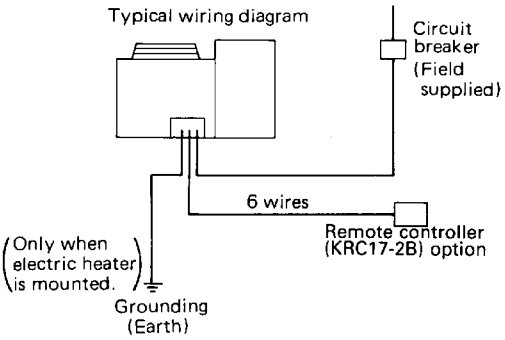
1. • Cooling/Heating:
   Comp. OFM, IFM are in operation.
   • Heating with electric heater
   Comp. OFM, IFM, heater are in operation.
2. RLA is based on the following conditions.
   Indoor Temp. 27°CDB/19.5°CWB
   Outdoor Temp. 35°CDB
3. TOCA means the total value of each OC set.
4. Voltage Range
   Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.
5. Maximum allowable voltage unbalance between phases is 2%.
6. MCA/MFA
   MCA = 1.25 x [(RLA+FLA(heater)] + ea. FLA.
   MFA ≦ 2.25 x RLA + ea. FLA
   (Next lower standard fuse rating)
7. Select wire size based on the larger value of MCA or TOCA.
8. Instead of fuse, use Circuit Breaker.
9. Heater (option)
   Electric ratings shown above are at 415V(Y1)
   Use the following factors to determine heater capacity for your particular voltage.

Type	Voltage Distribution	Multiplication Factor
Y1	380	0.84
	400	0.93
	415	1.0

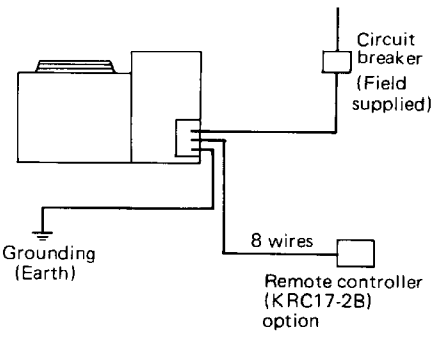
12. Wiring connections

- Wiring connection is made according to the wiring diagram which is stuck on the service panel for switch box of the unit.
- When the fan motor and the fan rotor rotate reversely, change the two wires out of three.
- Fan rotation direction is pointed by the arrow mark stuck on the fan pulley.
- Accord with your local code, when wiring is provided on the spot.

UATY05J~12J



UATY16·22J



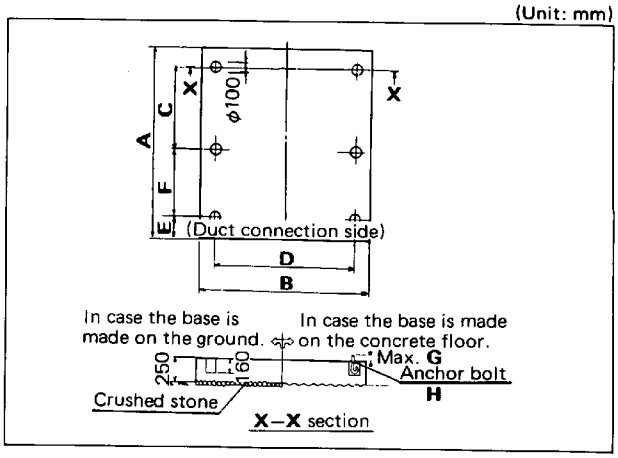
13. Foundation

(Unit: mm)

Model	A	B	C	D	E	F	G	H
UATY05J	1420	1190	595	1010	115	595	20	M16x160
UATY09J•12J	1600	1380	685	1200	115	685	20	M16x160
UATY16J	1860	2005	650	1825	500	400	22	M12x125
UATY22J	1960	2185	700	2005	500	400	22	M12x125

Notes:
1. Provide a concrete flat and level base.
2. Provide a ditch around the unit. (particulary note that drain volume of the outdoor coil is large during heating.)
3. In case of roof-top installation, check the strength and water-proof of the roof.

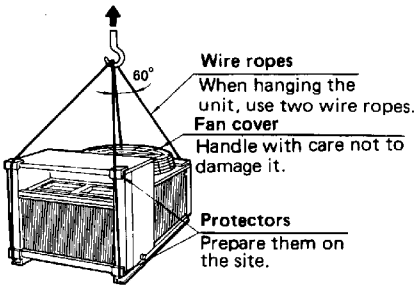
(Unit: mm)



14. Bringing in

For safe and accurate bringing in, the units are so designed to be suspended from the channel base as shown in the figures. In addition, this channel base makes it possible to equalize weight of the unit on to the surface of the foundation. Then, fix the unit firmly with anchor bolts.

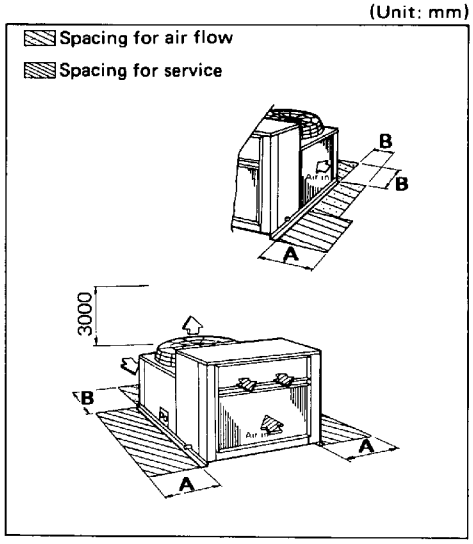
- Install the unit in such a location which is flat and strong enough to support its weight.
- Provide a trap of over 50mm in the drain piping for water seal.
- All field wiring shown in the figure must comply with applicable local and national codes.



(Unit: mm)

Model	A	B
UATY05J	1000	500
UATY09J•12J	1000	700
UATY16J•22J	1000	1000

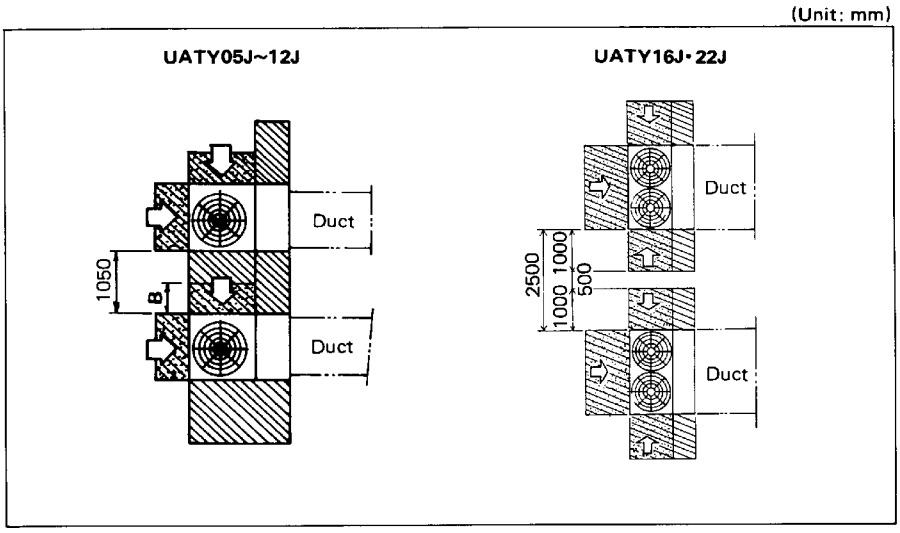
(Unit: mm)



15. Service space

- Service spacing should be provided as shown in the figure. If any obstacles are around the unit, distributed air is short-circuited so that the unit stops frequently and access to the unit is difficult for inspection and after-sales services.
- In case multiple units are installed face to face, leave space between two units at least as shown on the right.

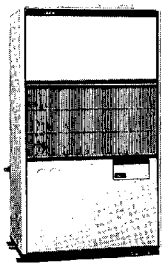
(Unit: mm)

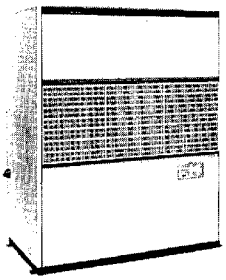
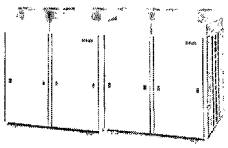
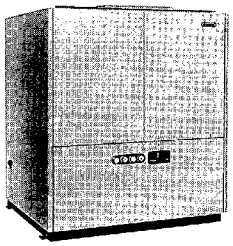
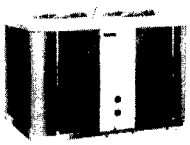


3 Air Cooled Packaged Air Conditioners Remote Condenser Type

FRP3MB+CR3MA	FRYP3MB+CRY3MA
FRP5MB+CR5MA	FRYP5MB+CRY5MA
FRP8MB+CR8M	FRYP8MB+CRY8M
FRP10MB+CR10M	FRYP10MB+CRY10M
FR15MB+(CR8M2)×2	FRY15MB+(CRY8M2)×2
FR20MB+(CR10M2)×2	FRY20MB+(CRY10M2)×2
FR25JB+(CR12JA2)×2	FRY25JB+(CRY12JA2)×2
FR30JB+(CR15JA2)×2	FRY30JB+(CRY15JA2)×2
FR40JB+(CR20JA2)×2	FRY40JB+(CRY20JA2)×2
	FRY50JB+(CRY25J50)×2

CONTENTS



3-1 Air Cooled Packaged Air Conditioners Remote Condenser Type FR(P) + CR Series

1. Features

The Daikin Air Cooled Remote Condenser Type Air Conditioners (FR(P)+CR Series) are available in 9 models from 6,500/7,300 kcal/h to 95,000/105,000 kcal/h (50/60Hz). The indoor units are designed to be ducted for air distribution.
However, if an optional plenum chamber is placed on the top of the indoor unit, cool air can be distributed directly into the room (FR(P)5MB~20MB, 25JB). In addition, the indoor units are capable of heating when an optional heater is mounted. The remote condenser is designed to be installed on roof tops, on verandas, on the ground or any place outdoors. Therefore, the casing of the remote condenser is completely proofed against weather. These models are ideally used for cooling of offices, hotels, restaurants, hospitals, etc.

Easy installation:

- The self-contained units are assembled, internally wired, and precharged with the refrigerant at the factory and are subject to stringent test run before delivery. All you have to do on the spot are to provide external wiring, piping and ducting.
  The direction of refrigerant piping can be connected from both sides of the unit. However, the direction of refrigerant piping for FR15MB, 20MB, 25JB can be connected from 3 directions, right, left and rear of the unit.
- The variable pitch pulley is attached to FR(P)3MB~20MB, 25JB for ease of ducting.
- The remote condenser is equipped with 3 or 4 eye bolts to bring it in easily. In addition, the condenser is designed to draw in the air from 3 or 4 directions, which reduces the required spacing around it.

Easy operation and maintenance:

- On the control panel, the master control knob or switch for operation, COOL/HEAT selector switch and thermostat knob are arranged so that operation can be done easily. In addition, the red pilot lamp for operation and white lamps for alarm (FR15MB, 20MB, 25JB~40JB), discharge and suction pressure gauges (FR30JB, 40JB) are attached to show operation state at a glance. For remote operation, the selector switch and the terminal are attached to FR15MB, 20MB, 25JB~40JB.
- The washable air filter is attached to remove dust and dirt from the room air and is easily attached or detached for cleaning.

Safe operation:
A complete set of safety devices is equipped to protect the air conditioner from trouble. In particular, earth terminal is provided in each switch box both for indoor unit and remote condenser.

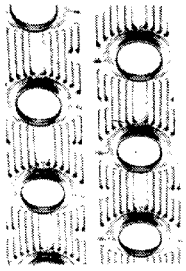
Quiet:
The multi-blade fan adopted ensures quiet operation. In addition, the reciprocating compressor is equipped with mufflers at its discharge side and the air passage inside the unit is designed to minimize air resistance for quiet operation. What is more, the laminar flow fan is used as a condenser fan for quiet and effective operation.

Economical operation:

- The electronic thermostat detects room temperature accurately and controls the compressor operation to maintain room temperature to predesigned temperature, which in turn saves power consumption.
- Two refrigerant circuits are provided in FR15MB, 20MB, 25JB~40JB, which ensures efficient part load performance at high suction temperature.

Main components:

- **The compressor** has been developed with Daikin's own technology and is of the highly efficient, powerful, durable and compact hermetically sealed reciprocating type.
- **Adoption of scroll compressor** for FR(P)5MB~FR20MB
- **The evaporator and condenser coils** are of the unique cross fin coil type; i.e. waffle louver fins and Hi-X tubes. Fins are cut in the waffle fins in the louver shape to increase heat transfer coefficient. Furthermore, Hi-X tubes whose internal surface is modified by serration are used for additional efficiency.



Waffle louver fins

Hi-X tube

- **The evaporator fan and motor**
  The evaporator fan is of the dual suction, multi-blade type and is driven by the belt. The motor is equipped with an over-current relay for safe operation.
- **The condenser fan and motor**
  The condenser fan is a direct drive propeller fan and discharges hot air and operation noise upwards. The motor using non-lubrication bearings is of the 8-pole (6-pole for FRP3MB, 5MB) water proof induction type and is equipped with a thermal protector.

2. Specifications

Model				FRP3MB+CR3MA	FRP5MB+CR5MA	FRP8MB+CR8M	FRP10MB+CR10M	FR15MB+(CR8M2)X2
*1 Cooling capacity 50/60Hz			kcal/h	6,500/7,300	11,500/12,800	16,500/18,500	23,200/25,800	32,500/36,500
			Btu/h	25,800/29,000	45,700/50,800	65,500/73,400	92,100/102,400	129,000/144,900
			kW	7.6/8.5	13.4/14.9	19.2/21.5	27.0/30.0	37.8/42.4
Capacity steps			%	100—0	100—0	100—0	100—0	100—50—0
Refrigerant	Model			R22 (Precharged in FR(P)unit)				
	Control			Thermal expansion valve expansion valve		Capillary tube		
	No.of circuits			1	1	1	1	2
Connections	Refrigerant piping	Liquid	mm	Dia.9.5	Dia.9.5	Dia.12.7	Dia.15.9	Dia.12.7X2
		Gas	mm	Dia.12.7	Dia.15.9	Dia.19.1	Dia.22.2	Dia.19.1X2
Drain piping (FR(P) unit)	Upper/lower			FPS1B/FPS$^1/_2$B	FPS1B/FPS$^1/_2$B	FPS1B/FPS$^1/_2$B	FPS1B/FPS$^1/_2$B	FPS1B/FPS1B
Indoor unit				**FRP3MB**	**FRP5MB**	**FRP8MB**	**FRP10MB**	**FR15MB**
Casing/color				Cold rolled steel plate/Casing:ivory white air suction grille: light camel				Cold rolled steel plate/ ivoly white
Compressor	Type			Hermetically sealed rotary	Hermetically sealed scroll			
	Model X No.			RC88TNX1	JT140AX1	JT200AX1	JT280AX1	JT200AX2
	No.of cylinders			—	2	2	3	2X2
	Speed 50/60Hz		r.p.m	2,850/3,450	2,900/3,450	2,900/3,450	2,900/3,450	2,900/3,450
Refrigeration oil	model			SUNISO 4GS DI	SUNISO 3GSD			
	Charge		ℓ	1.35	2.1	2.6	3.2	2.6X2
Coil	Type			Cross fin coil (Waffle louver fins and Hi-X tubes)				
	Row X stage			2X20	2X26	2X26	2X26	3X32
	Fin pitch		mm	2.0	2.0	2.0	2.0	2.0
	Face area		m^2	0.260	0.443	0.575	0.746	0.894
Fan	Type			Dual suction multi-blade				
	Model			D1$^1/_2$D	2D1$^5/_8$A	2D1$^3/_4$G2	2D1$^3/_4$G3	2D2E
	Drive			Belt drive				
	Air flow rate 50/60Hz		m^3/min.	25	42	60	83	120
			cfm	880	1,480	2,120	2,930	4,240
	Motor output		kW	0.4	0.75	0.75	1.5	2.2
Air filter (Factory set)				Resin net				
Electronic thermostat				1 step				2 steps
Dimensions	H X W X D		mm	1,700X750X380	1,640X950X510	1,640X1,170X510	1,640X1,470X510	1,870X1,470X720
Weight			kg	125	170	230	270	420
Remote condenser				**CR3MA**	**CR5MA**	**CR8M**	**CR10M**	**(CR8M2)X2**
Casing/color				Paintable galvanized steel plate (Weather proof)/ ivory white				
Coil	Type			Cross fin coil (Waffle louver fins and Hi-X tubes)				
	Row X stage			2X40	2X64	(2X1)X40	(2X1)X50	(2X1)X40X2
	Fin pitch		mm	2.0	2.0	2.0	2.0	2.0
	Face area		m^2	0.554	0.887	1.57	1.97	1.57
Fan	Type			Propeller				
	Model X No.			P48G11FX1	P48G11FX1	P55H11FX1	P55H11FX1	P55H11FX2
	Drive			Direct drive				
	Air flow rate 50/60Hz		m^3/min.	50/52	82/86	140/160	160/180	(140/160)X2
			cfm	1,765/1,836	2,895/3,001	4,942/5,648	5,648/6,354	(4,942/5,648)X2
	Motor output		kW	0.095	0.175	0.32	0.32	(0.32)X2
Dimensions	H X W X D		mm	900X820X295	1,425X820X295	1,205X1,280X690	1,425X1,280X690	(1,200X1,280X690)X2
Weight			kg	33	52	94	104	(94)X2

Conversion formulae		
Btu/h	=	kcal/h x 3.97
kW	=	kcal/h x 0.001163
Inches	=	mm x 0.0394
Pounds	=	kg x 2.205
Psi	=	kg/cm² x 14.22
KPa	=	kg/cm² x 98.07
Cfm	=	m³/min. x 35.3
US Gallons	=	Liter x 0.264
UK Gallons	=	Liter x 0.220

e.g. 11,500 kcal/h = 11,500 x 3.97
≒ 45,700 Btu/h

Model				FR20MB+(CR10M2)×2	FR25JB+(CR12JA2)×2	FR30JB+(CR15JA2)×2	FR40JB+(CR20JA2)×2
*1 Cooling capacity 50/60Hz			kcal/h	47,000/52,000	52,000/58,000	66,000/74,000	95,000/105,000
			Btu/h	186,600/206,400	206,400/230,300	262,000/293,800	377,200/416,900
			kW	54.7/60.5	60.5/67.4	76.7/86.0	110.5/122.1
Capacity steps			%	100—50—0	100—50—0	100—50—0	100—50—0
Refrigerant	Model			R22 (Precharged in FR unit)			
	Control			Capillary tube		Thermal expansion valve	
	No.of circuits			2	2	2	2
Connections	Refrigerant piping	Liquid	mm	Dia.15.9×2	Dia.15.9×2	Dia.19.1×2	Dia.22.2×2
		Gas	mm	Dia.22.2×2	Dia.22.2×2	Dia.25.4×2	Dia.31.8×2
Drain piping (FR unit)	Upper/lower			FPS1B/FPS1B	FPS1B/FPS1B	FPS1 1/4B/FPS1B	FPS1 1/4B/FPS1B
Indoor unit				**FR20MB**	**FR25JB**	**FR30JB**	**FR40JB**
Casing/color				Cold rolled steel plate/ivory white			
Compressor	Type			Hermetically sealed scroll	Hermetically sealed reciprocating		
	Model×No.			JT280A×2	3T55VG×2	6T55FA×2	6T55TACS×2
	No.of cylinders			3×2	3×2	6×2	6×2
	Speed 50/60Hz		r.p.m	2,900/3,450	2,900/3,450	2,900/3,450	2,900/3,450
Refrigeration oil	Model			SUNISO 3GSD			
	Charge		ℓ	3.2×2	3.2×2	6.1×2	6.1×2
Coil	Type			Cross fin coil (Waffle louver fins and Hi-X tubes)			
	Row×stage			3×32	3×28	3×48	3×56
	Fin pitch		mm	2.0	2.0	2.0	2.0
	Face area		m^2	1.133	1.145	1.83	2.39
Fan	Type			Dual suction multi-blade			
	Model			2D2E	2D2E	D3C	2D2 1/2D
	Drive			Belt drive			
	Air flow rate 50/60Hz		m^3/min.	165	180	240	330
			cfm	5,820	6,360	8,470	11,650
	Motor output		kW	3.7	3.7	5.5	7.5
Air filter (Factory set)				Resin net			
Electronic thermostat				2 steps			
Dimensions	H×W×D		mm	1,870×1,810×720	1,870×1,810×720	1,850×1,760×1,050	1,850×1,960×1,200
Weight			kg	460	490	780	1,000
Remote condenser				**(CR10M2)×2**	**(CR12JA2)×2**	**(CR15JA2)×2**	**(CR20JA2)×2**
Casing/color				Paintable galvanized steel plate (Weather proof)/ ivory white			
Coil	Type			Cross fin coil (Waffle louver fins and Hi-X tubes)			
	Row×stage			(2×1)×50×2	(2×40)×4	(2×34)×4	(2×40)×4
	Fin pitch		mm	2.0	2.0	2.0	2.0
	Face area		m^2	1.97	(1.50)×4	(1.91)×4	(2.51)×4
Fan	Type			Propeller			
	Model×No.			P55H11F×2	P80E×2	P70E×4	P80E×4
	Drive			Direct drive			
	Air flow rate 50/60Hz		m^3/min.	(160/180)×2	(190/210)×2	(260/300)×2	(380/420)×2
			cfm	(5,648/6,354)×2	(6,700/7,400)×2	(9,180/10,590)×2	(13,410/14,830)×2
	Motor output		kW	(0.32)×2	(0.28)×2	(0.19)×4	(0.28)×4
Dimensions	H×W×D		mm	(1,420×1,280×690)×2	(1,275×980×980)×2	(1,115×1,700×980)×2	(1,275×1,960×980)×2
Weight			kg	(104)×2	(105)×2	(145)×2	(205)×2

Notes:

1. Nominal cooling capacities are based on the following conditions.
   Indoor air temp.: 27°CDB (80°FDB), 19.5°CWB (67°FWB)
   Outdoor temp.: 35°CDB (95°FDB)
   Equivalent ref. piping length: 5m
   Level difference: 0m
2. The capacities are gross capacities which do not include a deduction for evaporator fan motor heat.

Safety devices

The following safety devices are equipped as standard.

- Compressor thermal protector
- Fan motor thermal protector (Cord. fan motor)
- Overcurrent relay (Compressor)
- Overcurrent relay (Evap. fan motor)
- High pressure switch
- Low pressure switch (FRP5~10MB, FR15MB, 20MB)
- Fusible plug
- Crankcase heater
- Fuse
- Phase-reversal relay (FRP3MB~10MB, FR15MB, 20MB)

■ Power supply

SYMBOL	Power supply	Outdoor unit	Indoor unit
YE	3 ϕ, 380~415/400~440V, 50/60Hz (3 wires)	CR3MAYE	FRP3MBYE
		CR5MAYE	FRP5MBYE
		CR8MYE	FRP8MBYE
		CR10MYE	FRP10MBYE
		(CR8M2YE)×2	FR15MBYE
		(CR10M2YE)×2	FR20MBYE
		(CR12JA2YE)×2	FR25JBYE
		(CR15JA2YE)×2	FR30JBYE
		(CR20JA2YE)×2	FR40JBYE

3

3. Standard accessories

1. **Operation manual**
2. **Installation manual**
3. **Fuse**
4. **Bolts, nuts for duct flange**
5. **Drain plug cover (FRP3~10)**
6. **Fan motor pulley (FR30, 40)**
7. **V-belt (FR30·40)**

4. Optional accessories

※ 1. **Electric heater**
2. **Hot water heater**
3. **Steam heater**
4. **Evaporating pan type humidifier**
5. **Steam spray type humidifier**
6. **Water spray type humidifier**

※ 7. **Fan motor pulley change [Evaporator fan]** ☆

※ 8. **Fan motor 1 size larger [Evaporator fan]** ☆
(except FRP3MBYE)

9. **Fresh air intake (FRP3~20)**
10. **Rear suction inlet (FRP3~20)**
11. **Plenum chamber (FRP5~25)**
12. **Side discharge grille for plenum chamber (FRP3~25)**
13. **Pressure gauge (FRP3~25)**

※ 14. **Anti-corrosion treatment for outdoor units** ◎
- **E1 [Standard anti-corrosion model]**
- **E2 [Stronger anti-corrosion model]**

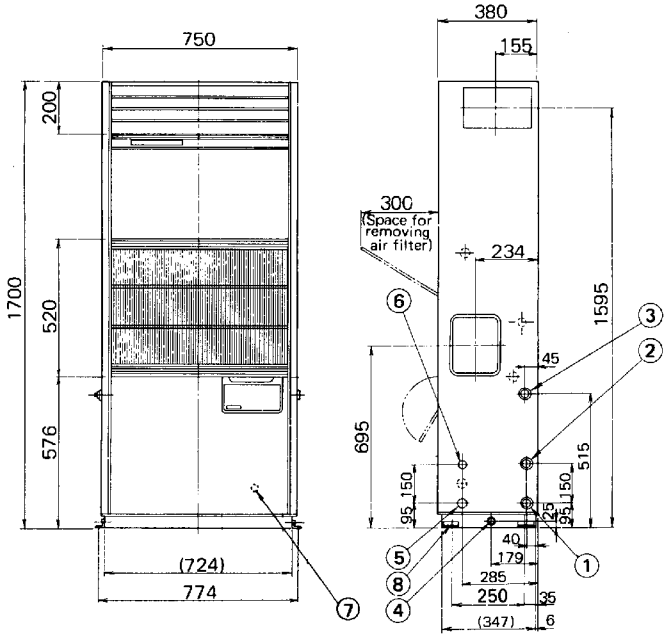
※ 15. **Low ambient temp. operation for outdoor units (CR12~20)**
down to 0°C

Note: ※ These options should be attached in DAIKIN factory.
Field modifications are not available
☆ In case ordering these modifications, inform "Air flow rate (m^3/min)" & "External static pressure (mmH_2O)".
◎ For the detail specification of "Anti-corrosion treatment", refer to Appendix -1 (Last chapter of this catalog.)

5. Dimensions

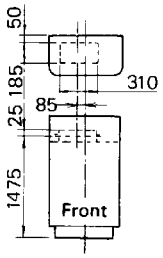
(Unit: mm)

FRP3MB



① Liquid pipe conn. φ9.5 DCuT Flare
② Gas pipe conn. φ12.7 DCuT Flare
③ Upper drain FPS1B
④ Lower drain FPS1/2B
⑤ Power supply intake φ45 hole
⑥ Control wire intake φ28 hole
⑦ Grounding terminal in switch box M5 bolt
⑧ Anchor bolt set plate 4-φ15 hole (Detachable)

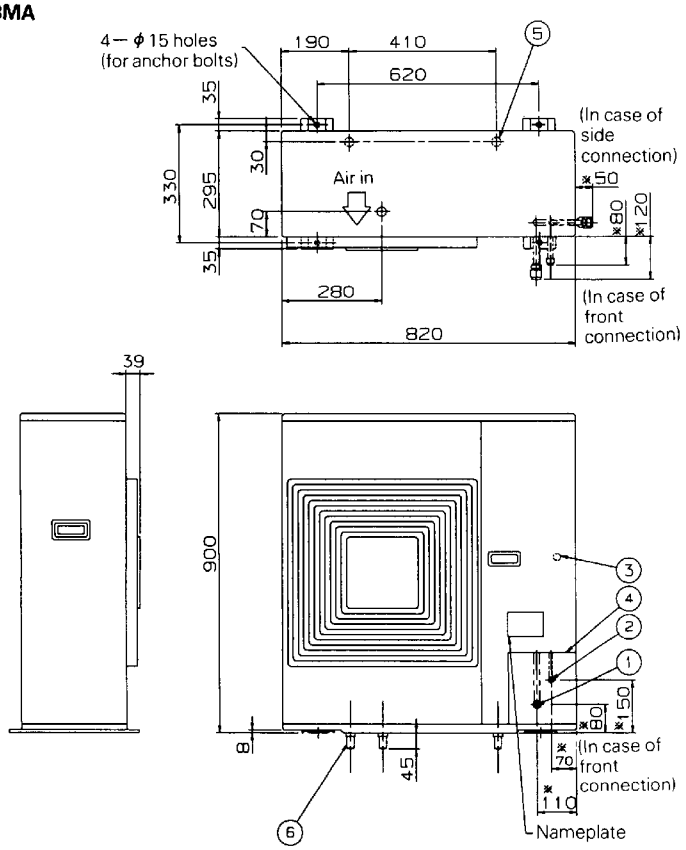
Note:
① ~ ⑥ are provided on the right side (Standard), but they can be also provided on the left side on the spot.



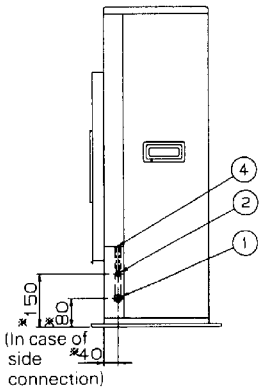
Duct connection

(Unit: mm)

CR3MA



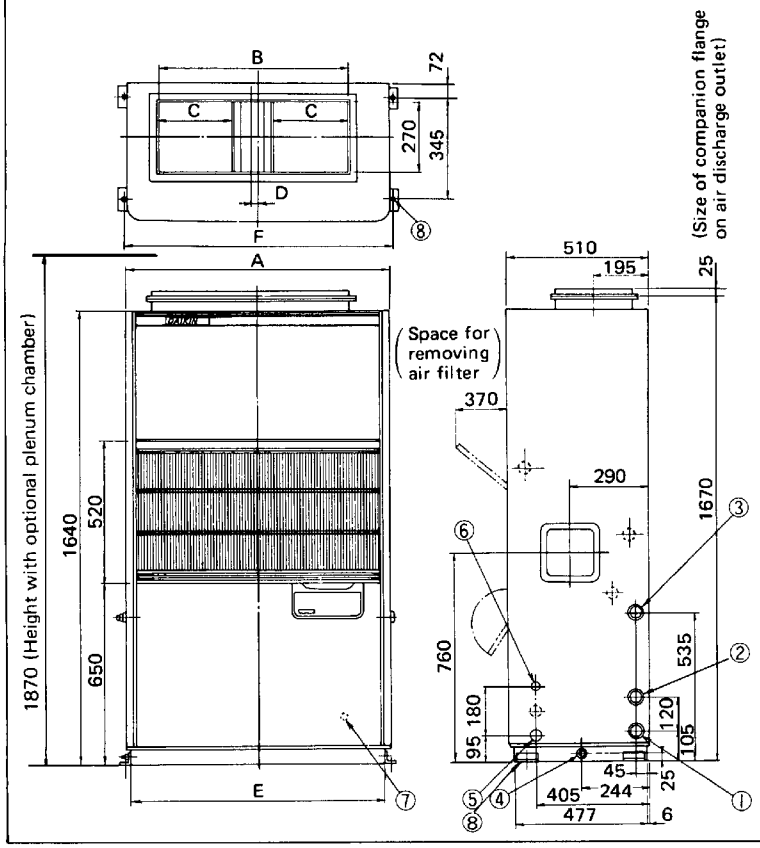
① Gas pipe conn. φ12.7 DCuT Flare
② Liquid pipe conn. φ9.5 DCuT Flare
③ Grounding terminal in switch box M5 bolt
④ Power, control wiring intake
⑤ Drain outlet VP26
⑥ Drain plug (Option)



Notes:
The asterisked (※) dimensions denote those after the related pipings have been completed.

(Unit: mm)

FRP5MB·8MB·10MB



① Liquid pipe conn.
- FRP5MB: φ9.5 DCuT Flare
- FRP8MB: φ12.7 DCuT Brazing
- FRP10MB: φ15.9 DCuT Brazing

② Gas pipe conn.
- FRP5MB: φ15.9 DCuT Flare
- FRP8MB: φ19.1 DCuT Brazing
- FRP10MB: φ22.2 DCuT Brazing

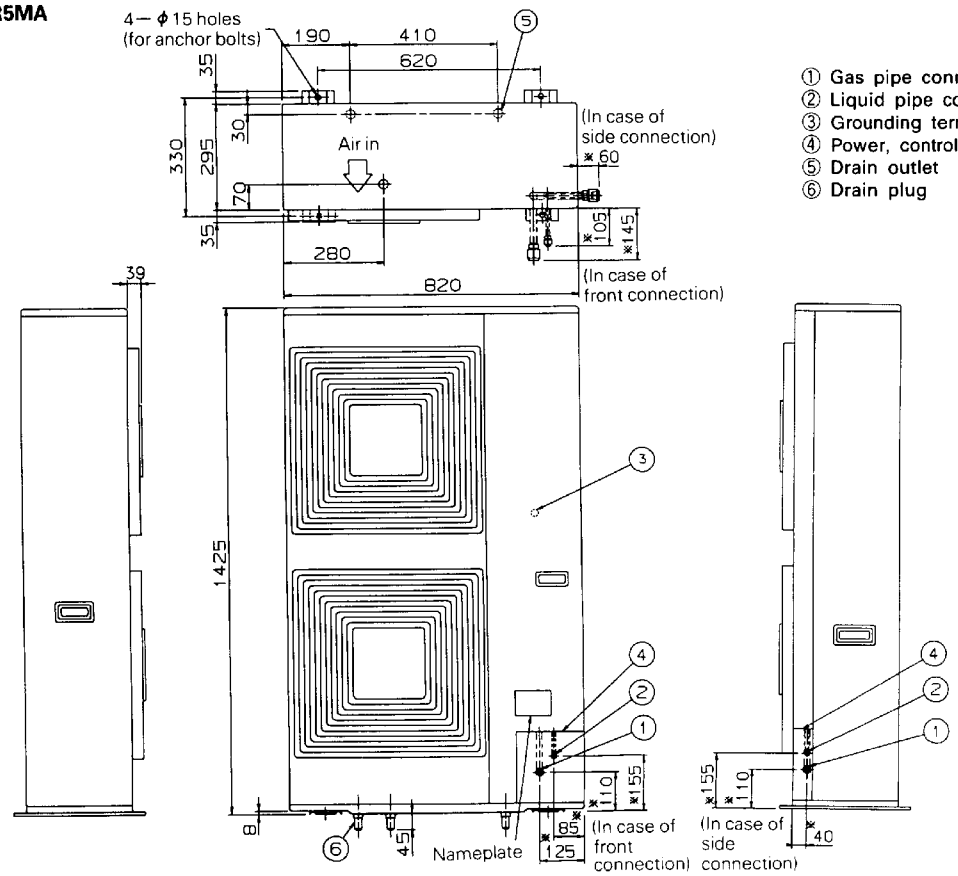
③ Upper drain: FPS1B
④ Lower drain: FPS1/2B
⑤ Power supply intake: φ45 hole
⑥ Control wire intake: φ28 hole
⑦ Grounding terminal in switch box M5 bolt
⑧ Anchor bolt set plate (Detachable): 4-φ15 hole

Note:
① ~ ⑥ are provided on the right side (Standard), but they can be also provided on the left side on the spot.

Model	A	B	C	D	E	F
FRP5MB	950	695	280	27.5	924	974
FRP8MB	1170	870	330	35.0	1144	1194
FRP10MB	1470	1140	430	20.0	1444	1494

(Unit: mm)

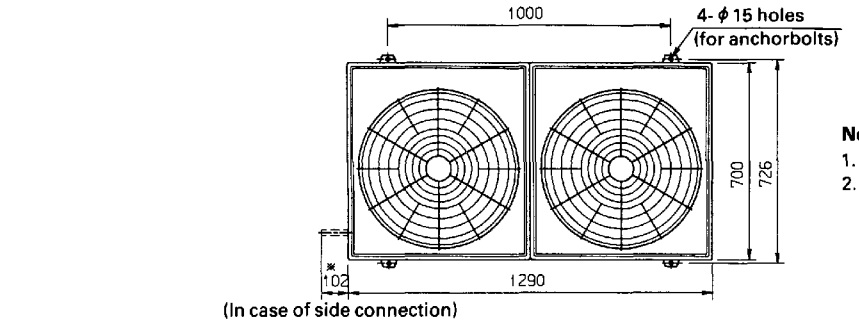
CR5MA



① Gas pipe conn. φ15.9 DCuT Flare
② Liquid pipe conn. φ9.5 DCuT Flare
③ Grounding terminal in switch box M5 bolt
④ Power, control wiring intake
⑤ Drain outlet VP26
⑥ Drain plug (Option)

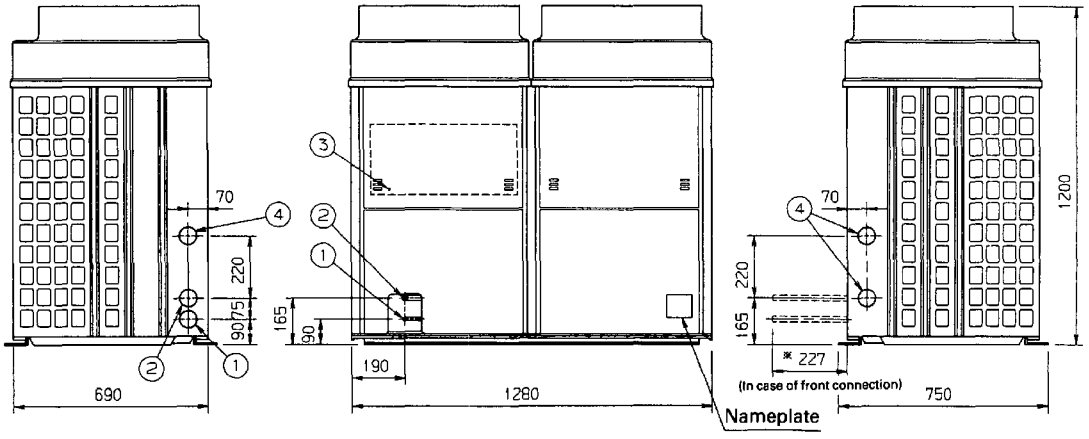
Notes:
The asterisked (※) dimensions denote those after the related pipings have been completed.

CR8M·(CR8M2)×2

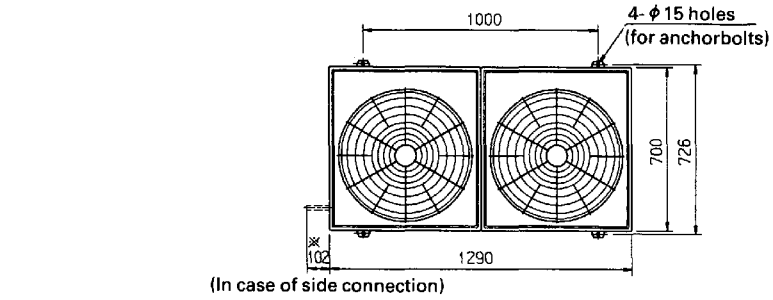


① Liquid pipe conn. φ12.7 DCuT Brazing
② Gas pipe conn. φ19.1 DCuT Brazing
③ Grounding terminal in switch box M5 bolt
④ Power, control wiring intake φ 62

Notes:
1. FR15MB has 2 sets of CR8M2.
2. The asterisked (※) dimensions denote those after the related pipings have been completed.

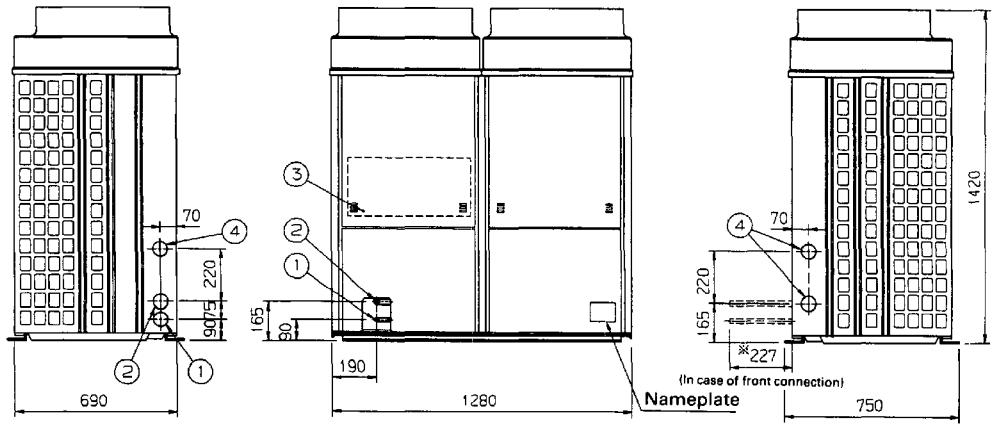


CR10M·(CR10M2)×2



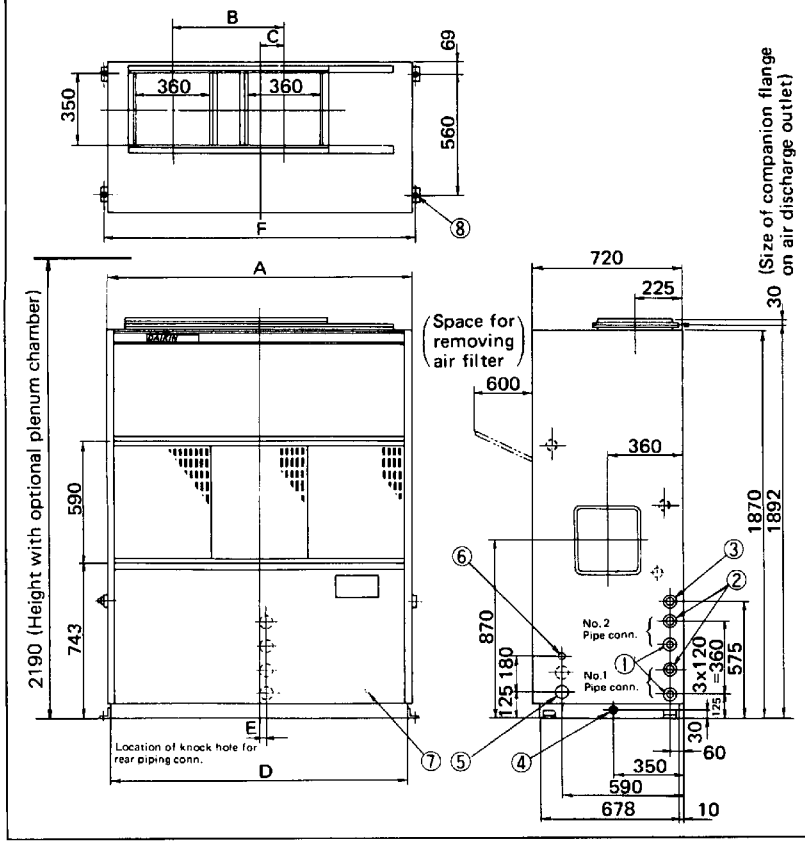
① Liquid pipe conn. φ15.9 DCuT Brazing
② Gas pipe conn. φ22.2 DCuT Brazing
③ Grounding terminal in switch box M5 bolt
④ Power, control wiring intake φ 62

Notes:
1. FR20MB has 2 sets of CR10M2.
2. The asterisked (※) dimensions denote those after the related pipings have been completed.



(Unit: mm)

FR15MB·20MB·25JB



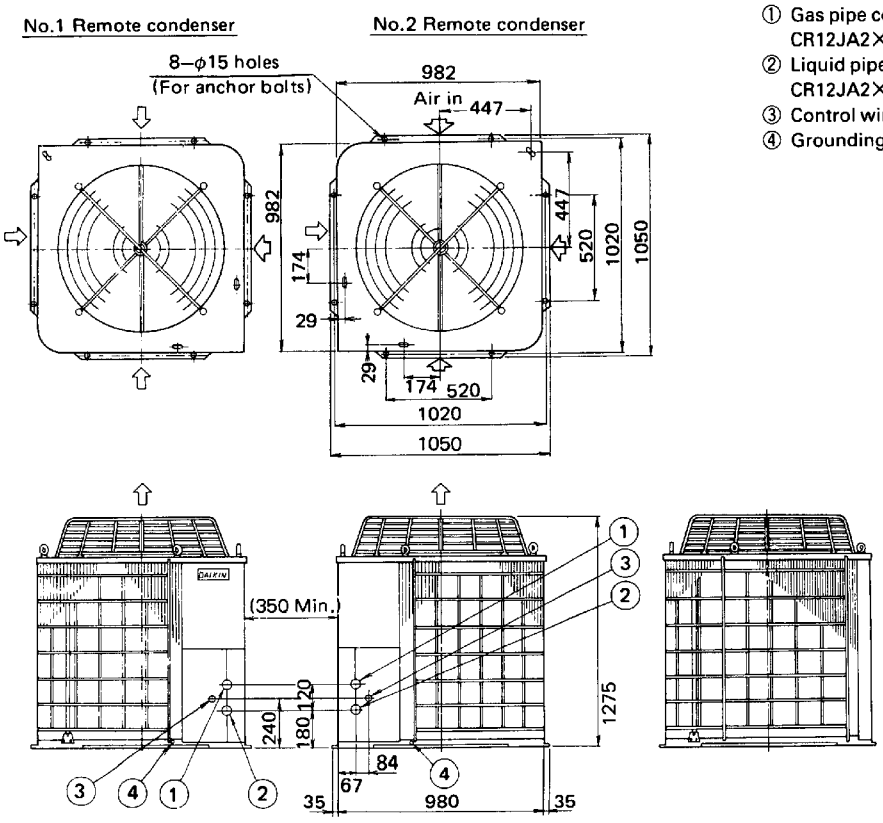
① Liquid pipe conn.
FR15MB φ12.7 DCuT Brazing
FR20MB, 25JB φ15.9 DCuT Brazing
② Gas pipe conn.
FR15MB φ19.1 DCuT Brazing
FR20MB, 25JB φ22.2 DCuT Brazing
③ Upper drain FPS1B
④ Lower drain FPS1B
⑤ Power supply intake φ58 hole
⑥ Control wire intake φ42 hole
⑦ Grounding terminal in switch box M8 bolt
⑧ Anchor bolt set plate (Detachable) 4-φ17 hole

Note:
① ~ ⑥ are provided on the right side (Standard), but they can be also provided on the left side on the spot. In addition, ① and ② can be provided on the back on the spot.

Model	A	B	C	D	E	F
FR15MB	1470	540	115	1445	30	1495
FR20MB, 25JB	1810	680	180	1785	60	1835

(Unit: mm)

CR12JA2

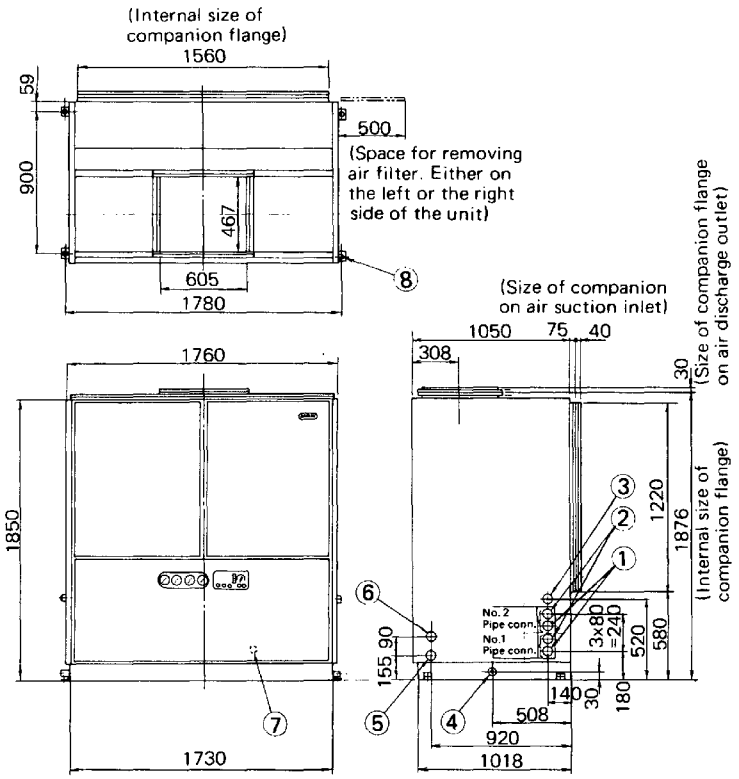


① Gas pipe conn.
CR12JA2×2 φ22.2 DCut Brazing ×2
② Liquid pipe conn.
CR12JA2×2 φ15.9 DCut Brazing ×2
③ Control wiring intake φ28 hole×2
④ Grounding terminal M6 bolt ×2

Notes:
1. FR25JB has 2 sets of CR12JA2.
2. Two remote condensers are the same as shown in the drawing for No.1 Remote condenser when delivered. Such installation shown on the left will be possible when the piping direction of No.2 Remote condenser is changed.

(Unit: mm)

FR30JB

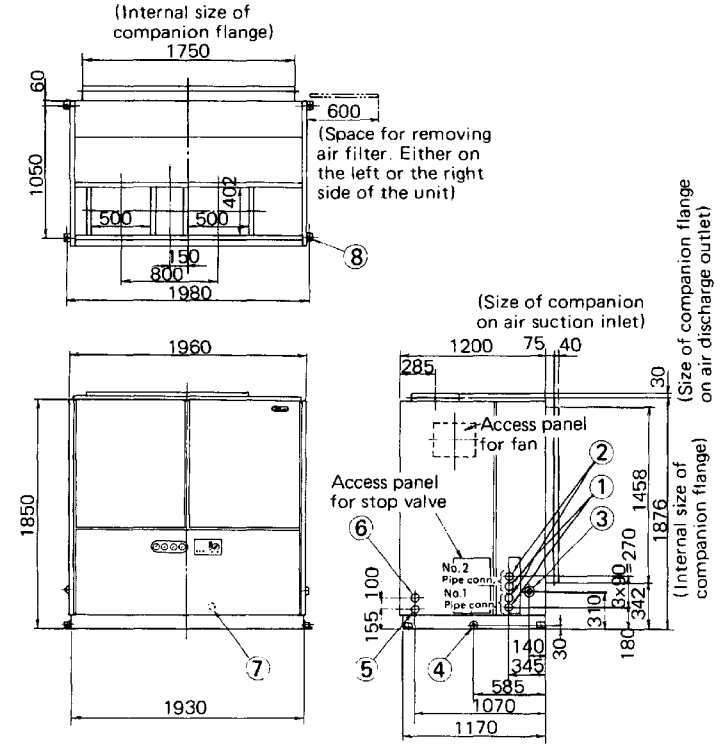


① Liquid pipe conn. φ19.1 DCuT Brazing
② Gas pipe conn. φ25.4 DCuT Brazing
③ Upper drain FPS1¼B
④ Lower drain FPS1B
⑤ Power supply intake φ58 hole
⑥ Control wire intake φ58 hole
⑦ Grounding terminal switch box M8 bolt
⑧ Anchor bolt set plate (Detachable) 4-φ17 hole

Note:
① ~ ⑥ are provided on the right side (Standard), but they can be provided on the left side on the spot.

(Unit: mm)

FR40JB

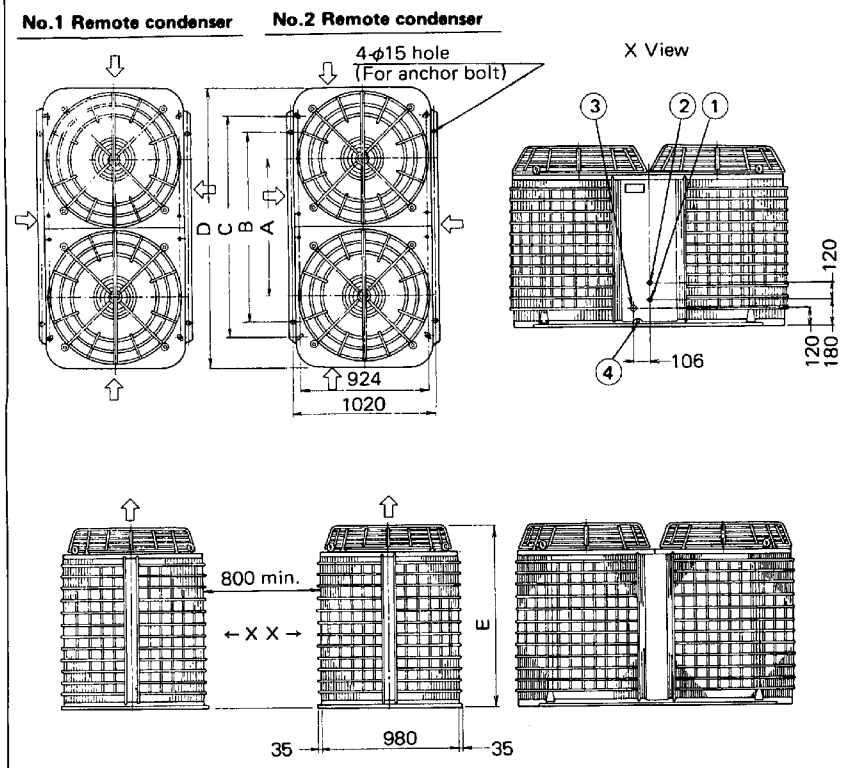


① Liquid pipe conn. φ22.2 DCuT Brazing
② Gas pipe conn. φ31.8 DCuT Brazing
③ Upper drain FPS1¼B
④ Lower drain FPS 1B
⑤ Power supply intake φ58 hole
⑥ Control wire intake φ58 hole
⑦ Grounding terminal in switch box M8 bolt
⑧ Anchor bolt set plate (Detachable) 4-φ17 hour

Note:
① ~ ⑥ are provided on the right side (Standard), but they can be provided on the left side on the spot.

(Unit: mm)

(CR15JA2) x 2
(CR20JA2) x 2

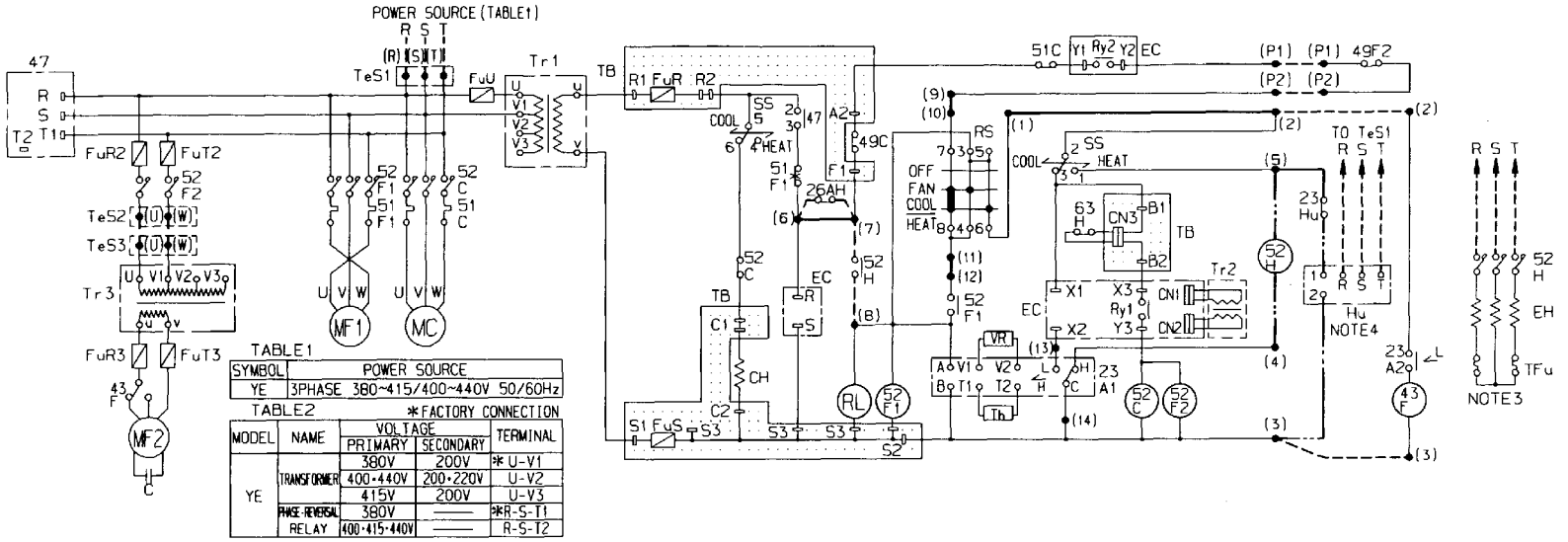


① Liquid pipe conn.
(CR15JA2) x 2 φ19.1 DCut Brazing x 2
(CR20JA2) x 2 φ22.2 DCut Brazing x 2
② Gas pipe conn.
(CR15JA2) x 2 φ25.4 DCut Brazing x 2
(CR20JA2) x 2 φ31.8 DCut Brazing x 2
③ Control wire intake
(CR15JA2) x 2 φ28 hole x 2
(CR20JA2) x 2 φ40 hole x 2
④ Grounding terminal M6 bolt x 2

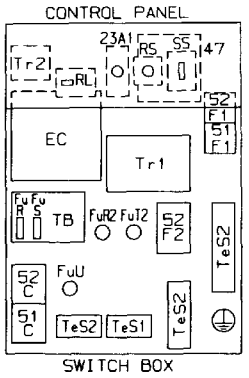
Model	A	B	C	D	E
CR15JA2	838	1000	1306	1700	1115
CR20JA2	982	1342	1566	1960	1275

Note: FR30JB and 40JB have 2 sets of CR15JA2 and CR20JA2 respectively.

3



NOTES
1. ▭ : TERMINAL BOARD(TB) —●— : TEAMINAL OF TeS
   —▯— : CONNECTOR
2. - - - : FIELD WIRING ——— : JUMPER —▯— : TAB
3. IF THE ELECTRIC HEATER IS USED, REMOVE THE JUMPER BETWEEN (6) AND (7) AND CONNECT THE HEATING CIRCUIT (26AH, 52H, EH, TFu).
4. IF THE HUMIDIFIER (PAN TYPE) IS USED CONNECT THE HUMIDIFYING CIRCUIT (23Hu, Hu) BETWEEN (3) AND (5) OF TeS2.
5. CHANGE THE CONNECTION OF TRANSFORMER AND PHASE-REVERSAL RELAY ACCORDING TO THE TABLE2.
6. IF THE REVERSED PHASE CONNECTION WAS MADE THE UNIT WILL NOT OPERATE. IN THIS CASE, CHANGE THE TWO WIRES WITH EACH OTHER AMONG THE THREE.



23A1·2	THERMOSTAT	C	CAPACITOR	RL	PILOT LAMP (OPERATION-RED)	VR	VARIABLE RESISTOR (23A1)
43F	MAGNETIC RELAY	CH	CRANKCASE HEATER	RS	ROTARY SWITCH		
47	PHASE-REVERSAL RELAY	CN1-3	CONNECTOR	Ry1	MAGNETIC RELAY		
49C	THERMO SWITCH (MC)	EC	PRINTED CIRCUIT BOARD	Ry2	MAGNETIC RELAY	OPTIONAL ACCESSORIES	
49F2	THERMO SWITCH (MF2)	FuR·S	FUSE (250V, 3A)	SS	SELECTOR SWITCH (COOL/HEAT)	23Hu	HUMIDISTAT
51C	OVER-CURRENT RELAY (MC)	FuR2·T2	FUSE (600V, 10A)	TB	TERMINAL BOARD	26AH	THERMO SWITCH (OVER HEAT)
51F1	OVER-CURRENT RELAY (MF1)	FuR3·T3	FUSE (250V, 10A)	TeS1-3	TERMINAL STRIP	52H	MAGNETIC CONTACTOR (EH)
52C	MAGNETIC CONTACTOR (MC)	FuU	FUSE (600V, 5A)	Th	THERMISTOR (AIR)	EH	ELECTRIC HEATER
52F1	MAGNETIC CONTACTOR (MF1)	MC	MOTOR (COMPRESSOR)	Tr1	TRANSFORMER (75VA)	Hu	HUMIDIFIER (PAN TYPE)
52F2	MAGNETIC CONTACTOR (MF2)	MF1	MOTOR (INDOOR FAN)	Tr2	TRANSFORMER (EC)	TFu	THERMAL FUSE (110℃)
63H	PRESSURE SWITCH (HIGH)	MF2	MOTOR (OUTDOOR FAN)	Tr3	TRANSFORMER (500VA)		

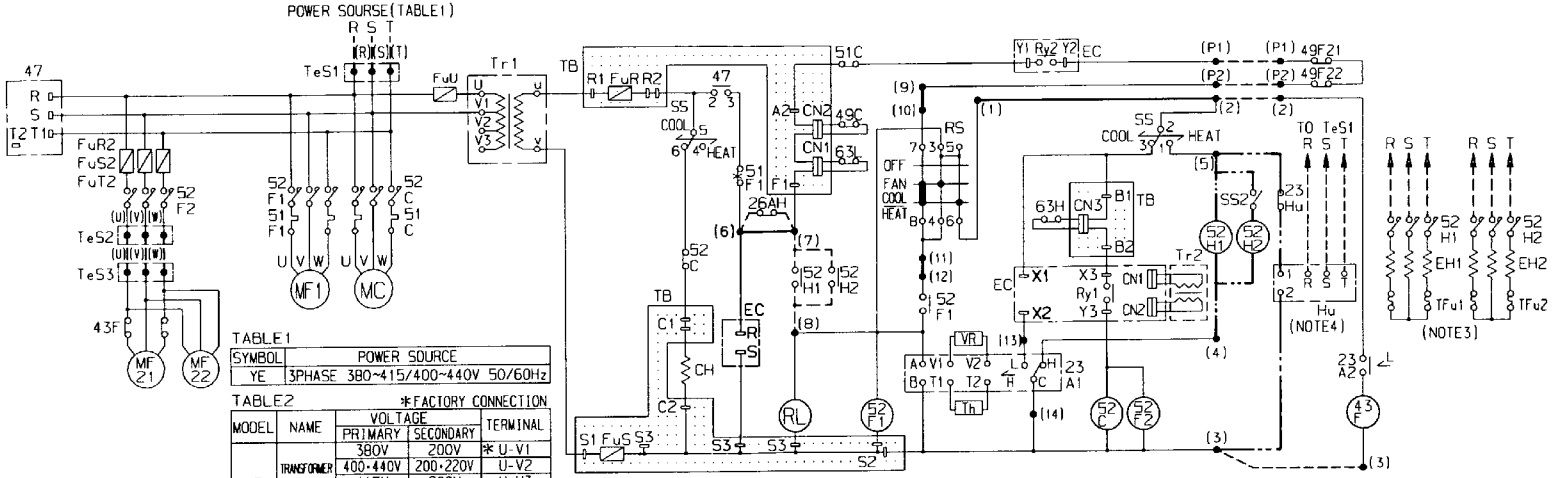
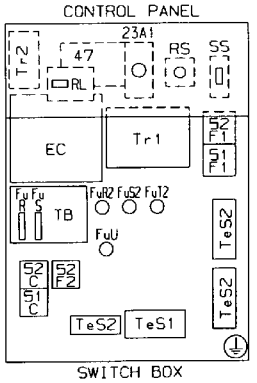


TABLE1

SYMBOL	POWER SOURCE
YE	3PHASE 380~415/400~440V 50/60Hz

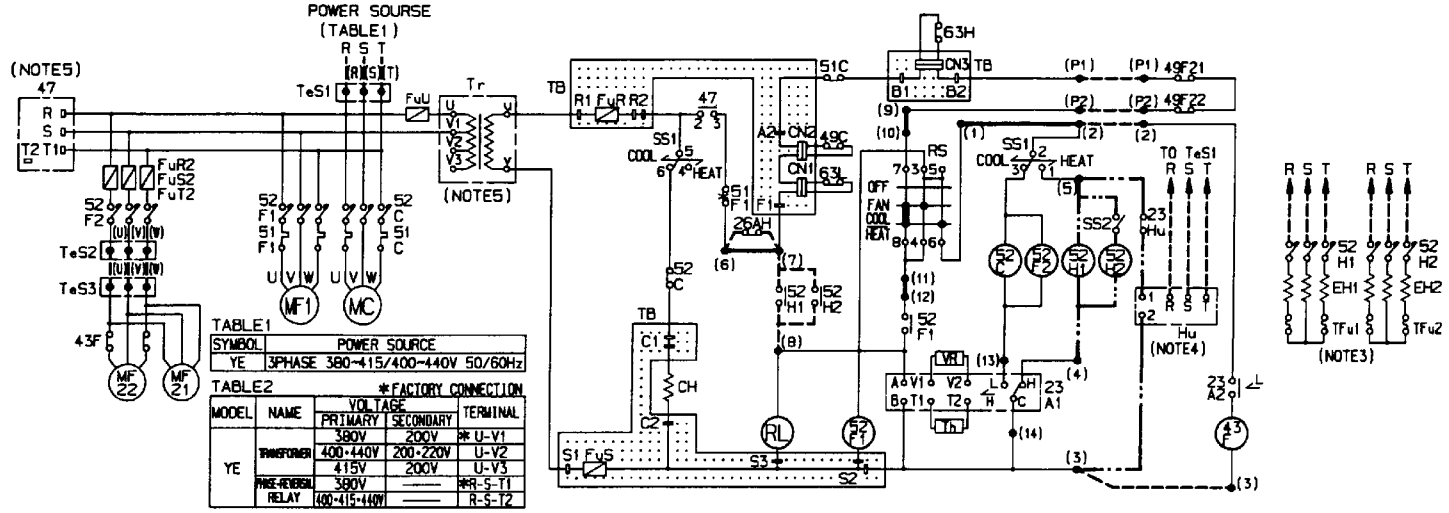
TABLE2 *FACTORY CONNECTION

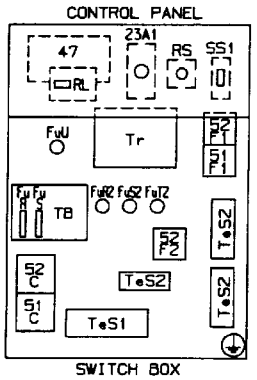
MODEL	NAME	VOLTAGE PRIMARY	VOLTAGE SECONDARY	TERMINAL
YE	TRANSFORMER	380V	200V	* U-V1
		400・440V	200・220V	U-V2
		415V	200V	U-V3
	PHASE-REVERSAL RELAY	380V	——	*R-S-T1
		400・415・440V	——	R-S-T2



NOTES
1. □ :TERMINAL BOARD(TB) —●— :TEAMINAL OF TeS —▯— :CONECTOR
2. - - - :FIELD WIRING ——— :JUMPER —▯— :TAB
3. IF THE ELECTRIC HEATER IS USED,REMOVE THE JUMPER BETWEEN(6)AND(7) AND CONNECT THE HEATING CIRCUIT(26AH,52H1・2,EH1・2,SS2,TFu1・2).
4. IF THE HUMIDIFIER(PAN TYPE) IS USED CONNECT THE HUMIDFYING CIRCUIT (23Hu,Hu)BETWEEN(3)AND(5) OF TeS2.
5. CHANGE THE CONNECTION OF TRANSFORMER AND PHASE-REVERSAL RELAY ACCORDING TO THE TABLE2.
6. IF THE REVERSED PHASE CONNECTION WAS MADE THE UNIT WILL NOT OPERATE. IN THIS CASE, CHANGE THE TWO WIRES WITH EACH OTHER AMONG THE THREE.

23A1・2	THERMOSTAT	63L	PRESSURE SWITCH(LOW)	RS	ROTARY SWITCH	OPTIONAL ACCESSORIES	
43F	MAGNETIC RELAY	CH	CRANKCASE HEATER	Ry1	MAGNETIC RELAY	23Hu	HUMIDISTAT
47	PHASE-REVERSAL RELAY	CN1~3	CONNECTOR	Ry2	MAGNETIC RELAY	26AH	THERMO SWITCH(OVER HEAT)
49C	THERMO SWITCH(MC)	EC	PRINTED CIRCUIT BOARD	SS	SELECTOR SWITCH(COOL/HEAT)	52H1・2	MAGNETIC CONTACTOR(EH)
49F21-22	THERMO SWITCH(MF21,MF22)	FuR・S	FUSE(250V,3A)	TB	TERMINAL BOARD	EH1・2	ELECTRIC HEATER
51C	OVER-CURRENT RELAY(MC)	FuR2・S2 T2・U	FUSE(600V,5A)	TeS1~3	TERMINAL STRIP	Hu	HUMIDIFIER(PAN TYPE)
51F1	OVER-CURRENT RELAY(MF1)			Th	THERMISTOR(AIR)	SS2	SELECTOR SWITCH
52C	MAGNETIC CONTACTOR(MC)	MC	MOTOR(COMPRESSOR)	Tr1	TRANSFORMER(75VA)	TFu1・2	THERMAL FUSE(110℃)
52F1	MAGNETIC CONTACTOR(MF1)	MF1	MOTOR(INDOOR FAN)	Tr2	TRANSFORMER(EC)		
52F2	MAGNETIC CONTACTOR(MF21,MF22)	MF21・22	MOTOR (OUTDOOR FAN)	VR	VARIABLE RESISTOR(23A1)		
63H	PRESSURE SWITCH(HIGH)	RL	PILOT LAMP(OPERATION-RED)				





Symbols:

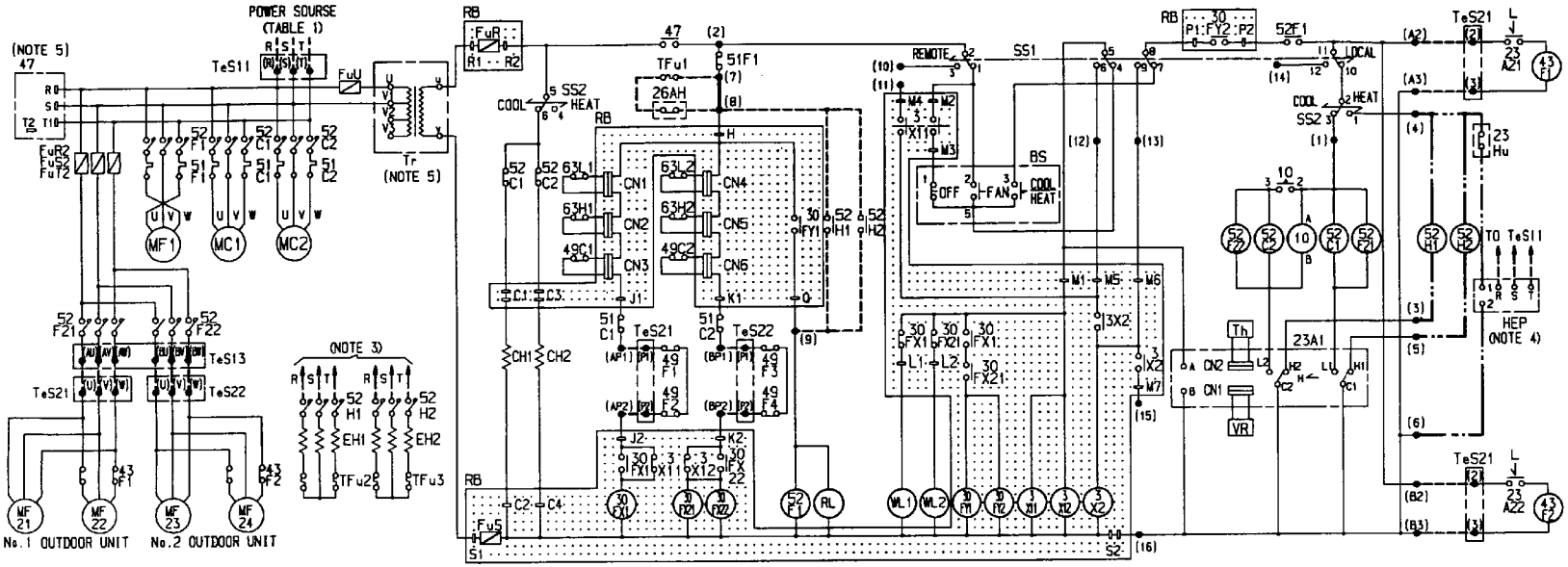
23A1·2	:	Thermostat
43F	:	Magnetic relay
47	:	Phase-reversal relay
49C	:	Thermo switch (MC)
49F21·22	:	Thermo switch (MF21·22)
51C	:	Overcurrent relay (MC)
$51F_1$	:	Overcurrent relay (MF_1)
52C	:	Magnetic switch (MC)
$52F_1$	:	Magnetic contactor (MF_1)
$52F_2$	:	Magnetic contactor (MF_2)
63H	:	High pressure switch
63L	:	Low pressure switch
C21·C22	:	Condenser (MF-Run)
CH	:	Crankcase heater
CN1~3	:	Connector
FuR, S	:	Fuse (250V, 5A)
FuR2·T2	:	Fuse (250V, 5A)
MC	:	Motor (Compressor)
MF_1	:	Motor (Indoor fan)
MF21·22	:	Motor (Outdoor fan)
RL	:	Pilot lamp (Operation-Red)
RS	:	Rotary switch
SS_1	:	Selector switch (Cool/Heat)
TB	:	Terminal board
TeS1,2,3	:	Terminal strip
Th	:	Thermistor (Air)
VR	:	Variable resistor (23A1)
⏚	:	Grounding terminal

Optional accessories

23Hu	:	Humidistat
26AH	:	Firestat (Over heat)
52H1	:	Magnetic contactor (EH1)
52H2	:	Magnetic contactor (EH2)
EH1,2	:	Electric heater
Hu	:	Pan type humidifier
SS_2	:	Selector switch
TFu	:	Thermal fuse (110°C)

Notes:

1. ▭ : Terminal board (TB) —●— : Terminal of TeS,
   —□— : Tab, —▯— : Connector
2. ▬▬ : Field wiring
3. If the electric heater is used, remove the jumper wire between (6) and (7) and connect the heating circuit (26AH, 52H, EH, SS_2, TFu). The power supply for "EH" should not be connected to TeS_{10}. (—··—)
4. If the Pan type humidifier is used, connent the humidifying circuit between (3) and (5) on TeS_{12}. (—··—)
5. If the reversed phase connection was made, the unit will not operate. In this case, change the two wires with each other among the three.



Symbols:

3X	:	Magnetic relay
10	:	Timing relay (5 sec.)
23A	:	Thermostat
30FX	:	Magnetic relay (alarm)
30FY	:	Magnetic relay (alarm)
43F	:	Magnetic relay (MF)
47	:	Phase-reversal relay
49C	:	Thermo switch (MC)
49F	:	Thermo switch (MF)
51C	:	Overcurrent relay (MC)
$51F_1$	:	Overcurrent relay (MF_1)
52C	:	Magnetic switch (MC)
52F	:	Magnetic contactor (MF)
$52F_1$	:	Magnetic switch (MF_1)
63H	:	High pressure switch
63L	:	Low pressure switch
BS	:	Push button switch
C	:	Condenser (MF)
CH	:	Crankcase heater
CN	:	Connector
FuR, S	:	Fuse (250V, 5A)
FuR2·T2	:	Fuse (250V, 5A)
MC	:	Motor (Compressor)
MF	:	Motor (Outdoor fan)
MF_1	:	Motor (Indoor fan)
RL	:	Pilot lamp (Operation)
SS_1	:	Selector switch (Local/Remote)
SS_2	:	Selector switch (Cool/Heat)
TeS	:	Terminal strip
Th	:	Thermistor (23A)
VR	:	Variable resistor (23A)
WL	:	Pilot lamp (alarm-white)
⏚	:	Grounding terminal

Optional accessories

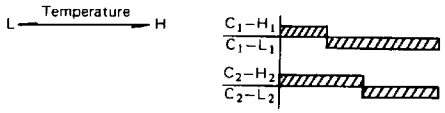
23Hu	:	Humidistat
26AH	:	Firestat
52H	:	Magnetic contactor (EH)
EH	:	Electric heater
Hep	:	Pan type humidifier
TFu1	:	Thermal fuse (110°C)
TFu2,3	:	Thermal fuse (130°C)

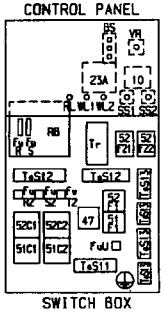
Field supply

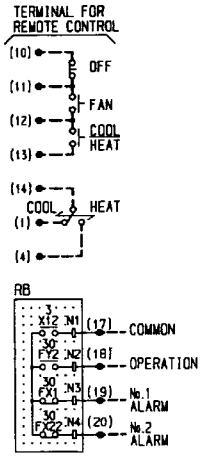
* : Components for remote control

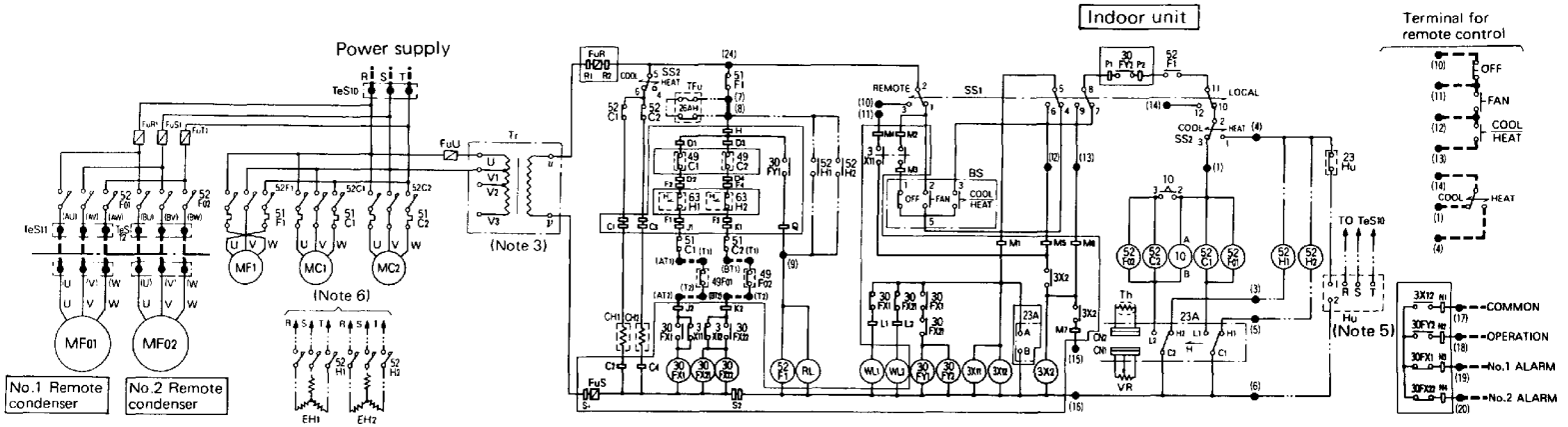
Notes:

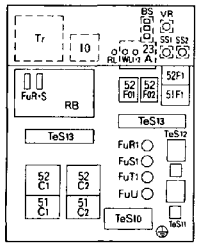
1. —●— : Terminal of TeS, ▬▬ : Jumper wire
2. ▬ ▬ : Field wiring, ▨ :Relay board (RB)
3. For remote handling, use Terminals (1), (4), (10) ~ (14), (17) ~ (20) on the control terminal strip TeS12.
4. If the electric heater is used, remove the jumper wire between (7) and (8) and connect the heating circuit (26AH, 52H, EH, TFu) of TeS_{13} (— — —). The power supply for "EH" should not be connected to TeS_{11}.
5. If the Pan type humidifier is used, connent the humidifying circuit between (4) and (6) on TeS_{13}. (— — —)
6. If the reversed phase connection was made, the unit will not operate. In this case, change the two wires with each other among the three.
7. Function of 23A: ▨ part shows "ON".











Symbols:

3X	:	Magnetic relay
10	:	Timing relay (5 sec.)
23A	:	Thermostat
30FX	:	Magnetic relay (alarm)
30FY	:	Magnetic relay (alarm)
49C	:	Compressor thermal protector (MC)
$49F_0$	:	Fan motor thermal protector (MF_0)
51C	:	Overcurrent relay (MC)
$51F_1$	:	Overcurrent relay (MF_1)
52C	:	Magnetic switch (MC)
$52F_0$	:	Magnetic contactor (MF_0)
$52F_1$	:	Magnetic switch (MF_1)
63H	:	High pressure switch
BS	:	Push button switch
CH	:	Crankcase heater
CN	:	Connector (23A)
FuR,S	:	Fuse (250V, 5A)
FuR_1,S_1,T_1	:	Fuse (600V, 10A)
FuU	:	Fuse (600V, 5A)
MC	:	Motor (Compressor)
MF_0	:	Motor (Condenser fan)
MF_1	:	Motor (Evaporator fan)
RL	:	Pilot lamp (operation)
SS	:	Selector switch
TeS	:	Terminal strip
Th	:	Thermistor (23A)
Tr	:	Transformer (200VA)
VR	:	Variable resistor (23A)
WL	:	Pilot lamp (alarm)
⏚	:	Grounding terminal

Optional accessories

23Hu	:	Humidistat
26AH	:	Firestat
52H	:	Magnetic contactor (EH)
EH	:	Electric heater
Hu	:	Pan type humidifier
TFu	:	Thermal fuse (110°C)

Field supply

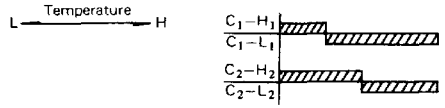
*	:	Components for remote control

Notes:

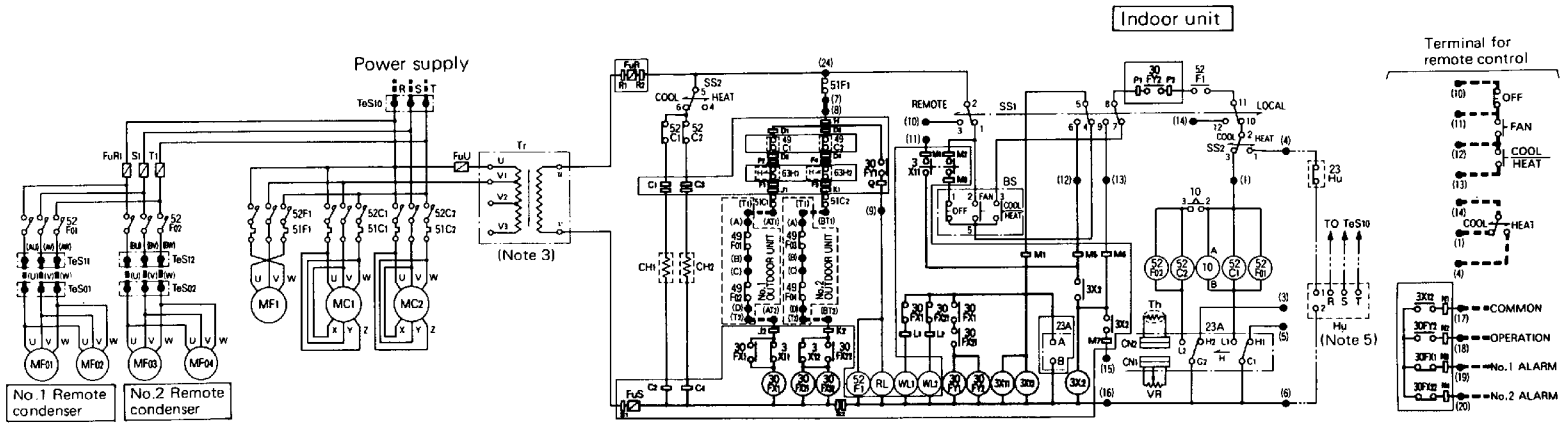
1. —●—: Terminal of TeS, ▬▬: Jumper wire —□— Tab.
2. ▬ ▬ ▬: Field wiring ▨: Relay board (RB)
3. Connection to transformer is as follows.
   Change the connection according to power supply.

Terminals	Primary/secondary [YE] Models	Remarks
U-V_1	380V/200V	Factory connection
U-V_2	400V/200V 440V/220V	Change connection on the spot
U-V_3	415V/200V	

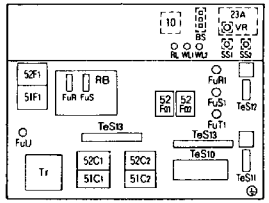
4. Function of 23A: ▨ part shows "ON".



5. If the pan type humidifier is used, connect the humidifying circuit between (4) and (6) on TeS_{13}. (——·——)
6. If the electric heater is used, remove the jumper wire between (7) and (8) and connect the heating circuit (26AH, 23H, 52H, EH, TFu) of TeS_{13} (——··——). The power supply for "EH" should not be connected to TeS_{10}.



Control panel



Switch box

Symbols:

3X	:	Magnetic relay
10	:	Timing relay (5 sec.)
23A	:	Thermostat
30FX	:	Magnetic relay (alarm)
30FY	:	Magnetic relay
49C	:	Compressor thermal protector (MC)
$49F_0$	:	Fan motor thermal ptotector (MF_0)
51C	:	Overcurrent relay (MC)
$51F_1$	:	Overcurrent relay (MF_1)
52C	:	Magnetic switch (MC)
$52F_0$	:	Magnetic contactor (MF_0)
$52F_1$	:	Magnetic switch (MF_1)
63H	:	High pressure switch
BS	:	Push button switch
CH	:	Crankcase heater
CN	:	Connector (23A)
FuR, S	:	Fuse (250V, 5A)
FuR_1, S_1, T_1	:	Fuse (600V, 15A)
FuU	:	Fuse (600V, 5A)
MC	:	Motor (Compressor)
MF_0	:	Motor (Condenser fan)
MF_1	:	Motor (Evaporator fan)
RL	:	Pilot lamp (Operation)
SS	:	Selector switch
TeS	:	Terminal strip
Th	:	Thermistor (23A)
Tr	:	Transformer (300VA)
VR	:	Variable resistor (23A)
WL	:	Pilot lamp (Alarm)
⏚	:	Gounding terminal
*	:	Components for remote control (Field supply)

Optional accessories

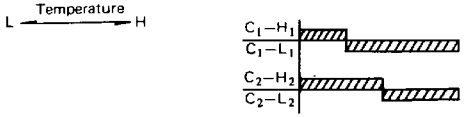
23Hu	:	Humidistat
Hu	:	Pan type humidifier

Notes:

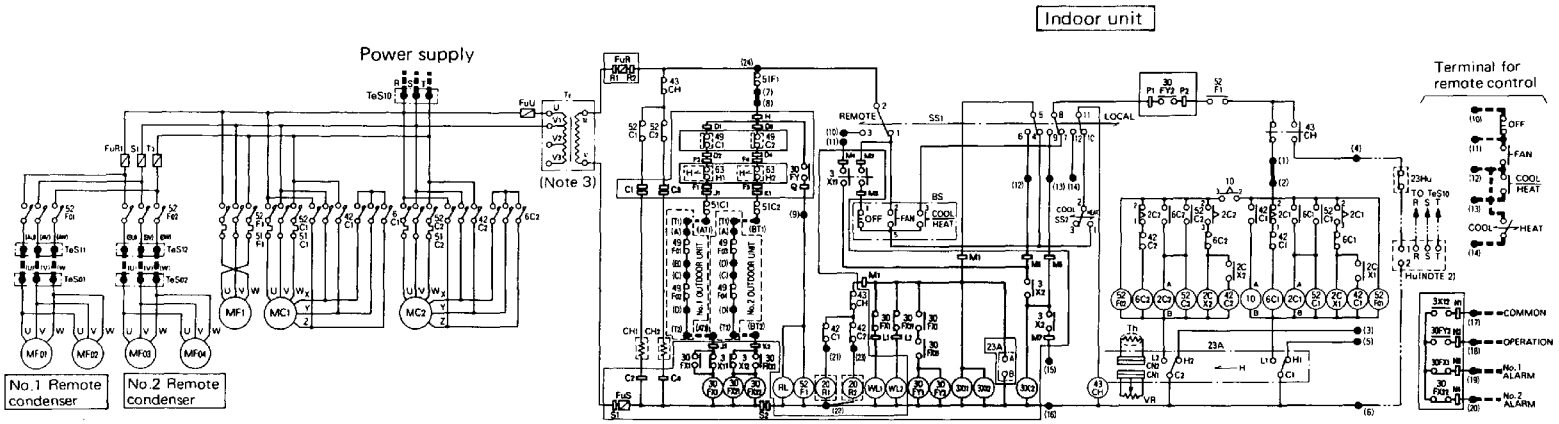
1. —●— : Terminal of Tes, ▬ : Jumper wire, ▭ Relay board (RB)
2. ■■■ : Field wiring
3. Connection to transformer is as follows.
   Change the connection according to power supply.

Terminals	Primary/Secondary 「YE」 Model	Remarks
U-V_1	380V/200V	Factory connection
U-V_2	400V/200V 440V/220V	Change connection on the spot.
U-V_3	415V/200V	

4. Function of 23A: ▨ part shows "ON".



5. If the humidifier (pan type) is used, connect the humidifying circuit between (4) and (6) of TeS_{13}. (—··—)



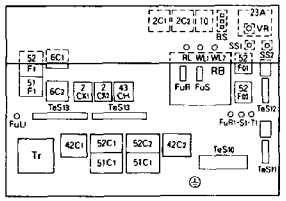
Symbols:

2C	:	Timing relay (5 sec.)
2CX	:	Magnetic relay (Y–Δ change)
3X	:	Magnetic relay
6C	:	Magnetic contactor (MC Y)
10	:	Timing relay (5 sec.)
20R	:	Solenoid valve
23A	:	Thermostat
30FX	:	Magnetic relay (alarm)
30FY	:	Magnetic relay
42C	:	Magnetic contactor (MC Δ)
43CH	:	Magnetic relay
49C	:	Compressor thermal protector
$49F_0$	:	Fan motor thermal protector (MF_0)
51C	:	Overcurrent relay (MC)
$51F_1$	:	Overcurrent relay (MF_1)
52C	:	Magnetic switch (MC)
$52F_0$	:	Magnetic contactor (MF_0)
$52F_1$	:	Magnetic switch (MF_1)
63H	:	High pressure switch
BS	:	Push button switch
CH	:	Crankcase heater
CN	:	Connector (23A)
FuR, S	:	Fuse (250V 10A)
FuR_1, S_1, T_1	:	Fuse (600V, 15A)
FuU	:	Fuse (600V, 10A)
MC	:	Motor (compressor)
MF_0	:	Motor (Condenser fan)
MF_1	:	Motor (Evaporator fan)
RL	:	Pilot lamp (Operation)
SS	:	Selector switch
TeS	:	Terminal strip
Th	:	Thermistor (23A)
Tr	:	Transformer (500 VA)
VR	:	Variable resistor (23A)
WL	:	Pilot lamp (Alarm)
⏚	:	Grounding terminal
*	:	Component for remote control (Field supply)

Optional accessories

23Hu	:	Humidistat
Hu	:	Pan type humidifier

Control panel



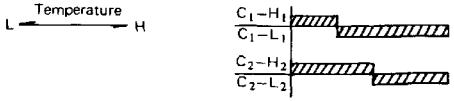
Switch box

Notes:

1. —o—: Terminal of TeS, ▬: Jumper wire, ▭: Relay board (RB)
2. ▪▪▪: Field wiring
3. Connection to transformer is as follows.
   Change the connection according to power supply.

Terminals	Primary/Secondary 「YE」 Model	Remarks
U-V_1	380V/200V	Factory connection
U-V_2	400V/200V 440V/220V	Change connection on the spot.
U-V_3	415V/200V	

4. Function of 23A: ▨ parts shows "ON".



5. If the humidifier (pan type) is used, connect the humidifying circuit between (4) and (6) of TeS_{13}. (——··——)

7. Capacity Tables

[50Hz]

FRP3MB+CR3MA

Evap. air			Entering air temp. to condenser (°CDB)													
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20 (0.10)	16.0	23	6.1	4.6	1.9	6.0	4.5	2.1	5.6	4.4	2.3	5.3	4.2	2.5	5.0	4.1	2.8
	18.0	25	6.5	4.7	1.9	6.3	4.6	2.1	6.0	4.5	2.3	5.7	4.3	2.6	5.3	4.2	2.8
	19.5	27	6.8	4.8	2.0	6.6	4.7	2.1	6.3	4.5	2.4	6.0	4.4	2.6	5.6	4.2	2.9
	22.0	30	7.4	4.9	2.0	7.1	4.8	2.2	6.8	4.7	2.4	6.5	4.5	2.7	6.1	4.4	3.0
	24.0	32	7.9	4.9	2.0	7.6	4.8	2.2	7.3	4.7	2.5	6.9	4.6	2.7	6.4	4.4	3.0
25 (0.13)	16.0	23	6.3	5.1	1.9	6.2	4.9	2.1	5.8	4.8	2.3	5.5	4.7	2.5	5.1	4.5	2.8
	18.0	25	6.7	5.2	2.0	6.5	5.1	2.1	6.2	5.0	2.4	5.9	4.8	2.6	5.5	4.7	2.9
	19.5	27	7.1	5.3	2.0	6.8	5.2	2.2	6.5	5.0	2.4	6.2	4.9	2.6	5.8	4.7	2.9
	22.0	30	7.6	5.4	2.0	7.4	5.3	2.2	7.0	5.2	2.4	6.7	5.1	2.7	6.3	4.9	3.0
	24.0	32	8.1	5.5	2.1	7.8	5.4	2.3	7.5	5.3	2.5	7.1	5.2	2.7	6.6	5.0	3.1
33 (0.17)	16.0	23	6.5	5.7	1.9	6.3	5.6	2.1	6.0	5.5	2.3	5.7	5.4	2.5	5.3	5.2	2.8
	18.0	25	6.9	5.9	2.0	6.7	5.8	2.2	6.4	5.7	2.4	6.1	5.5	2.6	5.6	5.4	2.9
	19.5	27	7.3	6.0	2.0	7.0	5.9	2.2	6.7	5.8	2.4	6.4	5.6	2.6	5.9	5.5	2.9
	22.0	30	7.9	6.2	2.0	7.6	6.1	2.2	7.3	6.0	2.5	6.9	5.8	2.7	6.5	5.7	3.0
	24.0	32	8.4	6.3	2.1	8.1	6.2	2.3	7.7	6.1	2.5	7.3	6.0	2.8	6.8	5.8	3.1

FRP5MB+CR5MA

Evap. air			Entering air temp. to condenser (°CDB)													
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
36 (0.10)	16.0	23	11.1	8.3	3.2	10.6	8.1	3.5	10.0	7.8	3.8	9.4	7.6	4.2	8.6	7.2	4.7
	18.0	25	11.9	8.5	3.3	11.4	8.2	3.6	10.8	8.0	3.9	10.1	7.8	4.3	9.2	7.4	4.7
	19.5	27	12.4	8.7	3.3	12.1	8.4	3.6	11.3	8.1	4.0	10.6	7.9	4.3	9.6	7.5	4.8
	22.0	30	13.4	8.8	3.4	12.8	8.6	3.7	12.2	8.4	4.0	11.4	8.1	4.4	10.4	7.7	4.8
	24.0	32	14.3	9.0	3.4	13.7	8.8	3.7	13.1	8.5	4.1	12.2	8.3	4.5	11.2	7.9	4.9
42 (0.12)	16.0	23	11.3	8.9	3.3	10.8	8.6	3.6	10.2	8.3	3.9	9.6	8.1	4.3	8.8	7.7	4.7
	18.0	25	12.1	9.1	3.3	11.6	8.8	3.6	11.0	8.6	4.0	10.3	8.3	4.3	9.4	8.0	4.8
	19.5	27	12.7	9.3	3.4	12.4	9.0	3.7	11.5	8.7	4.0	10.8	8.5	4.4	9.8	8.1	4.8
	22.0	30	13.7	9.4	3.4	13.1	9.2	3.7	12.4	8.9	4.1	11.6	8.7	4.4	10.6	8.3	4.9
	24.0	32	14.6	9.6	3.5	14.0	9.4	3.8	13.2	9.1	4.1	12.4	8.9	4.5	11.4	8.5	4.9
55 (0.16)	16.0	23	11.6	10.0	3.3	11.1	9.7	3.6	10.5	9.4	3.9	9.9	9.2	4.3	9.0	8.8	4.8
	18.0	25	12.5	10.3	3.4	12.0	10.0	3.7	11.3	9.8	4.0	10.6	9.5	4.4	9.7	9.1	4.8
	19.5	27	13.1	10.5	3.4	12.8	10.3	3.7	11.9	10.0	4.0	11.1	9.7	4.4	10.1	9.4	4.9
	22.0	30	14.1	10.7	3.5	13.5	10.5	3.8	12.8	10.2	4.1	12.0	9.9	4.5	10.9	9.5	4.9
	24.0	32	15.0	10.9	3.5	14.4	10.7	3.8	13.6	10.4	4.2	12.8	10.1	4.6	11.7	9.8	5.0

FRP8MB+CR8MA

Evap. air			Entering air temp. to condenser (°CDB)													
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
54 (0.13)	16.0	23	15.8	11.9	4.8	15.2	11.7	5.2	14.5	11.3	5.7	13.7	10.9	6.3	12.8	10.6	6.9
	18.0	25	16.9	12.2	4.9	16.2	12.0	5.3	15.4	11.6	5.8	14.7	11.2	6.4	13.7	10.8	7.0
	19.5	27	17.6	12.4	4.9	16.9	12.1	5.4	16.2	11.8	5.9	15.4	11.5	6.5	14.4	11.1	7.1
	22.0	30	19.0	12.5	5.1	18.2	12.3	5.5	17.4	11.9	6.0	16.6	11.7	6.6	15.6	11.4	7.3
	24.0	32	20.2	12.7	5.1	19.3	12.4	5.6	18.5	12.1	6.1	17.5	11.8	6.7	16.5	11.6	7.4
63 (0.15)	16.0	23	16.1	12.5	4.9	15.5	12.1	5.3	14.8	11.9	5.8	14.0	11.5	6.3	13.1	11.2	7.0
	18.0	25	17.2	12.9	4.9	16.5	12.5	5.4	15.7	12.1	5.9	15.0	11.9	6.4	14.0	11.4	7.1
	19.5	27	18.0	13.1	5.0	17.2	12.6	5.4	16.5	12.3	6.0	15.7	12.0	6.5	14.7	11.6	7.2
	22.0	30	19.4	13.2	5.1	18.6	12.9	5.6	17.8	12.6	6.1	16.9	12.3	6.7	15.9	11.9	7.3
	24.0	32	20.6	13.4	5.2	19.7	13.1	5.7	18.9	12.8	6.2	17.9	12.5	6.8	16.8	12.1	7.5
82 (0.20)	16.0	23	16.6	14.2	4.9	16.0	13.9	5.3	15.2	13.6	5.8	14.4	13.2	6.4	13.5	12.9	7.1
	18.0	25	17.7	14.5	5.0	17.0	14.3	5.4	16.2	14.0	5.9	15.5	13.6	6.5	14.4	13.2	7.2
	19.5	27	18.5	14.7	5.0	17.7	14.4	5.5	17.0	14.2	6.0	16.2	13.9	6.6	15.1	13.5	7.3
	22.0	30	20.0	15.1	5.2	19.2	14.9	5.6	18.3	14.6	6.1	17.4	14.3	6.7	16.4	14.0	7.4
	24.0	32	21.2	15.3	5.2	20.3	15.0	5.7	19.5	14.8	6.3	18.4	14.4	6.8	17.3	14.1	7.5

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW)
(Comp. + cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Working range:
   Refer to page 28 about maximum entering air temp. to condenser.
5. Direct interpolation is permissible.
   Do not extrapolate.

[50Hz]

FRP10MB+CR10M

Evap. air			Entering air temp. to condenser (°CDB)													
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
72 (0.12)	16.0	23	22.2	16.6	6.5	21.4	16.1	7.1	20.5	15.7	7.8	19.4	15.2	10.1	18.1	14.6	11.0
	18.0	25	23.6	16.9	6.7	22.7	16.5	7.3	21.8	16.0	7.9	20.7	15.5	10.3	19.1	14.8	11.2
	19.5	27	24.8	17.2	6.7	23.9	16.3	7.4	22.7	16.2	8.1	21.7	15.7	10.4	20.1	15.2	11.3
	22.0	30	26.8	17.5	6.9	25.7	17.1	7.5	24.4	16.5	8.2	23.0	16.0	10.6	21.2	15.4	11.5
	24.0	32	28.4	17.7	7.1	27.2	17.3	7.7	25.8	16.8	8.3	24.2	16.2	10.8	22.3	15.6	11.7
83 (0.14)	16.0	23	22.6	17.4	6.6	21.8	17.0	7.2	20.9	16.6	7.9	19.3	16.2	10.2	18.5	15.5	11.1
	18.0	25	24.1	17.9	6.7	23.2	17.5	7.3	22.2	17.0	8.0	21.1	16.6	10.4	19.5	15.9	11.3
	19.5	27	25.3	18.2	6.8	24.4	17.8	7.4	23.2	17.3	8.1	22.1	16.8	10.5	20.5	16.2	11.4
	22.0	30	27.3	18.6	7.0	26.2	18.2	7.6	24.9	17.6	8.3	23.5	17.1	10.7	21.6	16.5	11.7
	24.0	32	29.0	18.9	7.1	27.7	18.4	7.8	26.3	17.9	8.4	24.7	17.4	10.9	22.7	16.8	11.8
110 (0.19)	16.0	23	23.5	19.7	6.7	22.7	19.3	7.3	21.7	18.8	8.0	20.6	18.3	10.4	19.2	17.8	11.3
	18.0	25	25.1	20.2	6.9	24.1	19.7	7.5	23.1	19.3	8.2	21.9	18.8	10.6	20.3	18.2	11.5
	19.5	27	26.3	20.5	7.0	25.4	20.1	7.6	24.1	19.6	8.3	23.0	19.2	10.7	21.3	18.6	11.7
	22.0	30	28.4	21.1	7.1	27.3	20.7	7.8	25.9	20.2	8.5	24.4	19.7	10.9	22.5	19.1	11.9
	24.0	32	30.2	21.5	7.3	28.8	21.0	7.9	27.4	20.6	8.6	25.7	20.2	11.1	23.6	19.3	12.1

FR15MB+(CR8M2)×2

Evap. air			Entering air temp. to condenser (°CDB)													
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
105 (0.07)	16.0	23	31.1	24.3	9.6	29.8	23.7	10.5	28.4	23.0	11.6	27.0	22.4	12.8	25.3	21.8	14.5
	18.0	25	33.1	24.9	9.8	31.9	24.4	10.6	30.3	23.6	11.8	28.7	23.0	13.1	26.7	22.1	14.7
	19.5	27	34.8	25.2	9.9	33.4	24.7	10.8	31.9	24.1	12.0	30.2	23.4	13.2	28.3	22.6	14.8
	22.0	30	37.5	25.9	10.1	36.1	25.3	10.9	34.4	24.7	12.2	32.6	24.0	13.4	30.6	23.3	14.9
	24.0	32	39.9	26.6	10.3	38.3	25.7	11.3	36.6	25.2	12.5	34.6	24.4	13.7	32.8	23.8	15.3
120 (0.08)	16.0	23	31.7	25.6	9.7	30.4	25.0	10.6	29.0	24.3	11.7	27.5	23.6	12.9	25.8	23.0	14.6
	18.0	25	33.8	26.2	9.9	32.5	25.7	10.7	31.0	24.9	11.9	29.3	24.2	13.2	27.2	23.4	14.8
	19.5	27	35.5	26.7	10.0	34.1	26.1	10.9	32.5	25.4	12.1	30.8	24.8	13.3	28.9	24.0	14.9
	22.0	30	38.3	27.3	10.2	36.8	26.7	11.0	35.1	26.1	12.3	33.3	25.5	13.5	31.2	24.7	15.0
	24.0	32	40.7	27.8	10.4	39.1	27.2	11.4	37.3	26.6	12.6	35.3	26.0	13.8	33.0	25.2	15.4
165 (0.12)	16.0	23	33.0	29.8	9.9	31.6	29.1	10.8	30.2	28.5	11.9	28.6	27.9	13.2	26.8	26.6	14.9
	18.0	25	35.2	30.6	10.1	33.8	30.0	10.9	32.2	29.3	12.1	30.5	28.7	13.5	28.3	27.8	15.1
	19.5	27	36.9	31.2	10.2	35.5	30.7	11.1	33.8	30.0	12.3	32.0	29.3	13.6	30.1	28.7	15.2
	22.0	30	39.8	32.0	10.4	38.3	31.6	11.2	36.5	30.9	12.6	34.6	30.3	13.8	32.5	29.5	15.3
	24.0	32	42.3	32.7	10.6	40.7	32.1	11.6	38.8	31.6	12.9	36.7	31.0	14.1	34.3	30.2	15.7

FR20MB+(CR10M2)×2

Evap. air			Entering air temp. to condenser (°CDB)													
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
144 (0.07)	16.0	23	45.2	34.0	12.7	43.7	33.4	14.0	41.8	32.5	15.4	39.8	31.8	16.8	37.4	30.4	18.7
	18.0	25	48.4	34.8	13.0	46.5	34.0	14.3	44.5	33.4	15.6	42.2	32.3	17.1	39.5	30.9	18.9
	19.5	27	50.8	35.3	13.2	48.8	34.5	14.5	46.5	33.6	15.8	44.1	32.8	17.5	41.1	31.5	19.4
	22.0	30	55.0	36.1	13.5	52.6	35.2	14.8	50.0	34.3	16.1	47.3	33.3	17.7	44.0	32.2	19.6
	24.0	32	58.3	36.6	13.7	55.7	35.7	15.1	52.9	34.6	16.4	49.9	33.6	18.1	46.4	32.5	19.9
165 (0.09)	16.0	23	45.7	35.9	12.8	44.1	35.1	14.1	42.2	34.2	15.5	40.2	33.0	17.0	37.8	32.3	18.9
	18.0	25	48.9	36.9	13.1	47.0	35.9	14.4	44.9	35.0	15.8	42.7	34.3	17.3	39.9	32.9	19.1
	19.5	27	51.3	37.4	13.3	49.3	36.6	14.6	47.0	35.6	16.0	44.5	34.7	17.7	41.5	33.6	19.6
	22.0	30	55.5	38.3	13.6	53.1	37.4	14.9	50.5	36.4	16.3	47.8	35.4	17.9	44.4	34.3	19.8
	24.0	32	58.9	38.9	13.8	56.3	37.9	15.2	53.4	37.0	16.6	50.4	35.9	18.3	46.9	34.8	20.1
220 (0.13)	16.0	23	47.5	41.0	13.1	45.9	40.2	14.4	43.9	39.6	15.8	41.8	38.7	17.3	39.3	37.3	19.3
	18.0	25	50.9	42.1	13.4	48.9	41.2	14.7	46.7	40.5	16.1	44.4	39.6	17.7	41.5	38.3	19.5
	19.5	27	53.4	42.9	13.6	51.3	42.1	14.9	48.9	41.1	16.3	46.3	40.3	18.1	43.2	39.3	20.0
	22.0	30	57.7	44.0	13.9	55.2	43.1	15.2	52.5	42.2	16.6	49.7	41.3	18.3	46.2	40.1	20.2
	24.0	32	61.3	44.9	14.1	58.6	44.0	15.5	55.5	43.0	16.9	52.4	42.0	18.7	48.8	40.9	20.5

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW)
(Comp. + cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▨ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Working range:
   Refer to page 28 about maximum entering air temp. to condenser.
5. Direct interpolation is permissible.
   Do not extrapolate.

[50Hz]

FR25JB+(CR12JA2)×2

Evap. air			Entering air temp. to condenser (°CDB)														
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
144 (0.07)	16.0	23	42.5	35.6	13.9	46.6	34.7	14.7	44.3	33.6	15.6	42.0	32.5	16.5	39.0	31.2	17.6
	18.0	25	52.1	36.5	14.3	49.9	35.5	15.2	47.6	34.5	16.1	45.1	33.4	17.0	41.9	32.1	18.2
	19.5	27	54.8	37.1	14.7	52.5	36.1	15.6	50.1	35.1	16.5	47.5	34.0	17.5	44.3	32.7	18.7
	22.0	30	59.5	37.9	15.3	57.1	37.0	16.2	54.6	36.0	17.2	51.8	34.9	18.2	48.2	33.6	19.5
	24.0	32	63.5	38.5	15.8	60.9	37.5	16.8	58.2	36.6	17.8	55.3	35.6	18.8	51.6	34.3	20.1
180 (0.10)	16.0	23	50.3	39.1	14.2	48.3	38.2	15.0	46.0	37.2	15.9	43.6	36.1	16.8	40.5	34.8	17.9
	18.0	25	54.0	40.2	14.6	51.8	39.3	15.5	49.4	38.3	16.4	46.8	37.2	17.4	43.5	35.8	18.5
	19.5	27	56.8	40.9	14.9	54.5	40.0	15.9	52.0	39.0	16.8	49.3	37.9	17.8	45.9	36.6	19.0
	22.0	30	61.7	42.0	15.6	59.2	41.0	16.5	56.6	40.1	17.5	53.7	39.0	18.5	50.0	37.7	19.8
	24.0	32	65.9	42.7	16.1	63.2	41.8	17.1	60.4	40.8	18.1	57.4	39.8	19.2	53.5	38.5	20.5
220 (0.13)	16.0	23	51.6	42.7	14.3	49.5	41.8	15.2	47.2	40.8	16.1	44.7	39.7	17.0	41.5	38.4	18.2
	18.0	25	55.4	43.9	14.8	53.1	43.0	15.7	50.7	42.0	16.6	48.0	40.9	17.6	44.6	39.6	18.8
	19.5	27	58.3	44.8	15.1	55.9	43.9	16.1	53.3	42.9	17.0	50.6	41.8	18.0	47.1	40.5	19.2
	22.0	30	63.3	46.0	15.8	60.7	45.1	16.7	58.0	44.2	17.7	55.1	43.1	18.8	51.3	41.9	20.1
	24.0	32	67.6	47.0	16.3	64.8	46.1	17.3	61.9	45.1	18.3	58.9	44.1	19.4	54.9	42.9	20.7

FR30JB+(CR15JA2)×2

Evap. air			Entering air temp. to condenser (°CDB)														
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
192 (0.06)	16.0	23	63.6	47.2	17.7	60.3	45.7	18.7	56.9	44.1	19.9	53.3	42.5	21.1	49.0	40.5	22.7
	18.0	25	67.9	48.3	18.2	64.5	46.8	19.4	60.8	45.2	20.6	57.1	43.6	21.8	52.4	41.6	23.5
	19.5	27	71.3	49.0	18.7	67.6	47.5	19.9	63.9	45.9	21.1	59.9	44.3	22.4	55.0	42.3	24.2
	22.0	30	77.1	50.0	19.5	73.2	48.5	20.7	69.1	47.0	22.1	64.8	45.4	23.5	59.5	43.5	25.3
	24.0	32	81.9	50.7	20.2	77.7	49.2	21.5	73.5	47.7	22.9	68.9	46.1	24.4	63.3	44.3	26.3
240 (0.08)	16.0	23	65.7	52.1	18.0	62.3	50.5	19.1	58.8	49.0	20.2	55.1	47.3	21.5	50.6	45.4	23.1
	18.0	25	70.2	53.4	18.6	66.6	51.8	19.7	62.8	50.3	20.9	59.0	48.7	22.2	54.1	46.7	24.0
	19.5	27	73.7	54.3	19.0	69.9	52.8	20.2	66.0	51.2	21.5	61.9	49.6	22.9	56.8	47.7	24.6
	22.0	30	79.7	55.6	19.8	75.6	54.0	21.1	71.4	52.6	22.5	67.0	51.0	23.9	61.5	49.1	25.8
	24.0	32	84.6	56.4	20.5	80.3	55.0	21.9	75.9	53.5	23.3	71.2	52.0	24.8	65.4	50.1	26.8
320 (0.12)	16.0	23	67.8	58.3	18.3	64.3	57.3	19.4	60.7	56.3	20.6	56.9	54.7	21.8	52.2	52.2	23.5
	18.0	25	72.5	61.0	18.9	68.7	59.5	20.1	64.8	58.0	21.3	60.9	56.4	22.6	55.8	54.5	24.4
	19.5	27	76.1	62.2	19.4	72.1	60.7	20.6	68.1	59.2	21.9	63.9	57.6	23.3	58.6	55.7	25.1
	22.0	30	82.3	64.0	20.2	78.0	62.5	21.5	73.7	61.0	22.9	69.2	59.5	24.4	63.5	57.6	26.3
	24.0	32	87.3	65.2	20.9	82.9	63.3	22.3	78.3	62.3	23.7	73.5	60.8	25.3	67.5	59.0	27.3

FR40JB+(CR20JA2)×2

Evap. air			Entering air temp. to condenser (°CDB)														
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
265 (0.06)	16.0	23	91.1	66.6	24.7	86.7	64.5	26.1	82.2	62.3	27.6	77.6	60.2	29.2	72.2	57.8	31.2
	18.0	25	96.7	67.7	25.5	92.3	65.9	26.9	87.6	63.7	28.5	82.9	61.7	30.1	77.4	59.3	32.3
	19.5	27	101.5	68.8	26.1	96.7	66.7	27.5	91.8	64.6	29.2	87.0	62.7	30.9	81.4	60.4	33.1
	22.0	30	109.2	69.9	27.1	104.4	68.0	28.7	99.6	66.2	30.4	94.1	64.1	32.2	88.2	61.9	34.6
	24.0	32	115.0	70.4	28.0	110.2	68.7	29.7	105.4	66.9	31.4	99.6	65.0	33.4	94.0	63.1	35.8
330 (0.09)	16.0	23	94.3	73.1	25.2	89.7	70.9	26.6	85.0	68.8	28.1	80.3	66.8	29.7	74.7	64.3	31.8
	18.0	25	100.0	74.5	25.9	95.5	72.6	27.4	90.6	70.5	29.0	85.8	68.5	30.7	80.1	66.2	32.9
	19.5	27	105.0	75.7	26.5	100.0	73.7	28.1	95.0	71.7	29.7	90.0	69.7	31.5	84.2	67.5	33.7
	22.0	30	113.0	77.2	27.6	108.0	75.4	29.2	103.0	73.6	31.0	97.4	71.6	32.8	91.3	69.4	35.2
	24.0	32	119.0	78.1	28.5	114.0	76.4	30.2	109.0	74.7	32.0	103.0	72.7	34.0	97.3	70.8	36.5
440 (0.13)	16.0	23	97.5	82.9	25.7	92.7	80.8	27.1	87.8	78.7	28.6	83.0	76.6	30.3	77.2	74.2	32.4
	18.0	25	103.3	84.8	26.4	98.7	83.0	27.9	93.6	80.9	29.5	88.7	79.0	31.3	82.8	76.6	33.5
	19.5	27	108.5	86.4	27.0	103.3	84.4	28.6	98.2	82.5	30.3	93.0	80.5	32.1	87.0	78.3	34.4
	22.0	30	116.8	88.6	28.1	111.6	86.3	29.8	106.4	85.0	31.5	100.7	83.0	33.5	94.4	80.9	35.9
	24.0	32	123.0	89.9	29.0	117.8	88.2	30.8	112.6	86.6	32.6	106.4	84.6	34.6	100.6	82.8	37.2

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW)
(Comp. + cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Working range:
   Refer to page 28 about maximum entering air temp. to condenser.
5. Direct interpolation is permissible.
   Do not extrapolate.

[60Hz]

FRP3MB+CR3MA

Evap. air			Entering air temp. to condenser (°CDB)													
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20 (0.10)	16.0	23	6.8	5.0	2.3	6.6	4.8	2.5	6.3	4.7	2.8	6.0	4.5	3.0	5.6	4.3	3.4
	18.0	25	7.3	5.1	2.3	7.0	4.9	2.6	6.7	4.8	2.8	6.3	4.6	3.1	5.9	4.4	3.5
	19.5	27	7.6	5.1	2.4	7.3	5.0	2.6	7.0	4.9	2.9	6.7	4.7	3.2	6.2	4.5	3.5
	22.0	30	8.2	5.2	2.4	7.9	5.1	2.7	7.6	5.0	2.9	7.2	4.8	3.2	6.7	4.6	3.6
	24.0	32	8.7	5.3	2.4	8.4	5.2	2.7	8.0	5.0	3.0	7.6	4.9	3.3	7.2	4.7	3.7
25 (0.13)	16.0	23	7.1	5.4	2.3	6.8	5.3	2.6	6.5	5.2	2.8	6.2	5.0	3.1	5.8	4.8	3.4
	18.0	25	7.6	5.5	2.4	7.3	5.4	2.6	7.0	5.3	2.9	6.6	5.1	3.1	6.2	4.9	3.5
	19.5	27	8.0	5.6	2.4	7.6	5.5	2.6	7.3	5.4	2.9	6.9	5.2	3.2	6.5	5.0	3.6
	22.0	30	8.6	5.8	2.4	8.3	5.6	2.7	7.9	5.5	3.0	7.5	5.4	3.3	7.0	5.2	3.7
	24.0	32	9.1	5.8	2.5	8.8	5.7	2.7	8.4	5.6	3.0	8.0	5.4	3.3	7.5	5.3	3.7
33 (0.17)	16.0	23	7.3	6.1	2.3	7.0	6.0	2.6	6.7	5.8	2.8	6.4	5.7	3.1	6.0	5.5	3.5
	18.0	25	7.8	6.3	2.4	7.5	6.1	2.6	7.2	6.0	2.9	6.8	5.8	3.2	6.4	5.6	3.5
	19.5	27	8.2	6.4	2.4	7.9	6.2	2.6	7.5	6.1	2.9	7.1	6.0	3.2	6.7	5.8	3.6
	22.0	30	8.8	6.5	2.5	8.5	6.4	2.7	8.2	6.3	3.0	7.8	6.1	3.3	7.2	5.9	3.7
	24.0	32	9.4	6.6	2.5	9.0	6.5	2.7	8.7	6.4	3.1	8.2	6.2	3.4	7.7	6.1	3.8

FRP5MB+CR5MA

Evap. air			Entering air temp. to condenser (°CDB)													
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
36 (0.10)	16.0	23	12.2	8.8	4.0	11.6	8.5	4.4	11.1	8.3	4.8	10.4	7.9	5.2	9.5	7.5	5.8
	18.0	25	13.1	9.0	4.1	12.5	8.8	4.4	11.8	8.5	4.8	11.2	8.2	5.3	10.2	7.8	5.9
	19.5	27	13.7	9.2	4.1	13.1	8.9	4.5	12.4	8.6	4.9	11.6	8.4	5.4	10.7	8.0	6.0
	22.0	30	14.8	9.3	4.2	14.2	9.1	4.6	13.5	8.8	5.0	12.6	8.5	5.5	11.5	8.1	6.1
	24.0	32	15.7	9.5	4.3	15.1	9.2	4.7	14.3	8.9	5.1	13.5	8.7	5.6	12.4	8.3	6.2
42 (0.12)	16.0	23	12.6	9.4	4.0	12.0	9.1	4.4	11.4	8.8	4.8	10.7	8.5	5.3	9.8	8.1	5.8
	18.0	25	13.5	9.6	4.1	12.9	9.4	4.5	12.2	9.1	4.9	11.5	8.8	5.4	10.5	8.4	5.9
	19.5	27	14.1	9.8	4.2	13.5	9.6	4.5	12.8	9.3	5.0	12.0	9.0	5.4	11.0	8.6	6.0
	22.0	30	15.3	10.0	4.3	14.6	9.8	4.6	13.9	9.5	5.1	13.0	9.2	5.6	11.9	8.8	6.2
	24.0	32	16.2	10.2	4.3	15.5	10.0	4.7	14.7	9.6	5.2	13.9	9.4	5.7	12.8	9.0	6.3
55 (0.16)	16.0	23	13.1	10.5	4.1	12.5	10.3	4.4	11.9	10.0	4.8	11.1	9.7	5.3	10.2	9.3	5.9
	18.0	25	14.0	10.8	4.1	13.4	10.6	4.5	12.7	10.3	4.9	12.0	10.0	5.4	10.9	9.6	6.0
	19.5	27	14.7	11.0	4.2	14.0	10.8	4.6	13.3	10.5	5.0	12.5	10.2	5.5	11.4	9.8	6.1
	22.0	30	15.9	11.4	4.3	15.2	11.1	4.7	14.5	10.8	5.1	13.5	10.4	5.6	12.4	10.2	6.2
	24.0	32	16.9	11.5	4.4	16.1	11.2	4.8	15.3	11.0	5.2	14.5	10.7	5.7	13.3	10.3	6.3

FRP8MB+CR8M

Evap. air			Entering air temp. to condenser (°CDB)													
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
54 (0.13)	16.0	23	17.6	12.9	6.0	16.9	12.5	6.6	16.3	12.1	7.2	15.5	11.7	7.9	14.5	11.2	8.7
	18.0	25	18.8	13.1	6.1	18.1	12.8	6.7	17.4	12.4	7.3	16.4	12.0	8.0	15.3	11.6	8.9
	19.5	27	19.7	13.3	6.2	19.0	13.0	6.8	18.1	12.6	7.4	17.3	12.3	8.1	16.1	11.8	9.0
	22.0	30	21.3	13.5	6.4	20.5	13.2	7.0	19.6	12.8	7.6	18.6	12.4	8.3	17.4	12.0	9.2
	24.0	32	22.5	13.6	6.5	21.8	13.4	7.1	20.8	13.0	7.7	19.8	12.7	8.5	18.4	12.2	9.4
63 (0.15)	16.0	23	18.0	13.4	6.1	17.2	13.0	6.6	16.6	12.7	7.3	15.8	12.3	8.0	14.8	11.8	8.8
	18.0	25	19.2	13.7	6.2	18.5	13.3	6.8	17.7	12.9	7.4	16.7	12.6	8.1	15.6	12.1	8.9
	19.5	27	20.1	13.8	6.3	19.4	13.5	6.9	18.5	13.2	7.5	17.6	12.8	8.2	16.4	12.3	9.1
	22.0	30	21.7	14.1	6.4	20.9	13.8	7.0	20.0	13.5	7.7	19.0	13.1	8.4	17.7	12.6	9.3
	24.0	32	23.0	14.2	6.6	22.2	13.9	7.2	21.2	13.6	7.9	20.2	13.2	8.6	18.8	12.8	9.5
82 (0.20)	16.0	23	18.7	15.1	6.2	17.9	14.8	6.8	17.3	14.5	7.4	16.4	14.1	8.1	15.4	13.6	9.0
	18.0	25	20.0	15.6	6.3	19.2	15.2	6.9	18.4	14.8	7.5	17.4	14.4	8.3	16.2	14.0	9.1
	19.5	27	20.9	15.8	6.4	20.2	15.5	7.0	19.2	15.1	7.7	18.3	14.8	8.4	17.1	14.3	9.3
	22.0	30	22.6	16.2	6.6	21.7	15.8	7.2	20.8	15.5	7.8	19.8	15.2	8.6	18.4	14.6	9.5
	24.0	32	23.9	16.4	6.7	23.1	16.1	7.3	22.1	15.7	8.0	21.0	15.4	8.8	19.6	15.0	9.7

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW)
(Comp. + cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▭ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Working range:
   Refer to page 28 about maximum entering air temp. to condenser.
5. Direct interpolation is permissible. Do not extrapolate.

[60Hz]

FRP10MB+CR10M

Evap. air			Entering air temp. to condenser (°CDB)														
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
72 (0.12)	16.0	23	24.6	17.6	8.2	23.7	17.2	8.9	22.6	16.7	9.7	21.6	16.1	12.2	20.0	15.5	13.4
	18.0	25	26.2	18.0	8.3	25.2	17.5	9.1	24.1	17.0	9.9	23.0	16.6	12.5	21.5	15.9	13.7
	19.5	27	27.4	18.3	8.5	26.5	17.8	9.2	25.3	17.3	10.1	24.0	16.7	12.7	22.3	16.1	13.9
	22.0	30	29.6	18.6	8.7	28.5	18.2	9.5	27.2	17.7	10.4	26.0	17.1	13.0	24.3	16.5	14.1
	24.0	32	31.4	18.8	8.9	30.2	18.3	9.7	28.9	17.9	10.6	27.5	17.4	13.2	25.8	16.7	14.3
83 (0.14)	16.0	23	25.1	18.6	8.3	24.2	18.2	9.0	23.1	17.7	9.8	22.0	17.1	12.4	20.4	16.4	13.5
	18.0	25	26.7	19.0	8.4	25.7	18.5	9.2	24.6	18.0	10.0	23.5	17.5	12.6	21.9	16.9	13.8
	19.5	27	28.0	19.3	8.6	27.0	18.8	9.3	25.8	18.4	10.2	24.5	17.8	12.8	22.8	17.2	14.0
	22.0	30	30.2	19.7	8.8	29.1	19.3	9.6	27.8	18.8	10.5	26.5	18.3	13.1	24.8	17.6	14.2
	24.0	32	32.0	19.9	9.0	30.8	19.5	9.8	29.5	19.0	10.7	28.1	18.5	13.3	26.3	18.0	14.4
110 (0.19)	16.0	23	26.4	20.9	8.4	25.4	20.5	9.2	24.3	20.0	10.0	23.1	19.4	12.6	21.4	18.7	13.8
	18.0	25	28.0	21.3	8.6	27.0	21.0	9.3	25.8	20.4	10.2	24.7	20.0	12.9	23.0	19.3	14.1
	19.5	27	29.4	21.7	8.7	28.4	21.3	9.5	27.1	20.8	10.4	25.7	20.3	13.1	23.9	19.6	14.3
	22.0	30	31.7	22.3	9.0	30.6	21.8	9.8	29.2	21.3	10.7	27.8	20.8	13.3	26.0	20.2	14.5
	24.0	32	33.6	22.6	9.2	32.3	22.2	10.0	31.0	21.7	10.9	29.5	21.2	13.6	27.6	20.6	14.7

FR15MB+(CR8M2)×2

Evap. air			Entering air temp. to condenser (°CDB)														
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
108 (0.06)	16.0	23	34.5	26.0	12.0	33.2	25.3	13.1	31.6	24.5	14.5	30.1	23.9	15.9	28.1	22.9	17.6
	18.0	25	36.8	26.5	12.2	35.3	25.8	13.4	33.8	25.2	14.8	32.0	24.1	16.2	30.1	23.6	17.9
	19.5	27	38.6	26.9	12.4	37.1	26.2	13.6	35.4	25.6	15.0	34.3	25.0	16.5	31.3	24.0	18.5
	22.0	30	41.6	27.4	12.7	40.1	26.8	14.0	38.2	26.1	15.4	36.4	25.4	16.9	34.1	24.5	18.8
	24.0	32	44.2	27.8	13.0	42.5	27.2	14.3	40.6	26.6	15.7	38.7	25.9	17.3	36.5	25.0	19.3
120 (0.08)	16.0	23	35.6	27.4	12.1	34.2	26.6	13.2	32.6	25.9	14.6	31.0	25.2	16.1	29.0	24.3	17.8
	18.0	25	37.9	28.0	12.3	36.4	27.3	13.5	34.8	26.6	14.9	33.0	25.8	16.4	31.0	25.0	18.1
	19.5	27	39.8	28.4	12.5	38.2	27.8	13.7	36.5	27.0	15.1	34.6	26.3	16.7	32.3	25.4	18.7
	22.0	30	42.9	29.0	12.8	41.3	28.4	14.1	39.4	27.7	15.5	37.5	27.0	17.1	35.2	26.1	19.0
	24.0	32	45.6	29.4	13.1	43.8	28.8	14.4	41.9	28.1	15.9	39.9	27.5	17.5	37.6	26.7	19.5
165 (0.12)	16.0	23	37.0	31.7	12.3	35.6	30.9	13.5	33.9	30.1	14.9	32.2	29.4	16.4	30.2	28.6	18.2
	18.0	25	39.4	32.4	12.6	37.9	31.8	13.8	36.2	31.1	15.2	34.3	30.3	16.7	32.2	29.4	18.5
	19.5	27	41.4	33.0	12.8	39.7	32.3	14.0	38.0	31.7	15.4	36.0	31.0	17.0	33.6	30.1	19.1
	22.0	30	44.6	33.8	13.1	43.0	33.2	14.4	41.0	32.7	15.8	39.0	31.9	17.4	36.6	31.1	19.4
	24.0	32	47.4	34.5	13.4	45.6	33.9	14.7	43.6	33.3	16.2	41.5	32.6	17.9	39.1	31.9	19.7

FR20MB+(CR10M2)×2

Evap. air			Entering air temp. to condenser (°CDB)														
AFR (BF)	EWB	EDB	25			30			35			40			46		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
144 (0.07)	16.0	23	49.6	36.1	15.8	47.7	35.2	17.5	45.7	34.3	19.3	43.5	33.2	21.4	40.8	31.9	23.6
	18.0	25	52.8	36.8	16.3	50.9	35.9	17.9	48.6	34.9	19.7	46.3	33.9	21.7	43.4	32.8	24.2
	19.5	27	55.4	37.3	16.6	53.3	36.4	18.2	51.0	35.4	20.0	48.5	34.4	22.0	45.6	33.4	24.5
	22.0	30	59.7	38.0	17.0	57.4	37.1	18.7	55.0	36.2	20.5	52.4	35.1	22.5	49.3	34.1	24.9
	24.0	32	63.3	38.4	17.4	61.0	37.6	19.1	58.4	36.6	20.8	55.8	35.8	22.8	52.4	34.6	25.1
165 (0.09)	16.0	23	50.6	38.1	16.0	48.7	37.3	17.7	46.6	36.3	19.5	44.4	35.3	21.6	41.6	34.0	23.8
	18.0	25	53.9	39.0	16.5	51.9	38.1	18.1	49.6	37.1	19.9	47.2	36.1	21.9	44.3	35.0	24.4
	19.5	27	56.5	39.5	16.8	54.4	38.7	18.4	52.0	37.7	20.5	49.5	36.6	22.2	46.5	35.6	24.7
	22.0	30	60.9	40.3	17.2	58.6	39.4	18.9	56.1	38.5	20.7	53.5	37.6	22.7	50.3	36.4	25.1
	24.0	32	64.6	40.9	17.5	62.2	40.0	19.3	59.6	39.1	21.0	56.9	38.2	23.0	53.5	37.0	25.3
220 (0.13)	16.0	23	52.6	43.2	16.3	50.7	42.3	18.1	48.5	41.4	19.9	46.2	40.4	22.0	43.3	39.1	24.3
	18.0	25	56.1	44.3	16.8	54.0	43.4	18.5	51.6	42.3	20.3	49.1	41.4	22.3	46.1	40.2	24.9
	19.5	27	58.8	45.0	17.1	56.6	44.2	18.8	54.1	43.2	20.6	51.5	42.1	22.6	48.4	41.1	25.2
	22.0	30	63.3	46.1	17.5	61.0	45.2	19.3	58.3	44.2	21.1	55.6	43.4	23.2	52.3	42.2	25.6
	24.0	32	67.2	46.9	18.0	64.7	46.0	19.7	62.0	45.1	21.4	59.2	44.2	23.5	55.6	43.1	25.8

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW)
(Comp. + cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Working range:
   Refer to page 28 about maximum entering air temp. to condenser.
5. Direct interpolation is permissible.
   Do not extrapolate.

[60Hz]

FR25JB+(CR12JA2)×2

Evap. air			Entering air temp. to condenser (°CDB)															
AFR (BF)	EWB	EDB	25			30			35			40			46			
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
144 (0.07)	16.0	23	54.2	38.4	18.2	52.0	37.3	19.2	49.7	36.2	20.2	47.3	35.0	21.2	44.2	33.6	22.5	
	18.0	25	57.3	39.1	18.8	55.6	38.1	19.8	53.1	37.0	20.9	50.6	35.8	22.0	47.4	34.4	23.4	
	19.5	27	60.7	39.7	19.3	58.2	38.6	20.3	55.7	37.5	21.4	53.2	36.4	22.6	49.8	35.0	24.0	
	22.0	30	65.6	40.4	20.0	63.0	39.3	21.2	60.4	38.3	22.4	57.6	37.2	23.6	54.0	35.8	25.1	
	24.0	32	69.6	40.8	20.7	67.0	39.9	21.9	64.2	39.8	23.1	61.2	37.7	24.4	57.6	36.4	26.0	
180 (0.10)	16.0	23	56.4	42.0	18.6	54.1	40.9	19.6	51.7	39.8	20.6	49.2	38.6	21.7	46.0	37.2	23.0	
	18.0	25	60.1	42.9	19.2	57.8	41.9	20.3	55.2	40.7	21.3	52.6	39.6	22.5	49.3	38.2	23.9	
	19.5	27	63.1	43.5	19.7	60.6	42.5	20.8	58.0	41.4	21.9	55.3	40.3	23.1	51.8	38.9	24.6	
	22.0	30	68.2	44.4	20.5	65.5	43.4	21.6	62.8	42.4	22.9	59.9	41.3	24.1	56.2	39.9	25.7	
	24.0	32	72.4	45.0	21.2	69.7	44.0	22.4	66.8	43.0	23.6	63.7	42.0	25.0	59.9	40.7	26.6	
220 (0.13)	16.0	23	58.0	45.6	18.9	55.6	44.5	19.9	53.1	43.4	20.9	50.6	42.2	22.0	47.3	40.8	23.4	
	18.0	25	61.8	46.6	19.5	59.4	45.6	20.6	56.7	44.5	21.7	54.1	43.4	22.8	50.7	42.0	24.2	
	19.5	27	64.8	47.4	20.0	62.3	46.4	21.1	59.6	45.3	22.2	56.8	44.2	23.4	53.2	42.8	24.9	
	22.0	30	70.1	48.5	20.8	67.3	47.5	22.0	64.5	46.5	23.2	61.6	45.4	24.5	57.8	44.1	26.1	
	24.0	32	74.4	49.3	21.5	71.6	48.3	22.7	68.6	47.3	24.0	65.5	46.3	25.4	61.6	45.0	27.0	

FR30JB+(CR15JA2)×2

Evap. air			Entering air temp. to condenser (°CDB)															
AFR (BF)	EWB	EDB	25			30			35			40			46			
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
192 (0.05)	16.0	23	69.9	49.9	22.9	66.1	48.5	24.3	63.0	47.0	25.7	59.7	45.4	27.2	55.6	43.5	29.0	
	18.0	25	73.9	51.0	23.5	70.8	49.6	25.0	67.6	48.2	26.5	64.1	46.6	28.0	59.6	44.7	29.9	
	19.5	27	77.6	51.8	24.0	74.5	50.4	25.5	71.0	48.9	27.1	67.4	47.4	28.7	62.8	45.5	30.6	
	22.0	30	84.2	52.8	24.9	80.6	51.4	26.5	77.0	50.0	28.1	73.0	48.5	29.8	68.0	46.6	31.8	
	24.0	32	89.4	53.5	25.6	85.8	52.1	27.3	81.9	50.7	28.9	77.6	49.2	30.6	72.3	47.3	32.7	
240 (0.08)	16.0	23	71.9	54.9	23.3	68.9	53.5	24.7	65.6	52.0	26.2	62.2	50.5	27.7	57.9	48.6	29.5	
	18.0	25	77.0	56.3	24.0	73.8	54.9	25.5	70.4	53.4	27.0	66.8	51.9	28.5	62.1	50.0	30.5	
	19.5	27	80.9	57.2	24.5	77.6	55.8	26.0	74.0	54.4	27.6	70.2	52.9	29.2	65.4	51.0	31.2	
	22.0	30	87.7	58.5	25.4	84.0	57.2	27.0	80.2	55.7	28.4	76.1	54.2	30.3	70.9	52.4	32.4	
	24.0	32	93.2	59.4	26.1	89.4	58.1	27.8	85.3	56.7	29.5	80.9	55.2	31.2	75.3	53.3	33.4	
320 (0.12)	16.0	23	74.8	62.4	23.8	71.7	61.1	25.2	68.3	59.6	26.7	64.7	58.1	28.2	60.3	56.2	30.1	
	18.0	25	80.1	64.2	24.4	76.8	62.8	25.9	73.3	61.4	27.5	69.5	59.9	29.1	64.6	58.0	31.0	
	19.5	27	84.2	65.4	25.0	80.8	64.0	26.5	77.0	62.6	28.1	73.1	61.1	29.8	68.1	59.2	31.8	
	22.0	30	91.3	67.2	25.9	87.4	65.8	27.5	83.5	64.4	29.2	79.2	63.0	30.9	73.8	61.1	33.0	
	24.0	32	97.0	68.4	26.6	93.1	67.1	28.3	88.8	65.7	30.0	84.2	64.2	31.8	78.4	62.4	34.0	

FR40JB+(CR20JA2)×2

Evap. air			Entering air temp. to condenser (°CDB)															
AFR (BF)	EWB	EDB	25			30			35			40			46			
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
265 (0.06)	16.0	23	99.1	70.5	31.3	94.8	68.4	32.8	90.5	66.3	34.6	85.8	64.0	36.5	79.7	61.2	39.1	
	18.0	25	104.9	71.5	32.3	101.1	69.7	34.0	96.3	67.5	35.9	91.5	65.5	38.0	85.2	62.7	40.7	
	19.5	27	110.7	72.8	33.1	105.9	70.6	34.9	101.1	68.6	36.9	96.0	66.4	39.1	89.4	63.7	41.9	
	22.0	30	119.4	73.9	34.7	114.5	72.0	36.6	108.8	69.7	38.7	104.0	67.8	41.0	96.3	64.9	44.1	
	24.0	32	126.1	74.5	36.0	121.3	72.7	38.0	115.5	70.6	40.2	109.7	68.5	42.7	103.0	66.1	45.9	
330 (0.09)	16.0	23	103.0	77.1	32.0	98.5	75.0	33.6	94.0	72.9	35.4	89.1	70.7	37.4	82.8	67.8	40.1	
	18.0	25	109.0	78.4	33.1	105.0	76.7	34.8	100.0	74.5	36.8	95.1	72.4	38.9	88.5	69.7	41.7	
	19.5	27	115.0	79.9	34.0	110.9	77.8	35.8	105.0	75.7	37.8	99.7	73.6	40.0	92.9	70.9	43.0	
	22.0	30	124.0	81.4	35.5	119.0	79.5	37.5	113.0	77.2	39.6	108.0	75.4	42.0	100.0	72.5	45.2	
	24.0	32	131.0	82.3	36.8	126.0	80.5	38.9	120.0	78.4	41.2	114.0	76.4	43.7	107.0	74.0	47.0	
440 (0.13)	16.0	23	106.9	87.0	32.8	102.2	84.9	34.5	97.6	82.9	36.3	92.5	80.7	38.4	85.9	77.9	41.1	
	18.0	25	113.1	88.8	33.9	109.0	87.1	35.7	103.8	84.9	37.7	98.7	82.9	39.8	91.9	80.2	42.7	
	19.5	27	119.4	90.6	34.8	114.2	88.6	36.7	109.0	86.6	38.7	103.5	84.4	41.0	96.4	81.8	44.0	
	22.0	30	128.7	92.8	36.4	123.5	90.9	38.4	117.3	88.7	40.6	112.1	86.9	43.1	103.8	84.0	46.3	
	24.0	32	136.0	94.1	37.7	130.8	92.4	39.9	124.6	90.4	42.2	118.3	88.3	44.8	111.1	86.0	48.2	

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW)
(Comp. + cond. fan motor)

Notes:

1. Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
2. ▨ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB − EDB)
   Add ΔSHC to SHC.
4. Working range:
   Refer to page 28 about maximum entering air temp. to condenser.
5. Direct interpolation is permissible. Do not extrapolate.

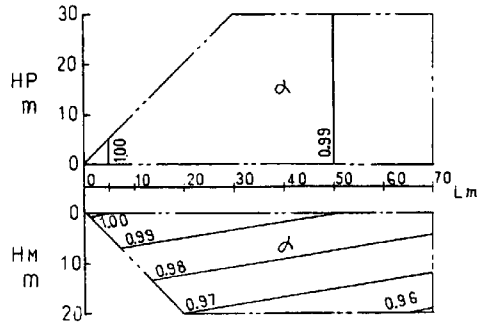
8. Changing in capacity

● **Change in capacity ratio due to installation location**

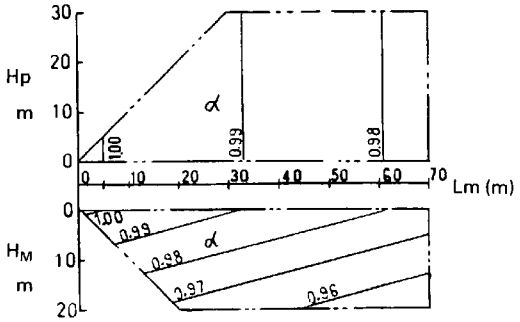
	Capacity
FRP3MB+CR3MA	×
FRP5MB+CR5MA	×
FRP8MB+CR8M	×
FRP10MB+CR10M	×
FR15MB+(CR8M2)×2	×
FR20MB+(CR10M2)×2	×
FR25JB+(CR12JA2)×2	×
FR30JB+(CR15JA2)×2	○
FR40JB+(CR20JA2)×2	○

Notes ○ : Capacity does not change due to installation location.
× : Capacity changes due to installation location.

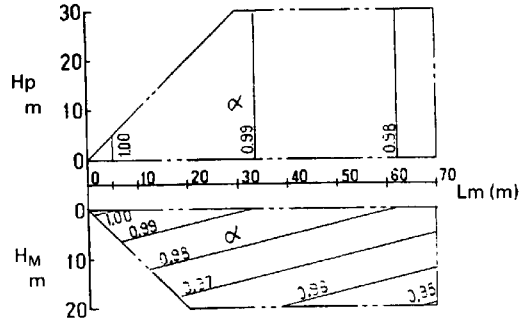
FRP3MB+CR3MA



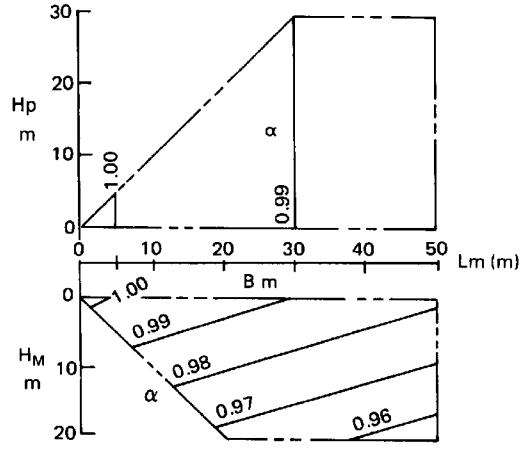
FRP5MB+CR5MA



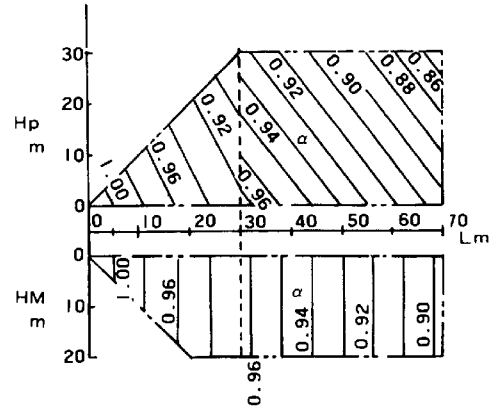
FRP8MB+CR8M
FR15MB+(CR8M2)×2



FR25JB+(CR12JA2)×2



FR20MB+(CR10M2)×2



Symbols:
H_P, H_M : Difference in height between indoor unit and remote condenser. (m)
(H_P: Indoor unit is installed lower than remote condenser.)
(H_M: Indoor unit is installed higher than remote condenser.)
Lm : Equivalent piping length. (m)
α : Capacity changing ratio.

Notes:
1. Installation allowable range is shown with two dotted lines.
2. Calculation method for cooling capacity:
Cooling capacity = Cooling capacity obtained from the capacity table x Cooling capacity changing ratio.
However, when the first refrigerant piping length differs from the second one, multiply ½ of the cooling capacity obtained from the capacity table by the capacity changing ratio due to each piping length respectively and add them.

9. Fan performance

(1) Performance data

Model	Air flow rate (m^3/min.)	ESP	0	5	10	15	20	25	30	35	40	45	50	PD (Plenum chamber)
FRP3MB	20	r.p.m.	560	760	950	1120	1270	1400						1
		kW	0.05	0.09	0.14	0.21	0.28	0.36						
	25	r.p.m.	720	880	1030	1180	1320							1
		kW	0.10	0.15	0.20	0.27	0.35							
	30	r.p.m.	880	1010	1150	1280								2
		kw	0.18	0.23	0.29	0.36								
	33	r.p.m.	990	1110	1220									2
		kW	0.25	0.31	0.37									
FRP5MB	36	r.p.m.	550	730	900	1060	1190	1300	1410	1510				1
		kW	0.07	0.13	0.19	0.26	0.34	0.41	0.50	0.58				
	42	r.p.m.	620	780	930	1070	1210	1320	1430	1530				1
		kW	0.11	0.17	0.24	0.31	0.40	0.48	0.58	0.67				
	45	r.p.m.	640	810	940	1070	1210	1320	1440	1530				2
		kW	0.13	0.20	0.26	0.34	0.43	0.52	0.61	0.71				
	50	r.p.m.	700	860	980	1110	1230	1340	1450	1550				2
		kW	0.18	0.25	0.32	0.40	0.48	0.58	0.68	0.79				
	55	r.p.m.	780	910	1030	1140	1250	1360	1470	1570				2
		kW	0.24	0.31	0.39	0.47	0.55	0.66	0.77	0.88				
FRP8MB	54.5	r.p.m.	600	710	830	930	1030	1130	1220	1300	1370			2
		kW	0.15	0.23	0.30	0.39	0.50	0.61	0.73	0.96	1.09			
	60	r.p.m.	630	760	860	960	1060	1140	1230	1310	1390	1380		2
		kW	0.20	0.29	0.37	0.47	0.57	0.69	0.90	1.05	1.19	1.33		
	65	r.p.m.	670	790	880	980	1070	1160	1240	1320	1400	1380	1360	2
		kW	0.25	0.34	0.43	0.53	0.63	0.82	0.96	1.12	1.29	1.44	1.59	
	75	r.p.m.	770	860	950	1040	1120	1190	1270	1350	1420	1480	1540	3
		kW	0.37	0.47	0.57	0.68	0.86	0.99	1.13	1.29	1.45	1.63	1.82	
	82.5	r.p.m.	840	930	1020	1090	1170	1240	1310	1380	1450	1500	1560	3
		kW	0.49	0.59	0.71	0.89	1.02	1.16	1.31	1.46	1.63	1.80	1.99	
FRP10MB	72	r.p.m.	540	660	770	870	960	1050	1140	1220	1290	1360		2
		kW	0.21	0.29	0.38	0.48	0.60	0.72	0.86	1.00	1.15	1.30		
	83	r.p.m.	630	740	840	930	1020	1100	1180	1260	1320	1390	1380	2
		kW	0.33	0.42	0.52	0.63	0.75	0.88	1.03	1.18	1.34	1.50	1.67	
	90	r.p.m.	700	800	880	970	1060	1130	1210	1280	1340	1410	1480	3
		kW	0.43	0.52	0.63	0.74	0.87	1.01	1.16	1.31	1.48	1.65	1.83	
	100	r.p.m.	770	860	940	1020	1090	1170	1240	1310	1380	1440	1510	4
		kW	0.58	0.68	0.80	0.92	1.05	1.19	1.34	1.50	1.69	1.87	2.06	
	110	r.p.m.	860	940	1020	1090	1160	1230	1300	1360	1430	1490		4
		kW	0.80	0.92	1.04	1.18	1.32	1.47	1.63	1.80	1.98	2.16		
FR15MB	108	r.p.m.	590	680	770	860	940	1020	1090	1160	1220	1280	1340	2
		kW	0.44	0.58	0.75	0.92	1.12	1.31	1.51	1.71	1.92	2.13	2.42	
	120	r.p.m.	660	750	830	910	990	1060	1130	1190	1260	1320	1370	2
		kW	0.62	0.77	0.96	1.14	1.34	1.55	1.77	1.98	2.20	2.55	2.78	
	135	r.p.m.	730	820	900	970	1050	1120	1180	1240	1300	1360	1410	3
		kW	0.90	1.07	1.27	1.47	1.70	1.93	2.17	2.49	2.74	3.00	3.26	
	150	r.p.m.	830	910	980	1050	1110	1180	1230	1290	1350	1410	1460	4
		kW	1.21	1.40	1.60	1.82	2.05	2.37	2.62	2.89	3.16	3.43	3.70	
	165	r.p.m.	910	970	1040	1100	1160	1220	1280	1330	1390			5
		kW	1.60	1.81	2.02	2.33	2.58	2.85	3.12	3.41	3.70			
FR20MB·25JB	144	r.p.m.	630	720	800	880	960	1030	1100	1160	1230	1290	1340	3
		kW	0.78	0.94	1.11	1.30	1.50	1.71	1.94	2.18	2.49	2.75	3.01	
	165	r.p.m.	720	800	880	960	1020	1090	1150	1210	1260	1320	1370	3
		kW	1.17	1.35	1.54	1.75	1.96	2.19	2.50	2.75	3.03	3.31	3.59	
	180	r.p.m.	800	870	940	1010	1070	1140	1190	1250	1310	1360	1410	4
		kW	1.55	1.75	1.96	2.23	2.47	2.71	2.97	3.24	3.52	3.74	4.04	
	200	r.p.m.	900	960	1030	1090	1140	1200	1250	1310	1360	1410	1460	5
		kW	2.13	2.41	2.64	2.89	3.14	3.40	3.77	3.89	4.17	4.47	4.79	
	220	r.p.m.	990	1050	1110	1170	1220	1270	1320	1370	1420	1460		6
		kW	2.93	3.18	3.44	3.78	3.90	4.18	4.46	4.75	5.06	5.37		

Model	Air flow rate (m^3/min.)	ESP	0	10	20	30	40	50	60	70	80	ESP (Factory set) 50Hz	ESP (Factory set) 60Hz*1
FR30JB	192	r.p.m.	460	540	630	710	790	880	950	1010	1080	27.2	27.2
		kW	1.01	1.36	1.73	2.14	2.59	3.09	3.64	4.23	4.86		
	220	r.p.m.	490	580	660	740	820	900	980	1020	1090	23.2	23.2
		kW	1.52	1.91	2.33	2.77	3.24	3.76	4.31	4.91	5.51		
	240	r.p.m.	520	600	680	760	840	920	970	1030	1090	21.0	21.0
		kW	1.96	2.37	2.82	3.29	3.79	4.31	4.88	5.48	6.08		
	270	r.p.m.	580	650	730	810	880	940	1000	1060		14.0	14.0
		kW	2.78	3.25	3.74	4.26	4.80	5.36	5.91	6.50			
	300	r.p.m.	640	710	780	850	910	970	990			6.8	6.8
		kW	3.80	4.31	4.85	5.41	5.96	6.55	7.18				
	320	r.p.m.	680	750	810	880	940					1.0	1.0
		kW	4.60	5.14	5.67	6.26	6.87						
FR40JB	265	r.p.m.	550	640	730	830	940	1030	1130	1210	1280	29.6	29.6
		kW	1.54	2.12	2.75	3.45	4.20	5.02	5.90	6.82	8.02		
	300	r.p.m.	600	690	780	880	970	1060	1150	1220	1300	24.0	24.0
		kW	2.33	2.99	3.69	4.45	5.26	6.12	7.04	8.32	9.39		
	330	r.p.m.	640	730	820	910	990	1080	1150	1230	1300	20.0	20.0
		kW	3.04	3.77	4.52	5.32	6.18	7.08	8.33	9.36	10.46		
	360	r.p.m.	690	780	860	940	1020	1100	1180	1250		15.4	15.4
		kW	3.96	4.75	5.56	6.42	7.31	8.57	9.60	10.67			
	400	r.p.m.	770	850	920	990	1060	1140	1210	1270		6.6	6.6
		kW	5.41	6.29	7.18	8.41	9.40	10.46	11.54	12.67			
	440	r.p.m.	850	920	990	1060	1120	1190	1250			–	–
		kW	7.24	8.51	9.53	10.56	11.63	12.74	13.90				

Symbols:

ESP : External static pressure (mmH_2O)
r.p.m. : Fan speed (r.p.m.)
kW : Required motor output (kW)
PD : Pressure drop through optional plenum chamber (mmH_2O)

Notes:

1. ▨ shows the operating range of the fan motor based on factory setting. In case the fan motor is used out of the range, change motor size.
2.

Model		FRP3MB	FRP5MB	FRP8MB	FRP10MB	FR15MB	FR20MB·25JB
Fan motor		3 phase, 4 pole, E class insulation					B class insulation
Motor speed 50/60Hz	r.p.m.	1,420/1,700	1,420/1,700	1,420/1,700	1,420/1,700	1,420/1,710	1,420/1,710
Rated output	kW	0.4	0.75	0.75	1.5	2.2	3.7
Max. replaceable output	kW	–	1.5	2.2	2.2	3.7	5.5*2
Max. fan speed	r.p.m.	1,500	1,600	1,600	1,600	1,600	1,600
Pulley size							
Motor pulley		AR99-65-14 (Variable dia.)	AL129-100-19 (Variable dia.)	AL104-75-19 (Variable dia.)	AL129-100-24 (Variable dia.)	BR151-115-28 (Variable dia.)	BR161-125-28 (Variable dia.)
Fan pulley		A169-25 (Fixed dia.)	A195-25 (Fixed dia.)	A149-25 (Fixed dia.)	A195-35 (Fixed dia.)	B235-35 (Fixed dia.)	2B235-35 (Fixed dia.)
V belt size x No.		A28 x 1	A42 x 1	A40 x 1	A45 x 1	B40 x 1	B41 x 2
Air flow rate range	m^3/min.	20 ~ 33	36 ~ 55	54.5 ~ 82.5	72 ~ 110	108 ~ 165	144 ~ 220

Model		FR30JB	FR40JB
Fan motor		3 phase, 4 pole, B class insulation	
Motor speed (50/60Hz)	r.p.m.	1,440/1,730	1,440/1,730
Rated output	kW	5.5	7.5
Max. replacement output	kW	7.5	15
Max. fan speed	r.p.m.	1,100	1,300
Pulley size			
Motor pulley		50Hz: 2B161-38 60Hz: 2B136-38*3	50Hz: 3B171-38 60Hz: 3B143-38*3
Fan pulley		2B326-45	3B291-35
V belt size x No.		50Hz: B73 x 2 60Hz: B71 x2*3	50Hz: B70 x 3 60Hz: B68 x 3*3
Air flow rate range	m^3/min.	192~320	265~440

Remarks:

*1 ESP on 60Hz is the case when the attached standard motor pulley is used on the site.
*2 When 5.5kW motor is used, the number of V belt should be changed from one to two.
*3 Setting of motor pulley and V belt are stated below.
Those for 50Hz are set at factory and the ones for 60Hz are set on the site as they are attached standard accessories.

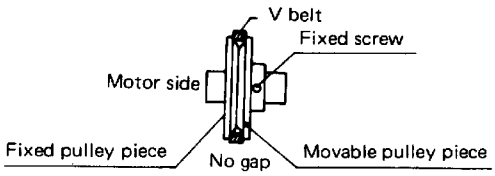
(2) Adjusting range of fan motor pulley

Model	No. of turn	Gap (mm)	Pitch dia. (mm)	Fan speed (r.p.m.)	
				50Hz	60Hz
FRP3MB	5	0	90	795	955
	4	1.5	85	750	905
	3	3	80	705	850
	2	4.5	75	660	795
	1	6	70	615	745
	0	7.5	65*	570	690
FRP5MB·10MB	5	0	120	920	1105
	4	1.5	115	885	1060
	3	3.0	110	855	1020
	2	4.5	105	815	975
	1	6.0	100*	780	930
	0	7.5	95	725	870
FRP8MB	5	0	95	975	1165
	4	1.5	90	925	1105
	3	3.0	85	880	1055
	2	4.5	80	830	995
	1	6.0	75*	780	935
	0	7.5	70	710	850
FRP15MB	6	0	140	895	1070
	5	1.5	135	855	1030
	4	3.0	130	825	990
	3	4.5	125	790	955
	2	6.0	120	760	915
	1	7.5	115*	730	875
	0	9.0	110	700	840
FR20MB·25JB	6	0	150	950	1145
	5	1.5	145	920	1105
	4	3.0	140	885	1070
	3	4.5	135	855	1030
	2	6.0	130	820	990
	1	7.5	125*	790	955
	0	9.0	120	760	915
FR30JB	–	–	60Hz:125* 50Hz:150*	– 685	685 –
FR40JB	–	–	60Hz:132* 50Hz:160*	– 820	815 –

* denotes factory set. In case of FR30JB, 40JB, the attached standard motor pulley is used on the site in case of 60Hz.

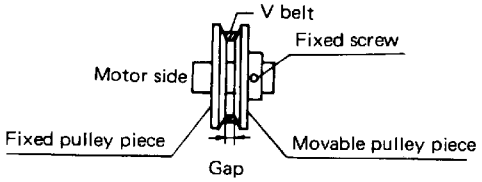
- **Pulley adjusting method**

[Max. dia.]



Turn the movable pulley piece clockwise in case of FRP5MB·8MB·10MB (counterclockwise in case of FRP3MB, FR15MB, 20MB, 25JB) motor by the number of turns tabulated.

[Min. dia.]

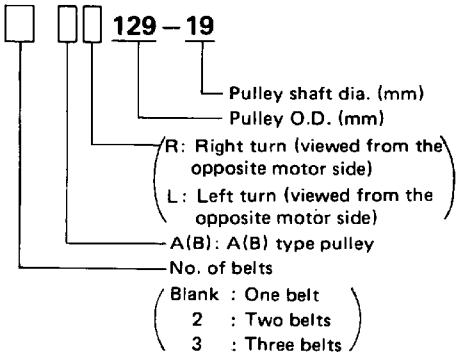


(Refer to Gap in the above table)

How to adjust the variable pitch pulley

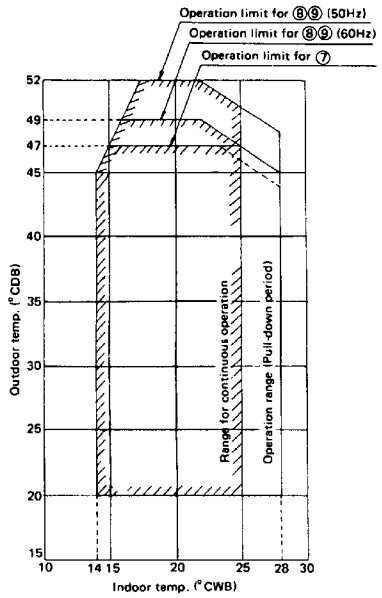
- After stopping, loosen the belt, remove the screw from the movable pulley piece and turn the movable piece in the direction shown the required number of times (tabulated in the Table).
- Insert the screw into one of two holes, from which it can contact with the flat face of the fixed pulley piece when it is tightened up.
- Retighten up the screw.
- Align the pulleys of the fan and the motor and adjust the tension of V belts.

- **Nomenclature**

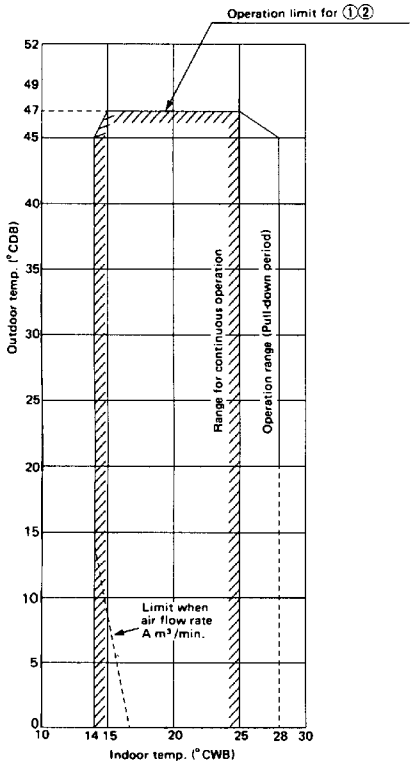


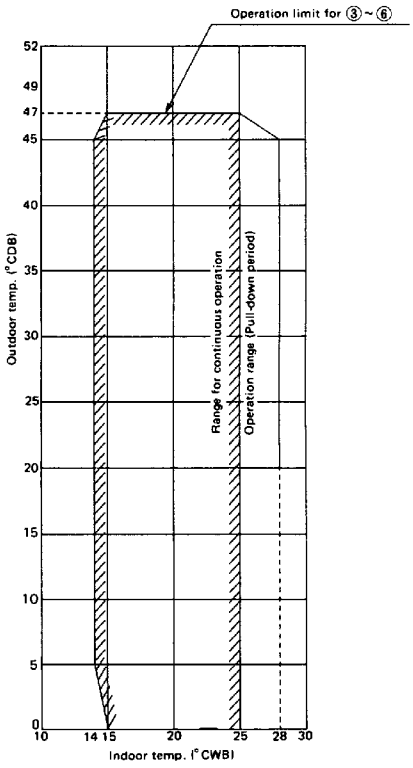
10. Operation unit

[JB Type]



[MB Type]



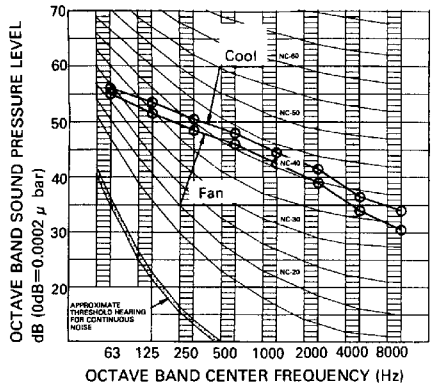


	Model	A
①	FRP3MB+CR3MA	20.0
②	FRP5MB+CR5MA	36.0
③	FRP8MB+CR8M	
④	FRP10MB+CR10M	
⑤	FR15MB+(CR8M2)×2	—
⑥	FR20MB+(CR10M2)×2	—
⑦	FR25JB+(CR12JA2)×2	—
⑧	FR30JB+(CR15JA2)×2	—
⑨	FR40JB+(CR20JA2)×2	—

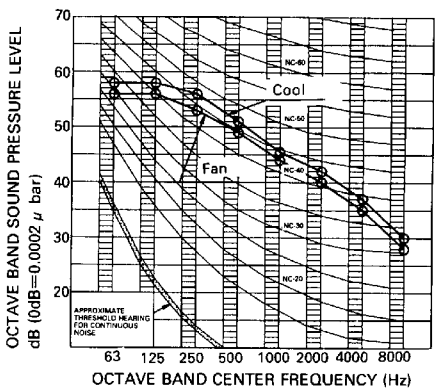
Note:
The graphs are made based on the following operative conditions.
- Equivalent piping length 5 m
- Level difference 0 m

11. Operation Noise

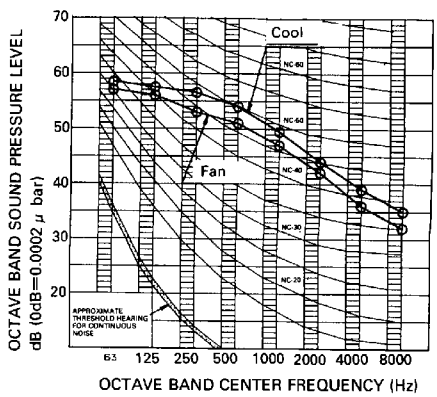
FRP3MB



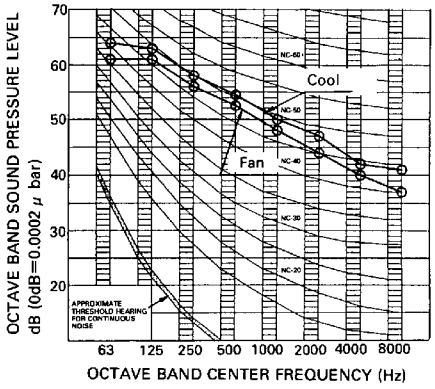
FRP5MB



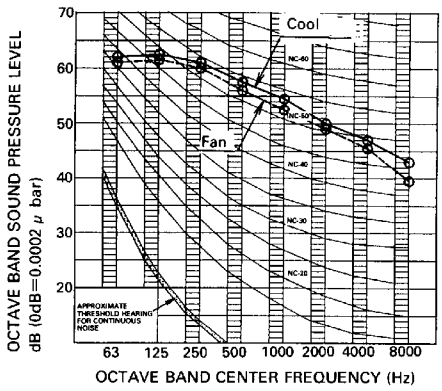
FRP8MB



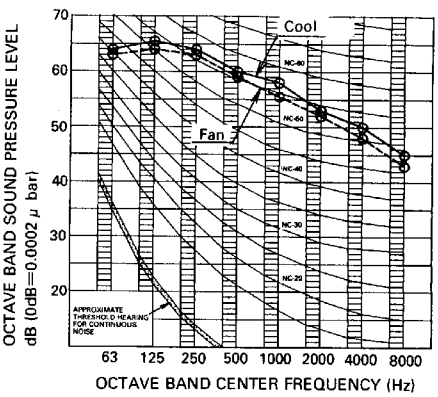
FRP10MB



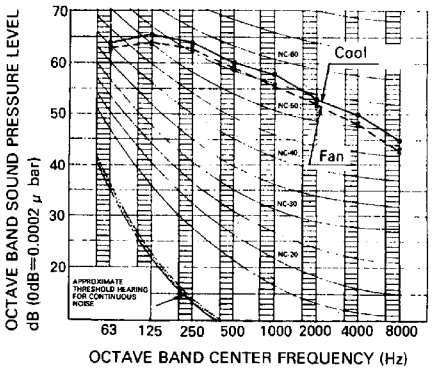
FR15MB



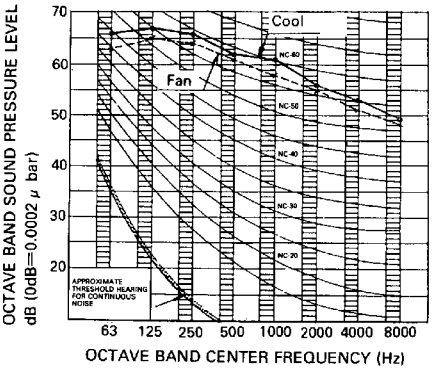
FR20MB



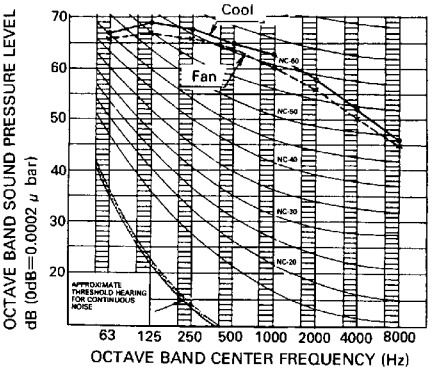
FR25JB



FR30JB



FR40JB



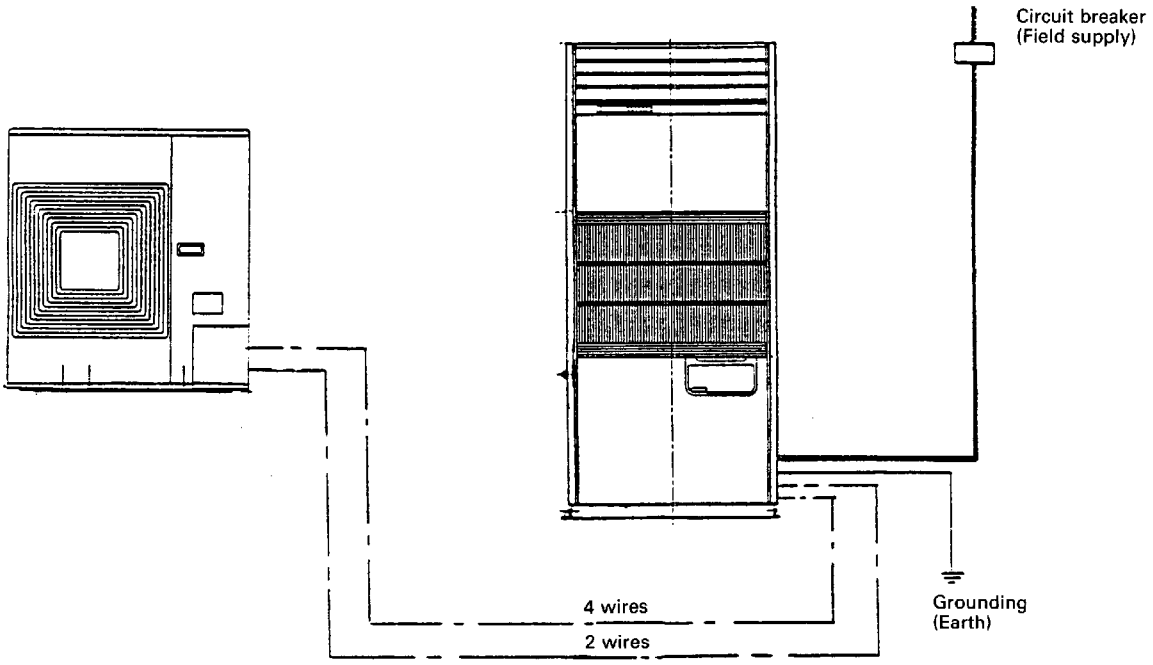
12. Electric characteristics

Model	Symbol of Power supply	Rated power supply Volts—ph—Hz	Starting method	Indoor unit					Remote condenser		Total	
				Comp.			EFM		CFM		MRC	NRC
				No.	LRA each	MRC each	No.	MRC each	No.	MRC each		
FRP3MB + CR3MA	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Direct on line	1	25.7 27.0 28.0 23.6 26.0	7.0	1	1.2	1	1.7 1.7 1.7 1.7 1.9	9.9 9.9 9.9 9.9 10.1	4.6 4.5 4.6 5.0 4.8
FRP5MB + CR5MA	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Direct on line	1	39.7 41.5 42.9 36.1 38.8	12	1	1.8	2	1.5 1.6 1.6 1.5 1.6	15.3 15.4 15.4 15.3 15.4	7.8 7.6 7.6 8.6 8.1
FRP8MB + CR8M	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Direct on line	1	66.9 70.5 73.1 61.6 67.7	16	1	1.8	2	2.6 2.7 2.8 2.6 2.7	20.4 20.5 20.6 20.4 20.5	11.9 11.4 11.0 13.1 12.2
FRP10MB + CR10M	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Direct on line	1	86.0 90.5 93.9 78.8 86.7	22	1	3.2	2	2.6 2.7 2.8 2.6 2.7	27.8 27.9 28.0 27.8 27.9	16.1 15.5 15.1 17.6 16.2
FR15MB + (CR8M2)×2	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Sequence direct on line	2	66.9 70.5 73.1 61.6 67.7	16	1	4.6	2×2	2.6 2.7 2.8 2.6 2.7	41.8 42.0 42.2 41.8 42.0	23.7 22.8 22.1 26.2 24.3
FR20MB + (CR10M2)×2	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Sequence direct on line	2	86.0 90.5 93.9 78.8 86.7	22	1	7.2	2×2	2.6 2.7 2.8 2.6 2.7	56.4 56.6 56.8 56.4 56.6	32.8 31.5 30.6 35.8 32.9
FR25JB + CR(12JA2)×2	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Sequence direct on line	2	121 127 132 111 122	21	1	7.2	2	0.9 0.9 0.9 1.0 1.0		33.9 33.9 34.2 38.3 35.7
FR30JB + (CR15JA2)×2	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Sequence direct on line	2	154 162 168 139 153	28	1	11	4	0.6	69.4	44.0 43.9 44.1 48.9 46.0
FR40JB + (CR20JA2)×2	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Y—△	2	85* 89* 92* 77* 85*	36	1	15	4	0.9	90.6	61.3 61.1 62.2 68.1 63.8

13. Wiring connection

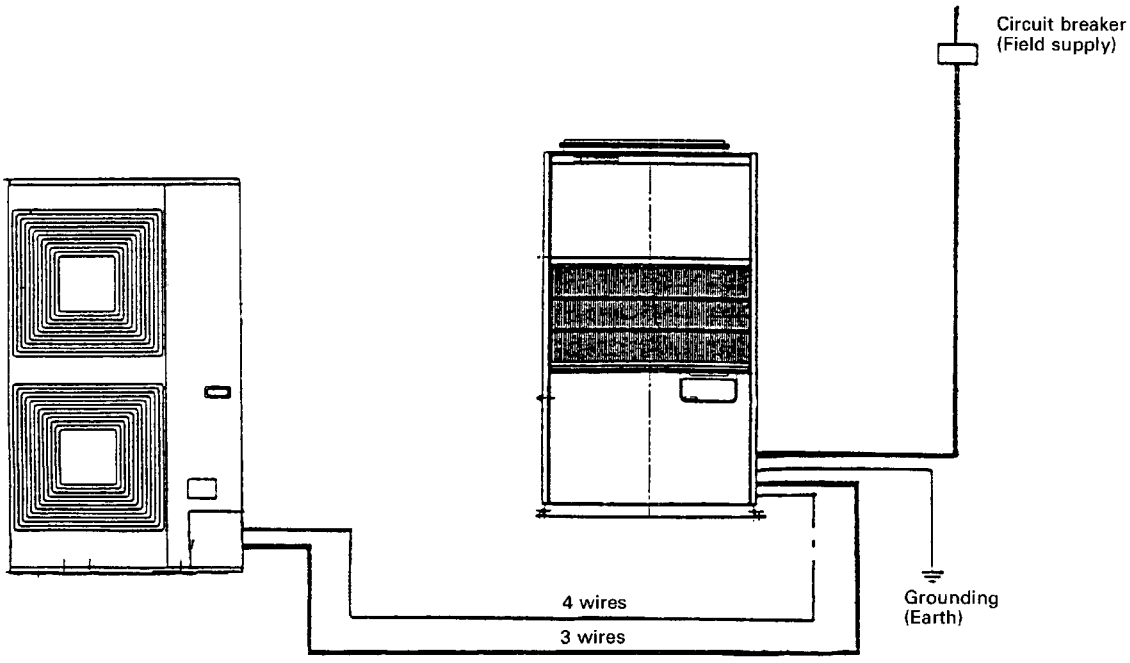
- Lay the wiring in accordance with the wiring diagram which is placed on the switch box cover of the indoor unit.
- Accord with your local code when wiring is provided on the spot.

[Outdoor unit] **[Indoor unit]**

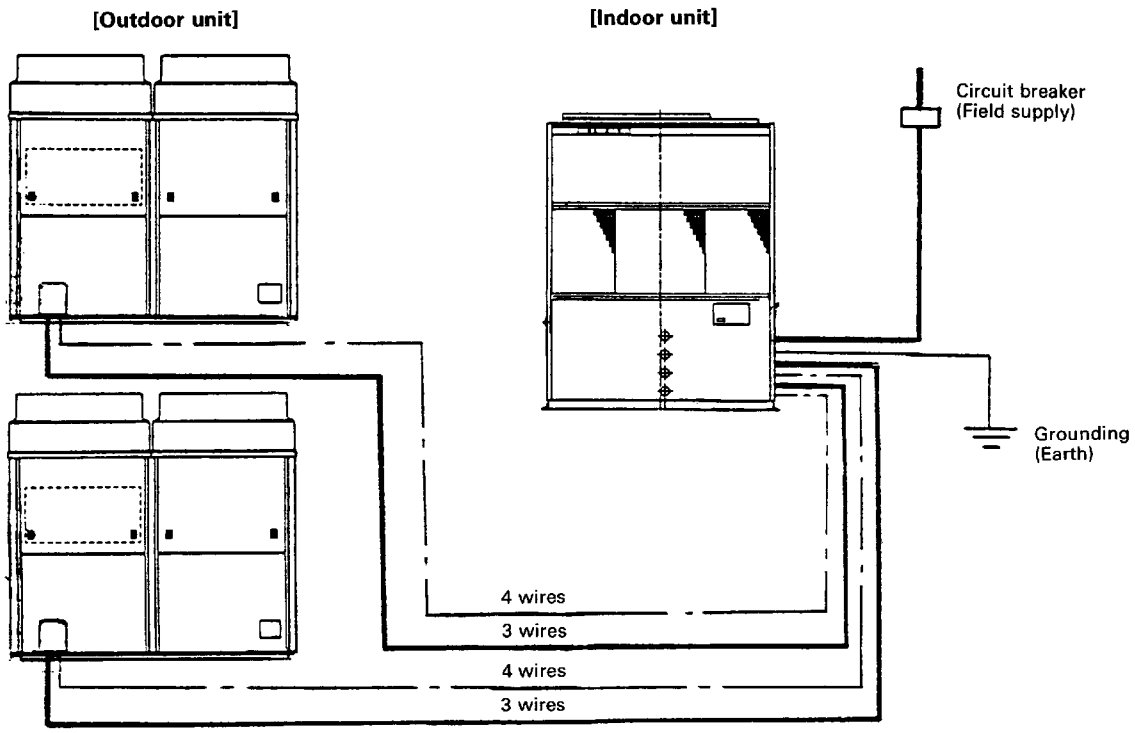


FRP3MB+CR3MA

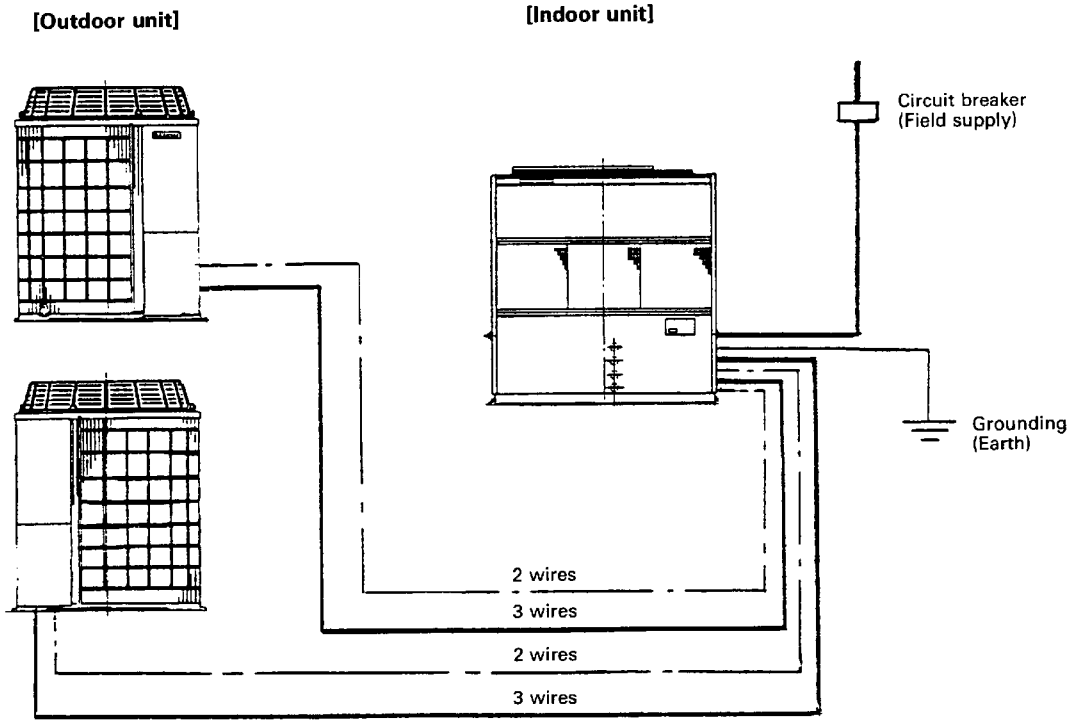
[Outdoor unit] **[Indoor unit]**



FRP5MB+CR5MA
FRP8·10MB+CR8·10M



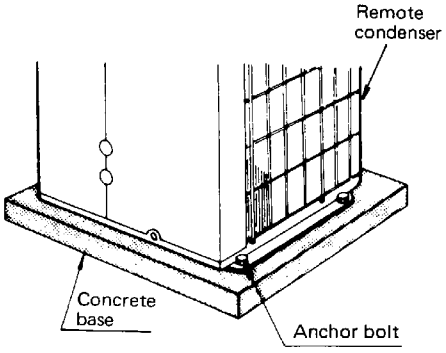
FR15·20MB+CR8·10M2×2



FR25~40JB+CR12~20JA2×2

14. Foundation

Fix the remote condenser on the concrete base with anchor bolts. The concrete base should be made higher than the floor level by approx. 100mm, and the floor should be strong enough to support the weight of the condenser and the concrete base.
The surface of concrete base should be flat and level, and provide a ditch around the base.

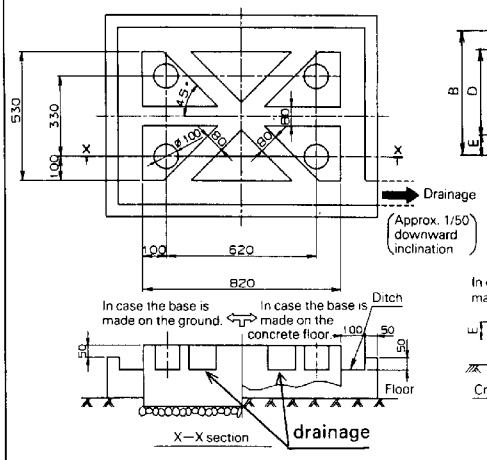


The above figure shows an installation example of CR5M. The models CR12JA2 have 8 holes for anchor bolts, but they are fixed by four anchor bolts. Install them correctly in accordance with the figure on the right.

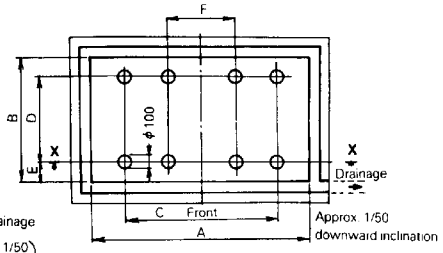
(Unit: mm)

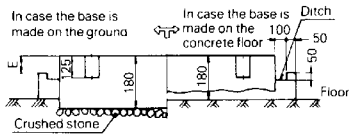
CR3M~(CR10M2)X2

CR3J



CR5JA~(CR12JA2) x 2



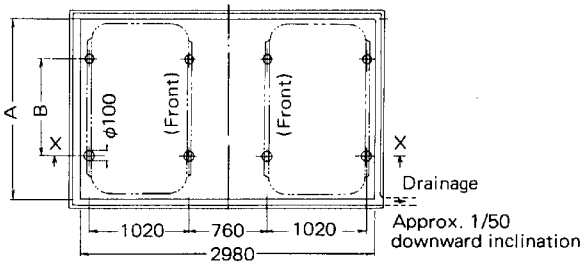


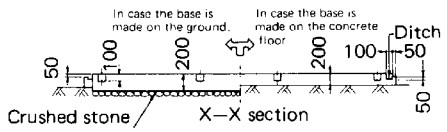
X—X Section

Model	A	B	C	D	E	F	Anchor bolt	
							Size	Q'ty
CR3MA	820	530	620	330	45	—	M12X75	4
CR5MA	820	530	620	330	45	—	M12X75	4
CR8M	1200	926	1000	726	50	—	M12X75	4
CR10M	1200	926	1000	726	50	—	M12X75	4
(CR8M2) X 2	1200	926	1000	726	50	—	M12X75	4
(CR10M2) X 2	1200	926	1000	726	50	—	M12X75	4
(CR12JA2) X 2	2530	1200	1850	1020	90	810	M10X75	8

(Unit: mm)

(CR15JA2·20JA2) x 2

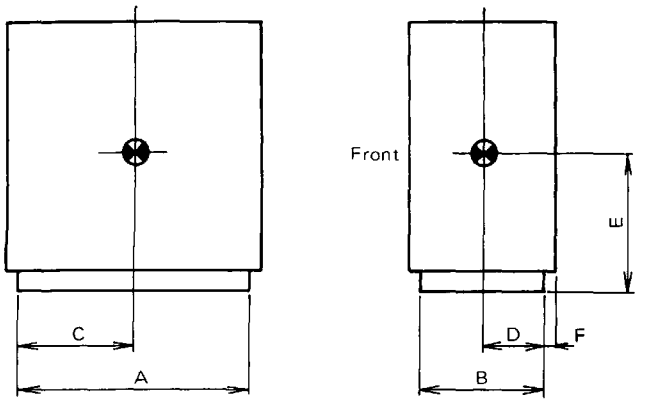




Model	A	B	Anchor bolts	
			Size	Q'ty
(CR15JA2) x 2	1840	1000	M10 x 100	8
(CR20JA2) x 2	2100	1342	M10 x 100	8

15. Center of gravity

■ **Indoor unit**



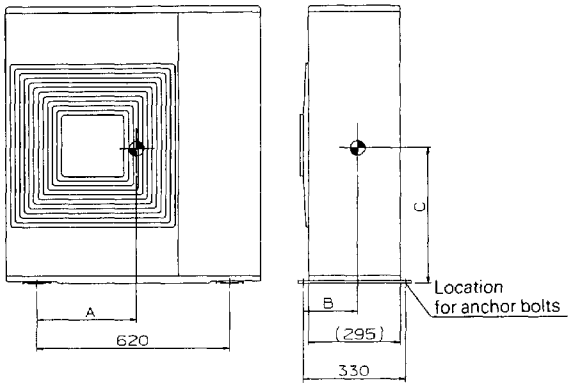
(Unit: mm)

Model	Size of base frame		Centre of gravity				Machine weight (kg)
	A	B	C	D	E	F	
FRP3MB	724	347	420	165	580	6	125
FRP5MB	924	477	545	230	630	—	190
FRP8MB	1114	477	600	240	610	6	230
FRP10MB	1444	477	780	240	620	6	285
FR15MB	1445	678	740	300	720	10	420
FR20MB·25JB	1785	678	980	350	750	10	490
FR30JB	1730	1018	860	580	750	—	780
FR40JB	1930	1170	980	690	760	—	1000

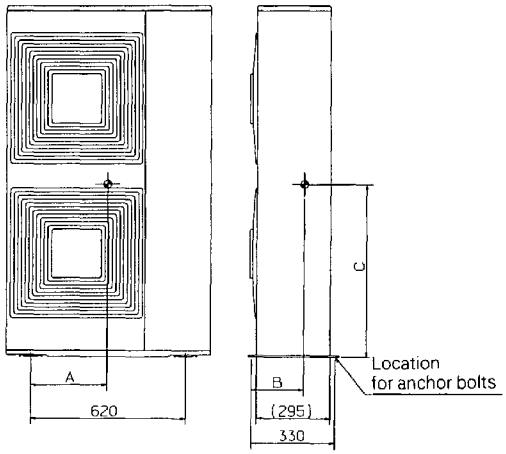
3

■ **Remote condenser**

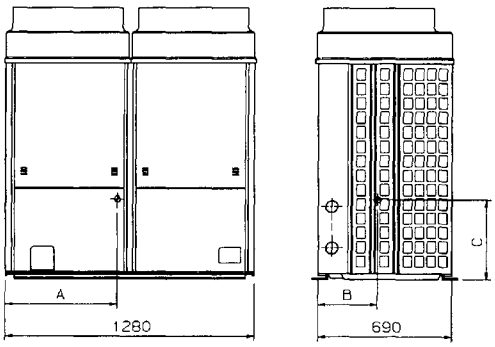
● **CR3MA**



● **CR5MA**

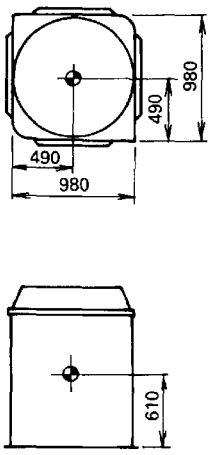


● **CR8M, 8M2**
CR10M, 10M2

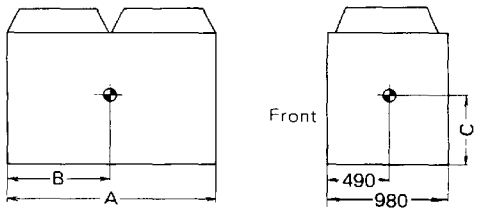


Model	A	B	C
CR8M·8M2	680	400	470
CR10M·10M2	680	400	580

● **CR12JA2**



● **CR15JA2**
CR20JA2



(Unit: mm)

Model	A	Centre of gravity		Machine weight (kg)
		B	C	
CR15JA2	1700	850	450	145
CR20JA2	1960	980	520	205

Note:
This figure shows one remote condenser unit.

16. Refrigerant piping

The refrigerant is precharged in the FR(P) unit. The amount of refrigerant is tabulated on the right. Consequently, connect the pipes to the gas and liquid pipe connections respectively with the valves, V_1 and V_2 closed.

These valves have been closed before delivery.

[Valve state: ①]

- **Checking the piping work**

1. After piping work, charge nitrogen gas and fluorocarbon refrigerant (R 22) from the service ports of V_1 and V_2 valves and check the refrigerant circuit for gas tightness and gas leakage.
   [Valve state of V_1 and V_2: ①]
2. Test pressure is 28 kg/cm^2.
3. Then vacuum dry to about 76 cm Hg.
   [Valve state of V_1 and V_2: ①]
   (However, for FRP5MB+CR5MA, check the refrigerant circuit for gas leakage during the initial operation.)

- **Additional refrigerant charge**

Refrigerant precharge volume is based on piping length of 5m (10m for FR30JB·40JB), but if piping length is longer than 5m (10m for FR30JB·40JB), additionally charge the refrigerant as stated below.

1. After vacuum drying stated above, charge the liquid refrigerant from V_1 port. At this stage, the air conditioner is not operated yet.
   [Valve state of V_1 and V_2: ①]
2. Fully open the valves after completion of the work.
   [Valve state of V_1 and V_2: ②]
3. If a small amount of the refrigerant should be charged additionally after the initial operation, charge the gaseous refrigerant from the service port of V_3 while the compressor is in operation (FR(P)3MB~ 20MB, 25JB).

- **Manipulation of stop valve**

Remove the cap, insert a bar into ③ part and turn it up either clockwise or conterclockwise with a wrench. The valve is fully closed or fully opened.

After that, insert the bar into ④ part and return the cap.

Unit size	3	5	8	10	15	20	25	Remarks
Refrigerant precharge kg	2.2	4.2	5.2	6.4	5.2X2	6.4X2	10.3X2	R22
Additional refrigerant charge (kg/m·ref·circuit)	0.06	0.06	0.11	0.18	0.11	0.18	0.17	
Max. level difference	Indoor unit is higher than remote condenser by 20m							
	Indoor unit is lower than remote condenser by 30m							
Max. piping length								
Actual piping length	50m						35m	
*Equivalent piping length	70m						50m	

Unit size	30	40	Remarks
Refrigerant precharge kg	14.8 x 2	21 x 2	R22
Additional refrigernt charge (kg/m·ref·circuit)	0.26	0.37	
Max. level difference	Indoor unit is higher than remote condenser by 20 m		
	Indoor unit is lower than remote condenser by 30 m		
Max. piping length	Actual piping length 45 m		
	*Equivalent piping length 60 m		

Note:

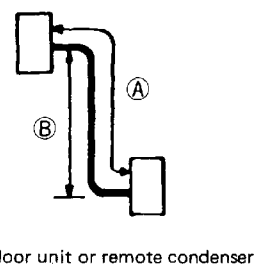
* How to calculate equivalent piping length: Equivalent piping length means the total piping length of a pipe line in which L joints and traps provided in actual piping are converted to the length of a straight pipe and added to actual piping length.

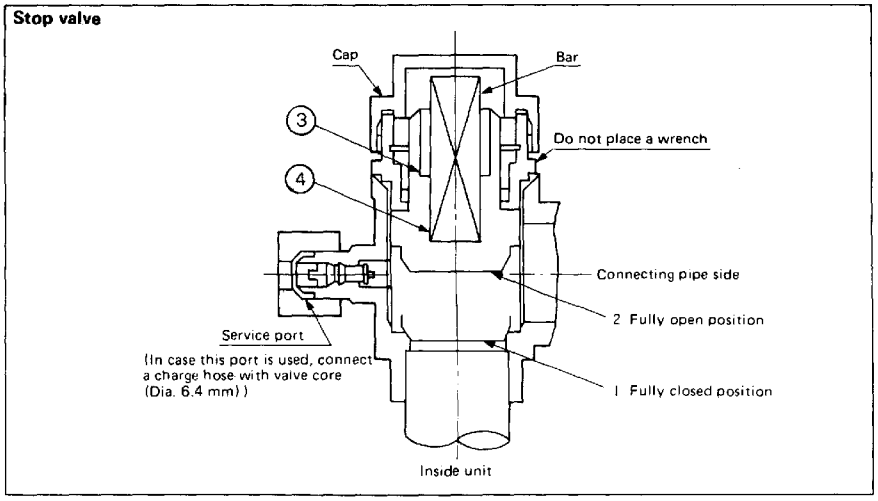
Equivalent piping length = Actual piping length + Numbers of L joints x an equivalent length per L joint + Numbers of trap bends x an equivalent length of pipe per trap bend.

- Calculation of equivalent piping length on the gas piping alone is enough.
- Actual piping length Ⓐ is the total piping length of gas pipe line, including level difference Ⓑ.
- In case two remote condensers are connected, obtain equivalent piping length per remote condenser, and examine each equivalent piping length.
- 90° bend of piping is equivalent to L joint.

Equivalent length of pipe for various fittings (Unit: m)

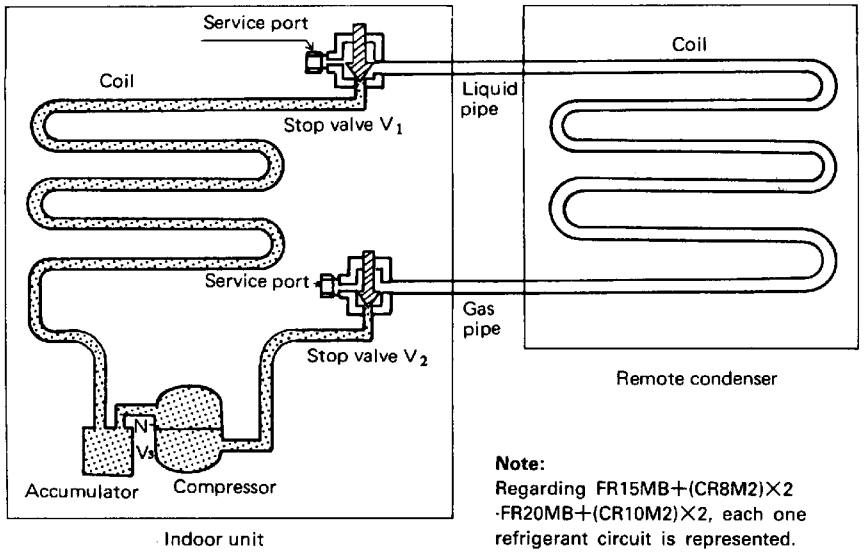
Pipe dia. (mm)	L joint	Trap bend
9.5	0.18	1.3
12.7	0.20	1.5
15.9	0.25	2.0
19.1	0.35	2.4
22.2	0.40	3.0
25.4	0.45	3.4
31.8	0.55	4.0





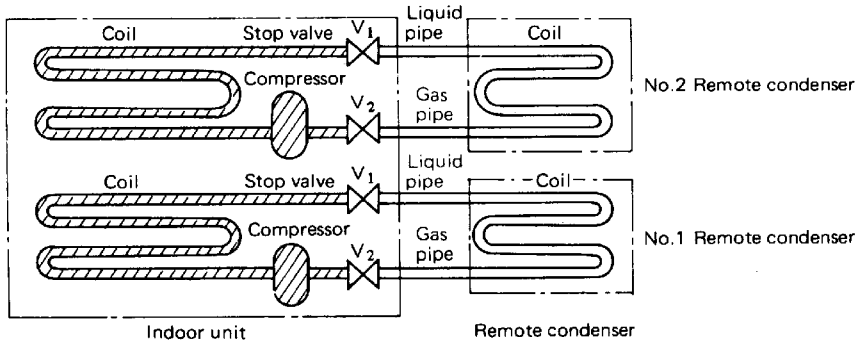
Refrigerant piping

FRP3MB+CR3MA~FR25JB+(CR12JA2)×2



Note:
Regarding FR15MB+(CR8M2)×2 ·FR20MB+(CR10M2)×2, each one refrigerant circuit is represented.

FR30JB+(CR15JA2)×2 · FR40JB+(CR20JA2)×2



3

17. Service space

- Be certain that sufficient service spacing is left around each unit as shown in the figure on the right.
  If any obstacles are placed around the unit, cooling capacity is reduced and also after-sales services are difficult to do.
- Be certain that the unit has been installed on such a place where the floor is flat and strong enough to support its weight. If the location is not suitable, it may cause noise and vibration.
- Be certain that the unit has been installed in such a place where there is no danger of fire due to leakage of inflammable gas.
  Avoid installing the unit in such a place which is subject to inflammable gas.

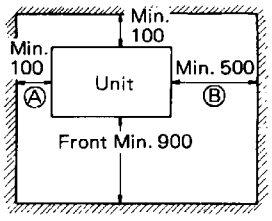
Notes:

1. The measurements shown on the right are the case when the piping is connected to the right side of the unit. When the piping is connected to the left side of the unit, Ⓐ , Ⓑ measurements should be reversed.
2. No obstacle is in front of the unit, since the air is drawn into the front of the unit (FR(P)3MB~20MB, 25JB).

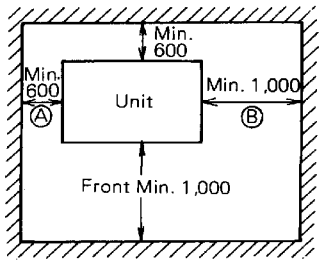
(Unit : mm)

- **Service spacing around the indoor unit and the remote condenser**

FR(P)3MB~20MB, 25JB



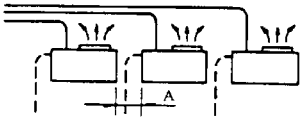
FR30JB·40JB



■ **CR3MA·5MA**

〈Side-by-side installation〉

When the units are set up side by side, the clearance A between two units should be shorter than 100mm.



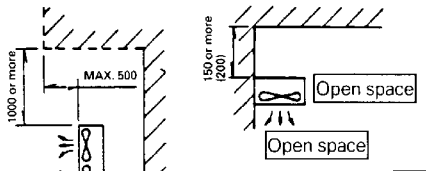
Note: To carry out the piping, as shown with broken lines in the figure, A should be shorter than 150mm.

(1) In case some obstacles exist at air suction side.

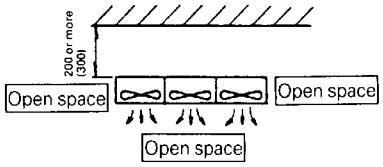
- It is possible to attach either of the left or right side of the unit to the obstacles such a wall.

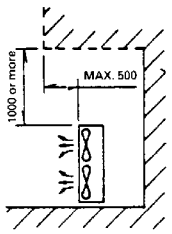
In case no obstacles exist at upward side

Single installation



Side-by-side installation





☆ If an obstacle, as shown with broken lines in the figure at left, exsists above the unit

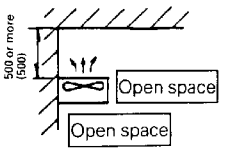
A length of 50mm should be added to the above dimension.

(2) In case some obstacles exist at air discharge side.

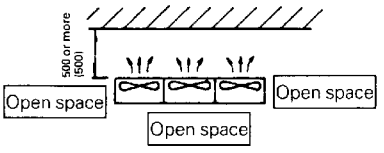
- It is possible to attach either of the left or right side of the unit to the obstacles such a wall.

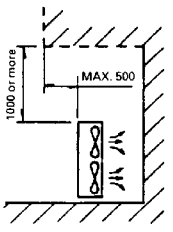
In case no obstacles exist at upward side

Single installation



Side-by-side installation





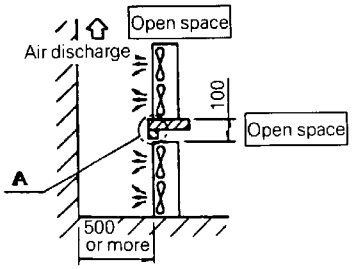
☆ If an obstacle, as shown with broken lines in the figure at left, exsists above the unit

The same space as mentioned above is required.

(3) Stacked-up installation

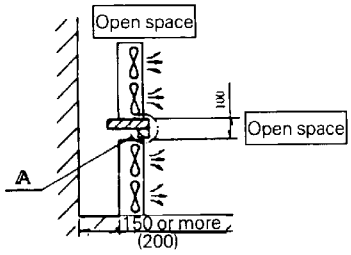
- Two units can be installed one upon the other. Do not stack three or more of them.

(a) In case some obstacles exist at air discharge side.



Note: 1. Side-by-side installation is possible, if open space is left in the right and left sides.
2. A should be closed so that discharge air is not by-passed.

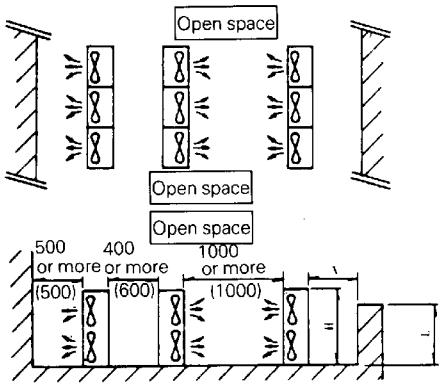
(b) In case some obstacles exist at air suction side.



Note: 1. Can be installed side by side up to 2 units.
2. Open space should be left in the left and right sides.
3. A should be closed so that discharge air is not by-passed.

3

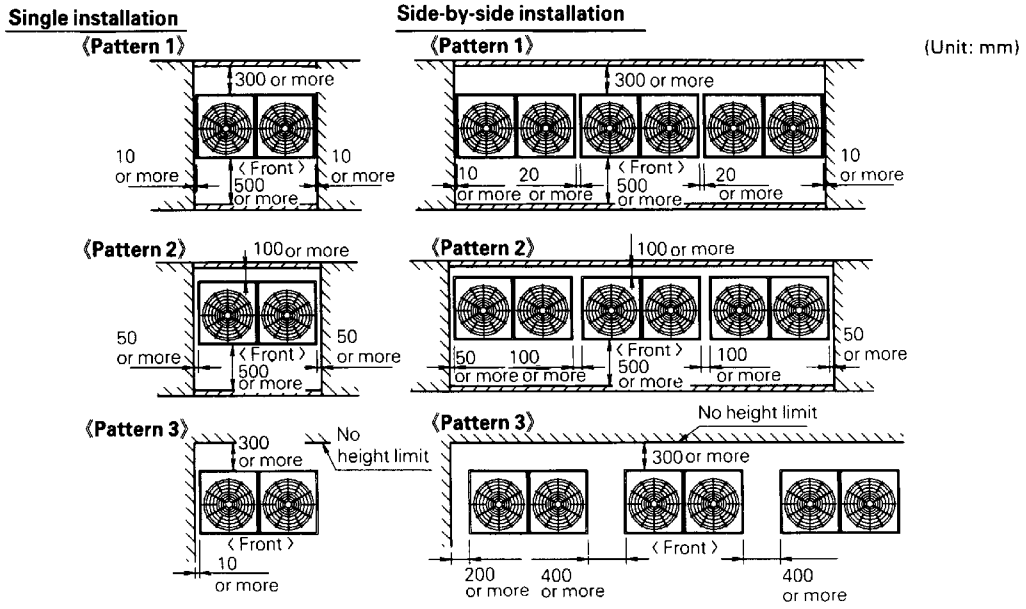
(4) Multi-row side-by-side installation (On rooftop, etc)



L	A
0<L≦1/2H	150 (200)
1/2H<L≦H	250 (350)
L>H	impossible

Note: Refer back to the note 《Side-by-side installation》 for the clearance required between two units.

■ **CR8M·8M2·10M·10M2**

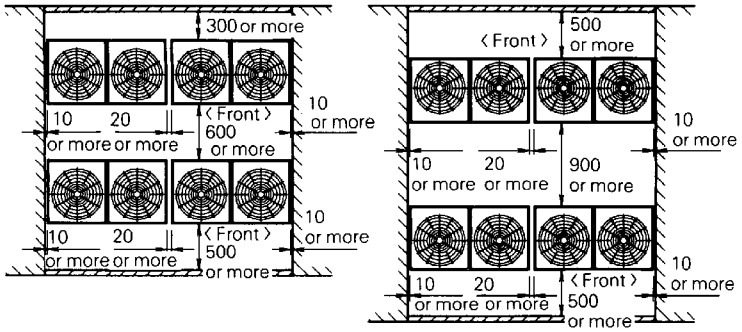


(Unit: mm)

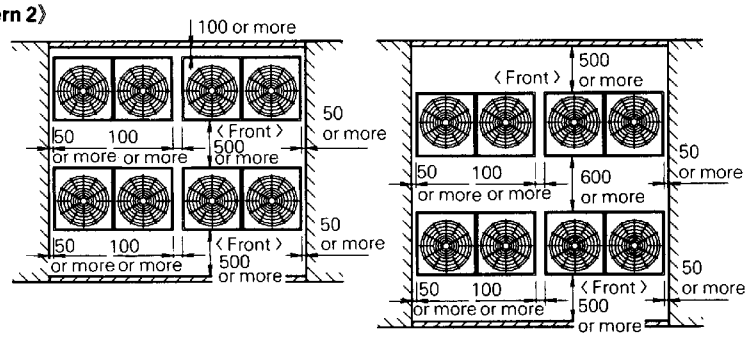
Group installation

(Unit: mm)

〈Pattern 1〉

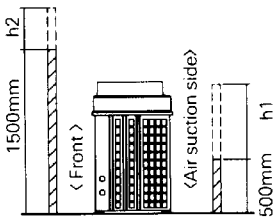


〈Pattern 2〉

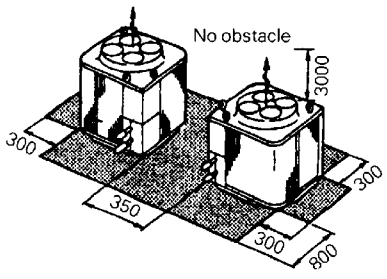


Notes:

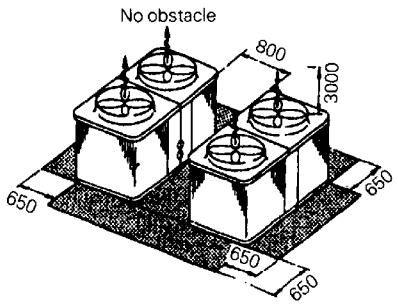
1. The wall heights should be as follows in the case of Patterns 1 and 2.
   Front: Up to 1500mm
   Suction side: Up to 500mm
   Side: No height limit
2. If the wall is higher than the above, the dimensions h1/2 and h2/2 (see the figure at right) should be added to the servicing space at the front as well as the suction side.
3. The units should be installed with the on-site space -- including passageways and air flow -- in mind. Select an appropriate pattern from those in this figure.
   (When the number of units exceeds that in the selected pattern, a short circuit should be considered for effective set-up.)
4. The front space should be provided large enough to carry out the refrigerant piping on site.



(CR12JA2)×2



(CR15JA2·20JA2)×2



3-2 Air Cooled Packaged Air Conditioners - Heat Pump Condenser Type FRY(P) + CRY Series

1. Features

The Daikin Air Cooled Remote Condenser Type Air Conditioners (FRY(P) + CRY Series) are available in 10 models from 6,500/7,300 kcal/h to 118,000/133,000 kcal/h on 50/60 Hz in case of cooling and from 6,700/7,500 kcal/h to 112,000/125,000 kcal/h on 50/60Hz in case of heating.
The indoor units (FRY(P)3MB~20MB, 25JB) are designed to be ducted for air distribution.
However, if an optional plenum chamber is placed on the top of the indoor unit, cool or warm air can be distributed directly into the room.

Easy installation:

- The self-contained units are assembled, internally wired, and precharged with the refrigerant in the factory and are subject to stringent test run before delivery. All you have to do on the spot are provide external wiring, piping and ducting.
  The direction of refrigerant piping can be connected from both sides of the unit. However, the direction of refrigerant piping (for FRY15MB, 20MB, FRY25JB) can be connected from 3 directions, right, left and rear of the unit.
- The variable pitch pulley is attached to FRY(P)3MB~20MB, 25JB for ease of ducting.
- The outdoor unit is equipped with 3 or 4 eye bolts for easy bringing in. In addition, the condenser is designed to draw in the air from 3 or 4 directions, which reduces the required spacing around it.

Easy operation and maintenance:

- On the control panel, the master control knob or switch for operation, COOL/HEAT selector switch and thermostat knob are arranged, so that operation can be done easily. In addition, the red pilot lamp for operation and the orange or white pilot lamp for defrosting (FRYP3MB~10MB) or alarm (FRY15MB, 20MB, 25JB~50JB) are attached to show the operation state at a glance.
- The selector switch and the terminal are attached to FRY15MB, 20MB, 25JB~50JB for remote operation.
- The washable air filter is attached to the back of the air suction inlet to remove dust and dirt. It can be easily attached or detached for cleaning.

Safe operation:

- A complete set of safety devices is equipped to protect the air conditioner from trouble. In particular, grounding terminal is provided in each switch box both for indoor unit and outdoor unit.

Quiet:

- The multi-blade fan adopted ensures quiet operation. In addition, the reciprocating compressor is equipped with mufflers at its discharge side and the air passage inside the unit is designed to minimize air resistance for quiet operation. What is more, the propeller fan is used as an outdoor fan for quiet and effective operation.

Economical operation:

- The electronic thermostat detects room temperature accurately and controls the compressor operation to maintain room temperature to predesigned temperature, which in turn saves power consumption.

- Two refrigerant circuits are provided in FRY15MB, 20MB, 25JB~50JB, which ensures efficient part load performance at high suction temperature.

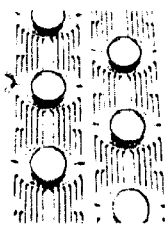
Main components:

- **The compressor** has been developed with Daikin's own technology and is of the highly efficient, powerful, durable and compact hermetically sealed reciprocating type.

- **Adoption of scroll compressor** for FRY(P)5MB~20MB.

- **The indoor and outdoor coils** are of the unique cross fin coil type; i.e. waffle louver fins and Hi-X tubes. Fins are cut in the waffle fins in the louver shape to increase heat transfer coefficient. Furthermore, Hi-X tubes whose internal surface is modified by serration are used for additional efficiency.

U.S. PAT.
*1 No. 4,434,844
*2 No. 4,480,684



Waffle louver fins

Hi-X tube

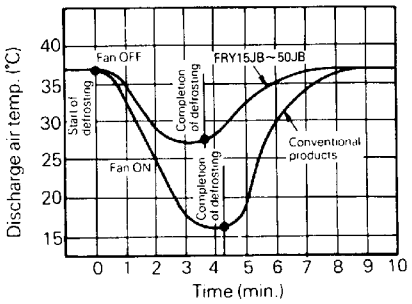
- **The indoor fan and motor**
  The indoor fan is of the dual suction multi-blade type and is driven by the belt.
  The motor is equipped with an over current relay for safe operation.

- **The outdoor fan and motor**
  The outdoor fan is a direct drive propeller fan and discharges hot air and operation noise upwards. The motor using non-lubrication bearings is of the 8-pole (6-pole for FRYP3MB, 5MB) water proof induction type and is equipped with a thermal protector.

Unique defrosting methods:

- Alternate Defrosting System (FRY15MB·20MB, 25JB~50JB)
  Since two outdoors each having an independent refrigerant circuit are adopted, defrosting is accomplished alternatively; i.e. one outdoor is under defrosting while the other is in heating operation. The indoor fan continues to run as there is no fear of distributing cold draft during defrosting.

Discharge air temp. FRY15MB·20MB, 25JB~50JB and conventional products
(Room temp. 21°CDB constant)



2. Specifications

Model				FRYP3MB+CRY3MA	FRYP5MB+CRY5MA	FRYP8MB+CRY8M	FRYP10MB+CRY10M	FRY15MB+(CRY8M2)X2
*1 Cooling capacity 50/60Hz			kcal/h	6,500/7,300	11,500/12,800	16,500/18,500	23,200/25,800	32,500/36,500
			Btu/h	25,800/29,000	45,700/50,800	65,500/73,400	92,100/102,400	129,000/144,900
			kW	7.6/8.5	13.4/14.9	19.2/21.5	27.0/30.0	37.8/42.4
*1 Heating capacity 50/60Hz			kcal/h	6,700/7,500	12,000/13,500	17,000/19,000	23,600/26,500	33,500/37,500
			Btu/h	26,600/29,800	47,600/53,600	67,500/75,400	93,700/105,200	133,000/148,900
			kW	7.8/8.7	14.0/15.7	19.8/22.1	27.4/30.8	39.0/43.6
Capacity steps			%	100—0	100—0	100—0	100—0	100—50—0
Refrigerant	Type			R22 (Precharged in FRY(P) unit)				
	Control			Thermal expansion valve	Capillary tube			
	No. of circuits			1	1	1	1	2
Defrosting method				Deicer with thermostat and timer				
Connections	Refrigerant piping	Liquid	mm	Dia.9.5	Dia.9.5	Dia.12.7	Dia.15.9	Dia.12.7X2
		Gas	mm	Dia.15.9	Dia.19.1	Dia.22.2	Dia.25.4	Dia.22.2X2
	Drain piping-Upper/lower (FRY(P)unit)			FPS1B/FPS$^{1}/_{2}$B	FPS1B/FPS$^{1}/_{2}$B	FPS1B/FPS$^{1}/_{2}$B	FPS1B/FPS$^{1}/_{2}$B	FPS1B/FPS1B
Indoor unit				**FRYP3MB**	**FRYP5MB**	**FRYP8MB**	**FRYP10MB**	**FRY15MB**
Casing/color				Cold rolled steel plate/Casing: ivory white air suction grille: light camel				Cold rolled steel plate/ ivory white
Compressor	Type			Hermetically sealed rotary	Hermetically sealed scroll			
	Model X No.			RC98TNX1	JT140AX1	JT200AX1	JT280AX1	JT200AX2
	No.of cylinders			—	2	2	3	2X2
	Speed 50/60Hz		r.p.m	2,850/3,400	2,900/3,450	2,900/3,450	2,900/3,450	2,900/3,450
Refrigeration oil	Model			SUNISO 4GS DI	SUNISO 3GSD			
	Charge		ℓ	1.35	2.1	2.6	3.2	2.6X2
Coil	Type			Cross fin coil (Waffle louver fins and Hi-X tubes)				
	Row X stage			2X20	2X26	2X26	2X26	3X32
	Fin pitch		mm	2.0	2.0	2.0	2.0	2.0
	Face area		m^2	0.260	0.443	0.575	0.746	0.894
Fan	Type			Dual suction multi-blade				
	Model			D1$^{1}/_{2}$D	2D1$^{5}/_{8}$A	2D1$^{3}/_{4}$G2	2D1$^{3}/_{4}$G3	2D2E
	Drive			Belt drive				
	Air flow 50/60Hz		m^3/min	25	42	60	83	120
			cfm	880	1,480	2,210	2,930	4,240
	Motor output		kW	0.4	0.75	0.75	1.5	2.2
Air filter (Factory set)				Vinyl chloride fibre				
Electronic thermostat				1 step				2 steps
Aux. electric heater (240V,440V)			kW	2.4 (Flon heater) Option				
Dimensions	H X W X D		mm	1,700X750X380	1,640X950X510	1,640X1,170X510	1,640X1,470X510	1,870X1,470X720
Weight			kg	130	175	240	280	430
Outdoor unit				**CRY3MA**	**CRY5MA**	**CRY8M**	**CRY10M**	**(CRY8M2)X2**
Casing/color				Paintable galvanized steel plate (Weather proof)/ ivory white				
Coil	Type			Cross fin coil (Waffle louver fins and Hi-X tubes)				
	Row X stage			2X40	2X64	(2X1)X40	(2X1)X50	(2X1)X40X2
	Fin pitch		mm	2.0	2.0	2.0	2.0	2.0
	Face area		m^2	0.554	0.887	1.57	1.97	1.57
Fan	Type			Propeller				
	Model X No.			P48G11FX1	P48G11FX1	P55H11FX1	P55H11FX1	P55H11FX2
	Drive			Direct drive				
	Air flow 50/60Hz		m^3/min	50/52	82/86	140/160	160/180	(140/160)X2
			cfm	1,765/1,836	2,895/3,001	4,942/5,648	5,648/6,354	(4,942/5,648)X2
	Motor output		kW	0.095	0.175	0.32	0.32	(0.32)X2
Dimensions	H X W X D		mm	900X820X295	1,425X820X295	1,205X1,280X690	1,425X1,280X690	1,200X1,280X690X2
Weight			kg	34	53	95	105	(95)X2

Model				FRY20MB+(CRY10M2)×2	FRY25JB+(CRY12JA2)×2	FRY30JB+(CRY15JA2)×2	FRY40JB+(CRY20JA2)×2	FRY50JB+(CRY25J50)×2
*1 Cooling capacity 50/60Hz			kcal/h	47,000/52,000	52,000/58,000	66,000/74,000	95,000/105,000	118,000/133,000
			Btu/h	186,600/206,400	206,400/230,300	262,000/293,800	377,200/416,900	468,500/528,000
			kW	54.7/60.5	60.5/67.4	76.7/86.0	110.5/122.1	137.2/154.7
*1 Heating capacity 50/60Hz			kcal/h	47,500/53,000	53,00/60,000	67,000/75,000	95,000/106,000	112,000/125,000
			Btu/h	188,600/210,400	210,400/238,200	266,000/297,800	377,200/420,800	444,600/496,000
			kW	55.2/61.6	61.6/69.8	77.9/87.2	110.5/123.3	130.2/145.3
Capacity steps			%	100—50—0	100—50—0	100—50—0	100—50—0	100—50—0
Refrigerant	Model			R22 (Precharged in FRY unit)				
	Control			Capillary tube		(C) Thermal expansion valve (H) Capillary tube		
	No.of circuits			2	2	2	2	2
Defrosting method				Deicer with thermostat and timer				
Connections	Refrigerant piping	Liquid	mm	Dia.15.9×2	Dia.15.9×2	Dia.19.1×2	Dia.22.2×2	Dia.22.2×2
		Gas	mm	Dia.25.4×2	Dia.25.4×2	Dia.31.8×2	Dia.38.1×2	Dia.38.1×2
	Drain piping-Upper/lower (FRY unit)			FPS1B/FPS1B	FPS1B/FPS$^1/_2$B	FPS$^1/_4$B/FPS1B	FPS$^1/_4$B/FPS1B	FPS$^1/_4$B/FPS1B
Indoor unit				**FRY20MB**	**FRY25JB**	**FRY30JB**	**FRY40JB**	**FRY50JB**
Casing/color				Cold rolled steel plate/ ivory white				
Compressor	Type			Hermetically sealed scroll	Hermetically sealed reciprocating			
	Model×No.			JT280A×2	3T55VG×2	6T55FA×2	6T55TACS×2	6T55WACS×2
	No.of cylinders			3×2	3×2	6×2	6×2	6×2
	Speed 50/60Hz		r.p.m	2,900/3,450	2,900/3,450	2,900/3,450	2,900/3,450	2,900/3,450
Refrigeration oil	Model			SUNISO 3GSD		SUNISO 4GS DID-K		
	Charge		ℓ	3.2×2	3.2×2	6.1×2	6.1×2	7.0×2
Coil	Type			Cross fin coil (Waffle louver fins and Hi-X tubes)				
	Row×stage			3×32	3×28	3×48	3×56	4×64
	Fin pitch		mm	2.0	2.0	2.0	2.0	2.0
	Face area		m^2	1.133	1.145	1.83	2.390	2.73
Fan	Type			Dual suction multi-blade				
	Model			2D2E	2D2E	D3C	2D2$^1/_2$D	2D2$^1/_2$D
	Drive			Belt drive				
	Air flow 50/60Hz		m^3/min.	165	180	240	330	420
			cfm	5,820	6,360	8,480	11,700	14,800
	Motor output		kW	3.7	3.7	5.5	7.5	11
Air filter (Factory set)				Polyorefin fibre				
Electronic thermostat				2 steps				
Aux. electric heater (240V,440V)			kW	Option				
Dimensions	H×W×D		mm	1,870×1,810×720	1,870×1,810×720	1,850×1,760×1,050	1,850×1,960×1,200	1,850×1,960×1,200
Weight			kg	470	500	790	1,020	1,120
Outdoor unit				**(CRY10M2)×2**	**(CRY12JA2)×2**	**(CRY15JA2)×2**	**(CRY20JA2)×2**	**(CRY25J50)×2**
Casing/color				Paintable galvanized steel plate (Weather proof)/ ivory white				
Coil	Type			Cross fin coil (Waffle louver fins and Hi-X tubes)				
	Row×stage			(2×1)×50×2	(2×40)×4	(2×34)×4	(2×40)×4	(2×44)×4
	Fin pitch		mm	2.0	2.0	2.0	2.0	2.0
	Face area		m^2	1.97	(1.50)×4	(1.91)×4	(2.51)×4	(3.30)×4
Fan	Type			Propeller				
	Model×No.			P55H11F×2	P80E×2	P70E×4	P80E×4	P70E×6
	Drive			Direct drive				
	Air flow 50/60Hz		m^3/min.	(160/180)×2	(190/210)×2	(260/300)×2	(380/420)×2	(390/450)×2
			cfm	(5,648/6,354)×2	(6,700/7,400)×2	(9,180/10,600)×2	(13,400/14,800)×2	(13,800/15,900)×2
	Motor output		kW	(0.32)×2	(0.28)×2	(0.19)×4	(0.28)×4	(0.19)×6
Dimensions	H×W×D		mm	(1,420×1,280×690)×2	(1,275×980×980)×2	(1,115×1,700×980)×2	(1,275×1,960×980)×2	(1,370×2,540×980)×2
Weight			kg	(105)×2	(110)×2	(150)×2	(210)×2	(280)×2

Notes:

*1. Nominal capacities are based on following conditions.
Cooling: Indoor temp. 27°CDB /19.5°CWB, Outdoor temp. 35°CDB.
Heating: Indoor temp. 21°CDB, Outdoor temp. 7°CDB/6°CWB, Aux. electric heater OFF
Equivalent ref. piping length: 5 m
Level difference: 0 m
Refrigerant piping: Standard size

2. The above cooling capacities are gross capacities which do not include a deduction for indoor fan motor heat.
3. The above heating capacities are net capacities which include an addition for indoor fan motor heat.

Conversion formulae	
Btu/h	= kcal/h x 3.97
kW	= kcal/h x 0.001163
Inches	= mm x 0.0394
Pounds	= kg x 2.205
Psi	= kg/cm^2 x 14.22
KPa	= kg/cm^2 x 98.07
Cfm	= m^3/min x 35.3
US Gallons	= Liter x 0.264
UK Gallons	= Liter x 0.220

e.g. 16,500 kcal/h = 16,500 × 3.97
≒ 65,500 Btu/h

Safety devices

The following safety devices are equipped as standard.

- Compressor thermal protector
- Fan motor thermal protector (Outdoor fan motor)
- Overcurrent relay (Compressor)
- Overcurrent relay (Indoor fan motor)
- High pressure switch
- Low pressure switch (FRYP3~10MB, FRY15, 20MB)
- Fusible plug
- Crankcase heater
- Fuse
- Phase-reversal relay

SYMBOL	Power supply	Outdoor unit	Indoor unit
YE	3φ,380~415/400~440V, 50/60Hz (3 wires)	CRY3MAYE	FRYP3MBYE
		CRY5MAYE	FRYP5MBYE
		CRY8MYE	FRYP8MBYE
		CRY10MYE	FRYP10MBYE
		(CRY8M2YE)×2	FRY15MBYE
		(CRY10M2YE)×2	FRY20MBYE
		(CRY12JA2YE)×2	FRY25JBYE
		(CRY15JA2YE)×2	FRY30JBYE
		(CRY20JA2YE)×2	FRY40JBYE
		(CRY25J50YE)×2	FRY50JBYE

3. Standard accessories

1. **Operation manual**
2. **Installation manual**
3. **Fuse**
4. **Bolts, nuts for duct flange**
5. **Drain plug cover**
6. **Fan motor pulley (FRY30~50)**
7. **V-belt (FRY30~50)**

4. Optional accessories

※◎ **1. Anti-corrosion treatment**
- **E [Standard anti-corrosion treatment]**
- **E2 [Stronger anti-corrosion treatment]**

※ **2. Low ambient temp. operation down to 0°C (CRY12~25)**

※☆ **3. Fan motor pulley change [Evaporator fan]**

※☆ **4. Fan motor 1 size larger [Evaporator fan] (except FRYP3)**

5. Fresh air intake (FRYP3~20)

6. Rear suction inlet (FRYP3~20)

7. Plenum chamber (FRYP5~25)

8. Side discharge grille for plenum chamber (FRYP3~25)

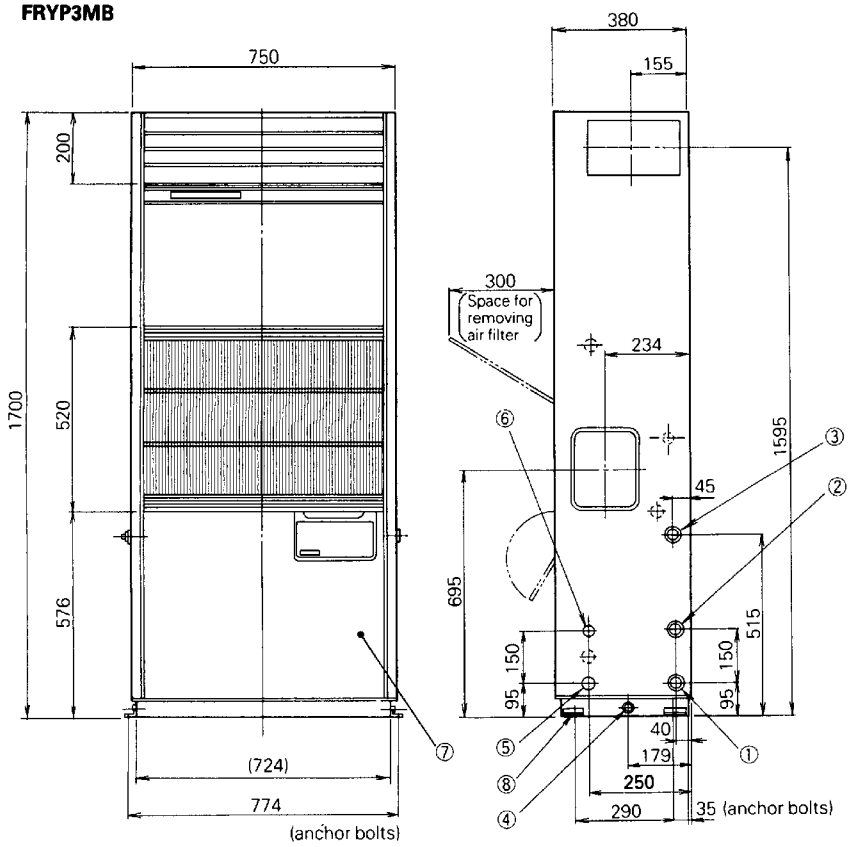
9. Pressure gauge (FRYP3~25)

Note※: These options should be attached in DAIKIN factory. Field modifications are not available.

5. Dimensions

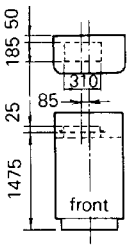
(unit : mm)

FRYP3MB



① Liquid pipe conn. φ9.5 DCuT Brazing
② Gas pipe conn. φ15.9 DCuT Brazing
③ Upper drain FPS1B
④ Lower drain FPS1/2B
⑤ Power supply intake φ45 hole
⑥ Control wire intake φ28 hole
⑦ Grounding terminal in switch box M5 bolt
⑧ Anchor bolt set plate 4-φ15 hole (Detachable)

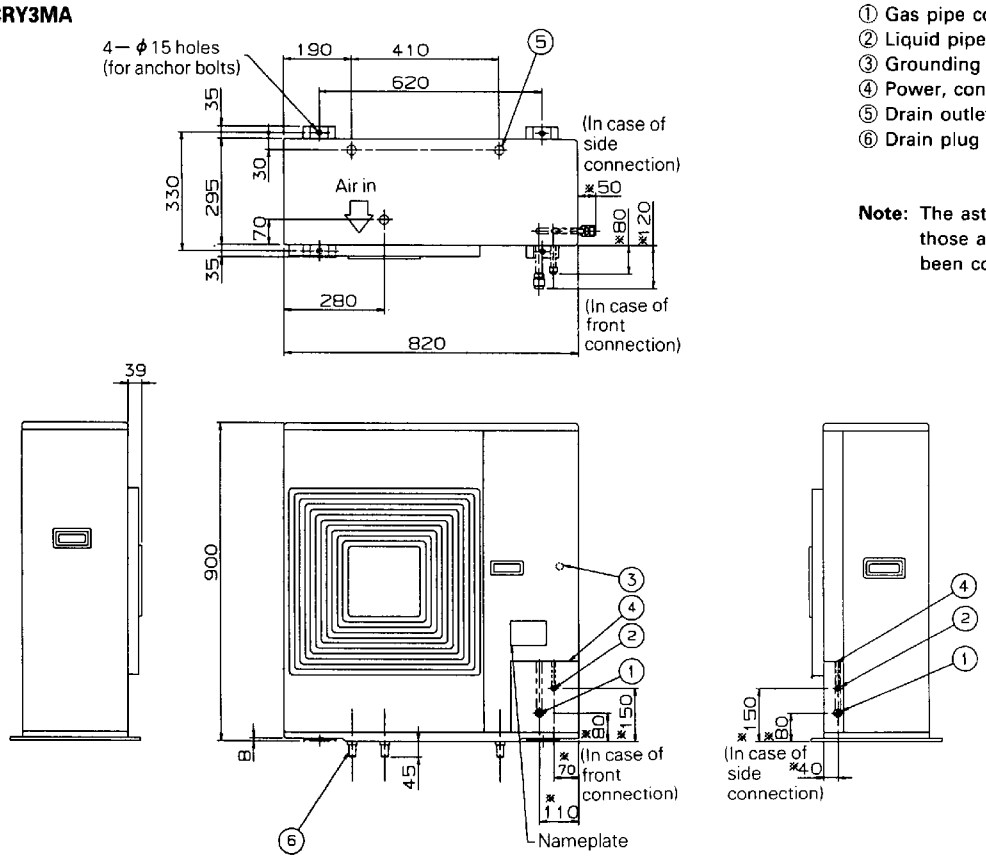
Note:
①~⑥ are provided on the right side (Standard), but they can be provided on the left side on the spot.



Duct connection

(unit : mm)

CRY3MA

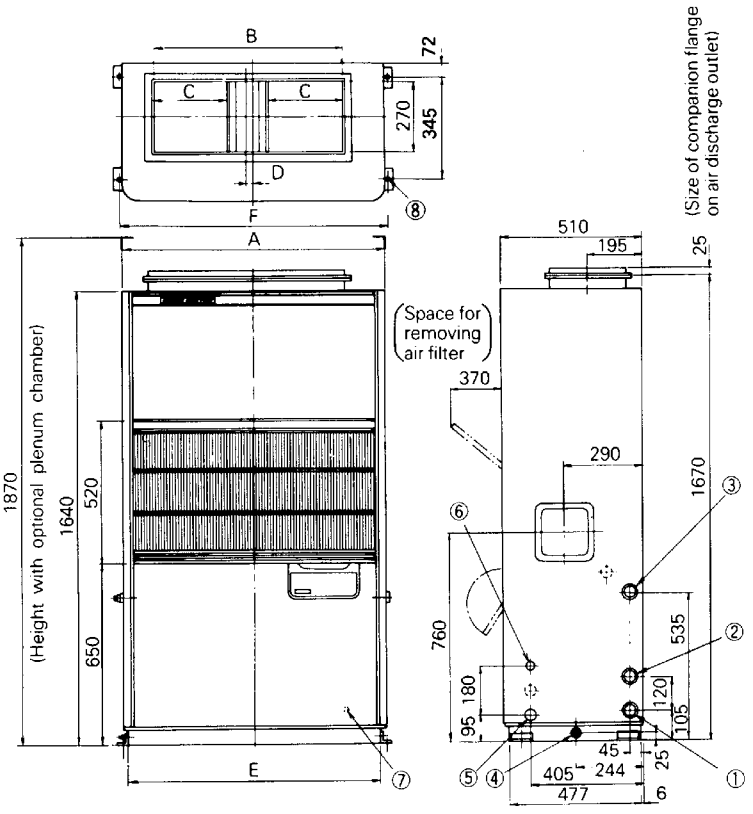


① Gas pipe conn. φ15.9 DCuT Flare
② Liquid pipe conn. φ9.5 DCuT Flare
③ Grounding terminal in switch box M5 bolt
④ Power, control wiring intake
⑤ Drain outlet VP26
⑥ Drain plug (Option)

Note: The asterisked (※) dimensions denote those after the related pipings have been completed.

(unit : mm)

FRYP5MB·8MB·10MB



① Liquid pipe conn.
- FRYP5MB — φ9.5 DCuT Flare
- FRYP8MB — φ12.7 DCuT Brazing
- FRYP10MB — φ15.9 DCuT Brazing

② Gas pipe conn.
- FRYP5MB — φ19.1 DCuT Flare
- FRYP8MB — φ22.2 DCuT Brazing
- FRYP10MB — φ25.4 DCuT Brazing

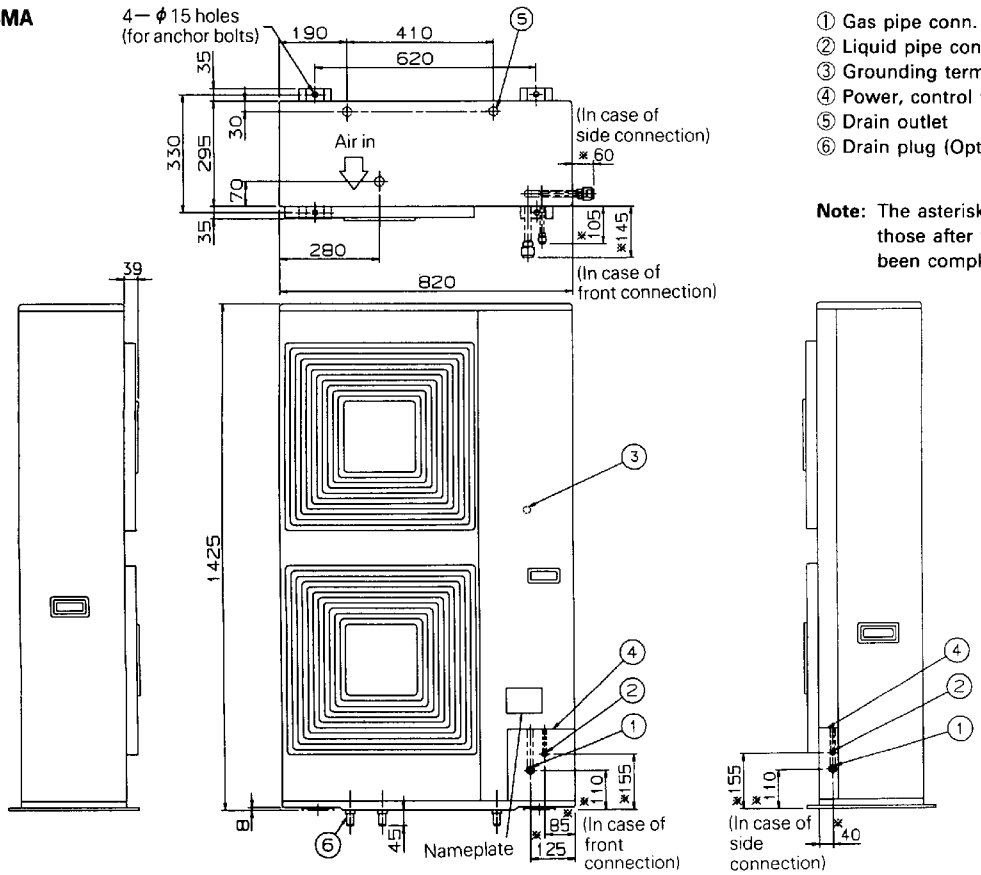
③ Upper drain — FPS1B
④ Lower drain — FPS1/2B
⑤ Power supply intake — φ45 hole
⑥ Control wire intake — φ28 hole
⑦ Grounding terminal in switch box M5 bolt
⑧ Anchor bolt set plate (Detachable) — 4-φ15 hole

Note:
①~⑥ are provided on the right side (Standard), but they can be provided on the left side on the spot.

Model	A	B	C	D	E	F
FRYP5MB	950	695	280	27.5	924	974
FRYP8MB	1170	870	330	35.0	1144	1194
FRYP10MB	1470	1140	430	20.0	1444	1494

(unit : mm)

CRY5MA

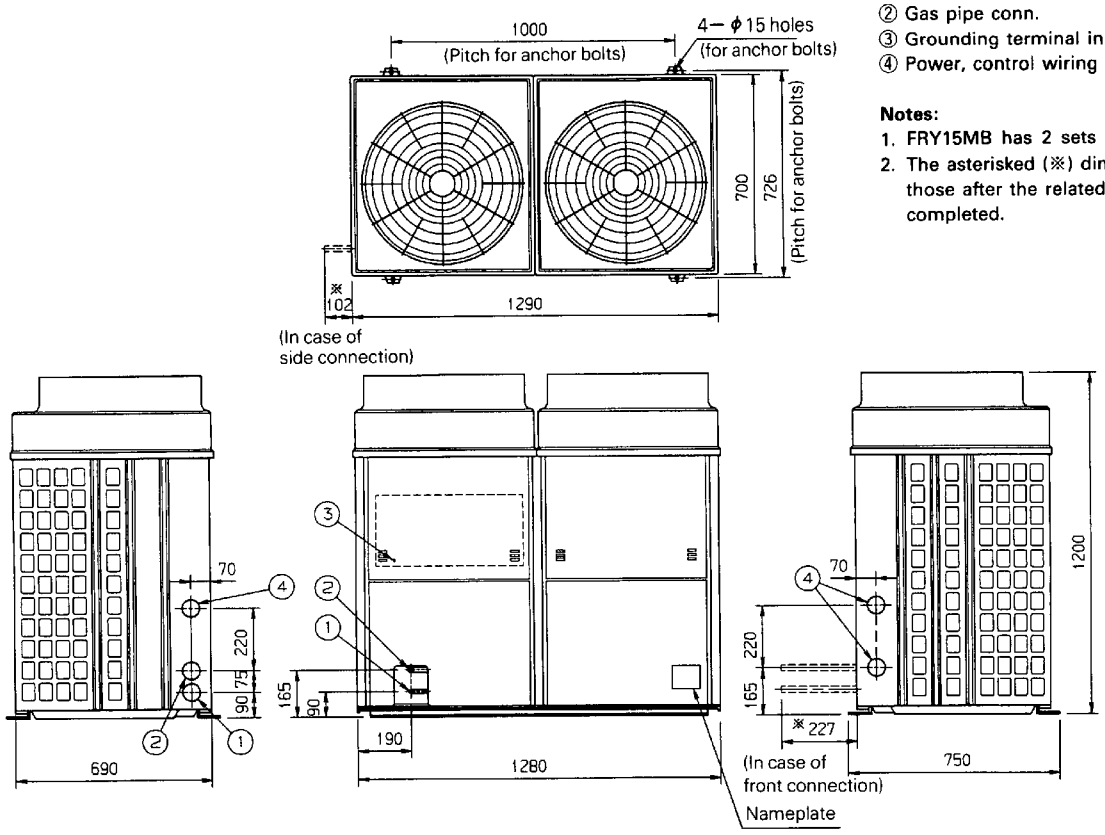


① Gas pipe conn. — φ19.1 DCuT Flare
② Liquid pipe conn. — φ9.5 DCuT Flare
③ Grounding terminal in switch box M5 bolt
④ Power, control wiring intake
⑤ Drain outlet — VP26
⑥ Drain plug (Option)

Note: The asterisked (※) dimensions denote those after the related pipings have been completed.

(unit : mm)

CRY8M(CRY8M2)×2

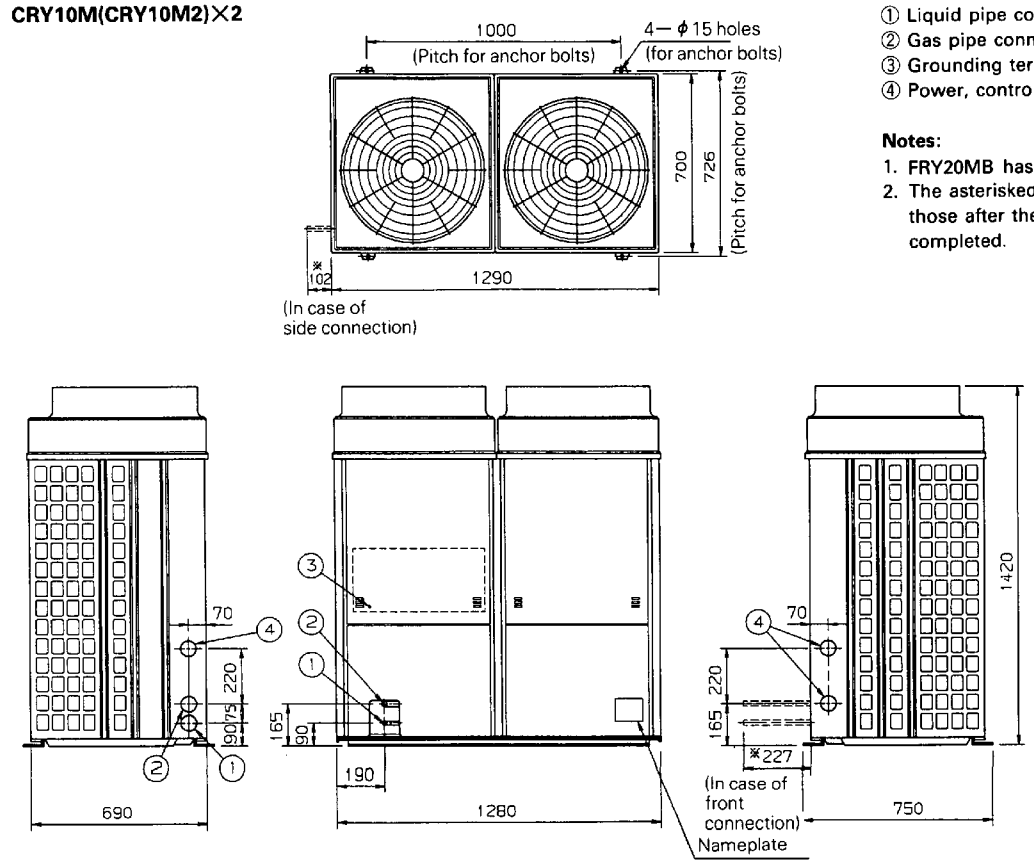


① Liquid pipe conn. φ12.7 DCuT Brazing
② Gas pipe conn. φ22.2 DCuT Brazing
③ Grounding terminal in switch box M5 bolt
④ Power, control wiring intake φ62

Notes:
1. FRY15MB has 2 sets of CRY8M2.
2. The asterisked (※) dimensions denote those after the related pipings have been completed.

(unit : mm)

CRY10M(CRY10M2)×2

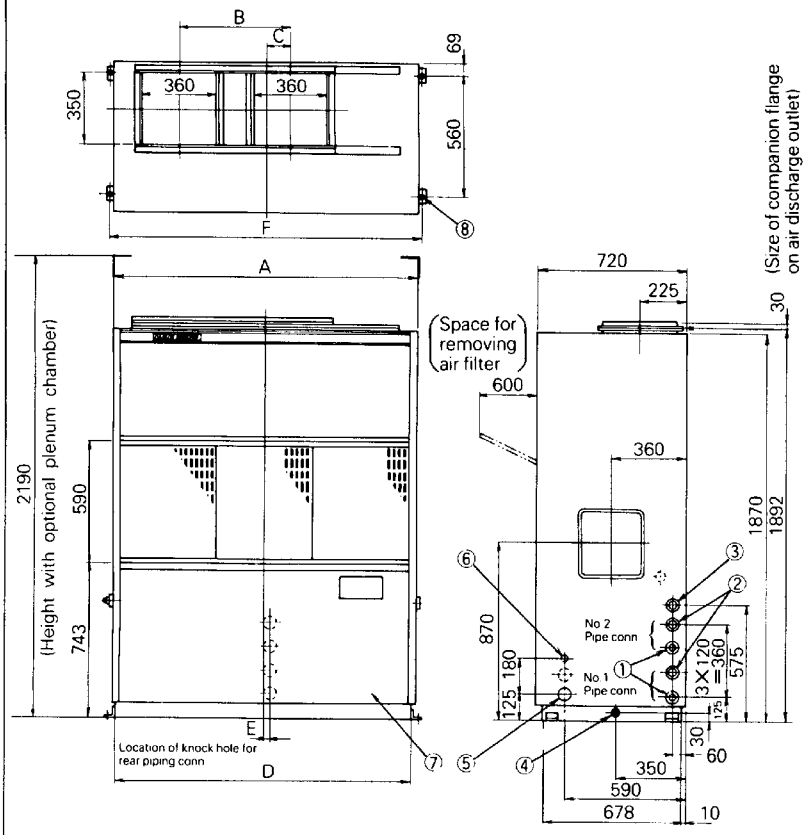


① Liquid pipe conn. φ15.9 DCuT Brazing
② Gas pipe conn. φ25.4 DCuT Brazing
③ Grounding terminal in switch box M5 bolt
④ Power, control wiring intake φ62

Notes:
1. FRY20MB has 2 sets of CRY10M2.
2. The asterisked (※) dimensions denote those after the related pipings have been completed.

(unit : mm)

FRY15MB·20MB·25JB



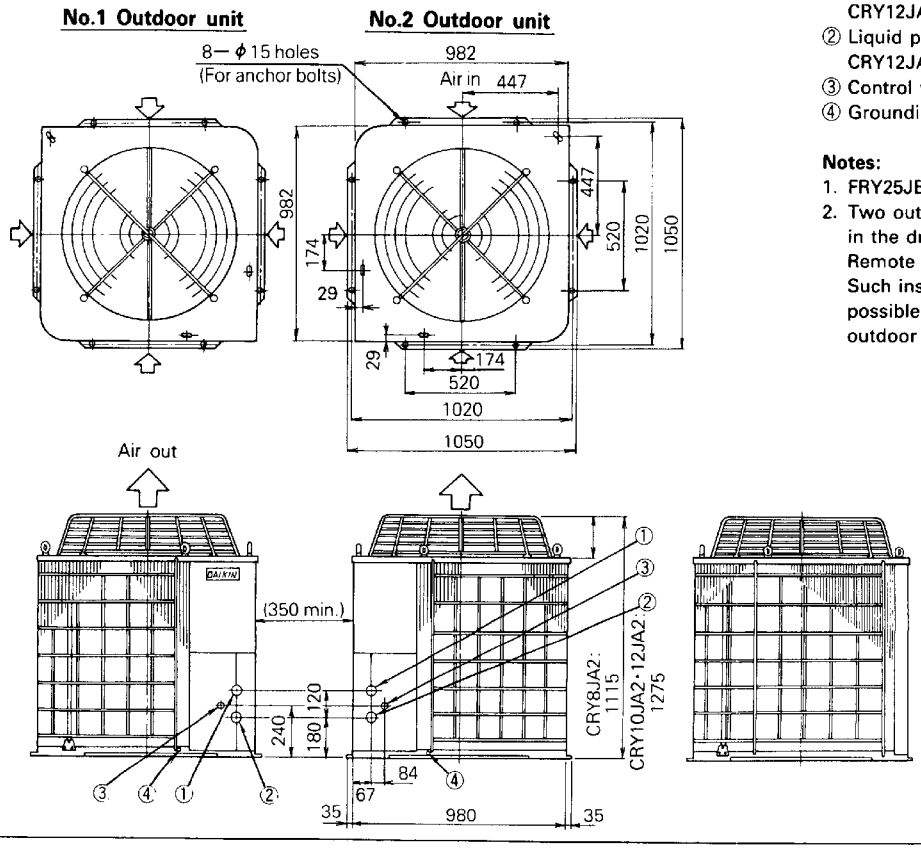
① Liquid pipe conn.
FRY15MB φ12.7 DCuT Brazing
FRY20MB·25JB φ15.9 DCuT Brazing
② Gas pipe conn.
FRY15MB φ22.2 DCuT Brazing
FRY20MB·25JB φ25.4 DCuT Brazing
③ Upper drain FPS1B
④ Lower drain FPS1B
⑤ Power supply intake φ58 hole
⑥ Control wire intake φ42 hole
⑦ Grounding terminal in switch box M8 bolt
⑧ Anchor bolt set plate 4-φ17 hole (Detachable)

Note:
①~⑥ are provided on the right side (Standard), but they can be also provided on the left side on the spot. In addition, ① and ② can be provided on the back on the spot.

Model	A	B	C	D	E	F
FRY15MB	1470	540	115	1445	30	1495
FRY20MB·25JB	1810	680	180	1785	60	1835

(unit : mm)

CRY12JA2×2

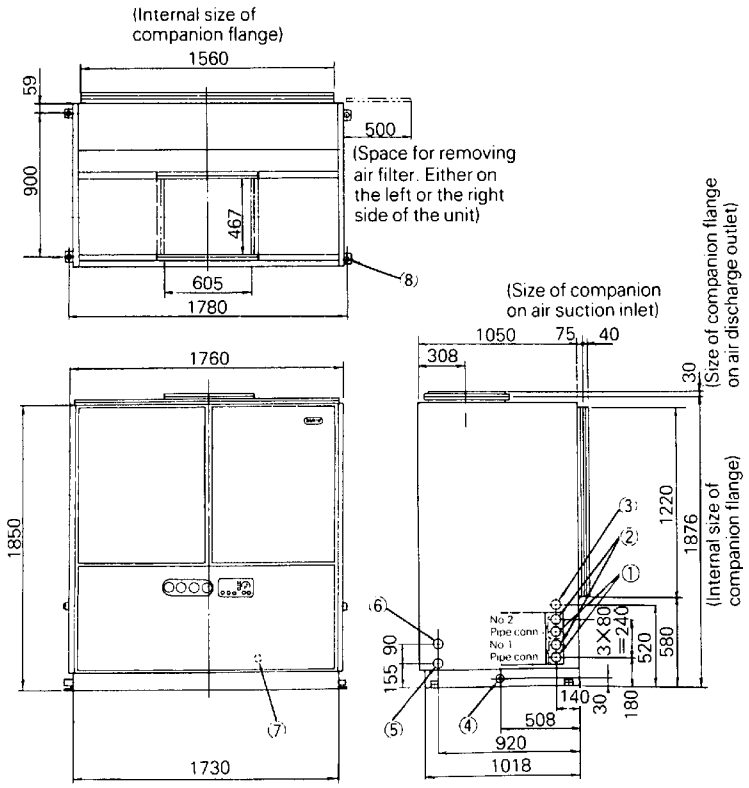


① Gas pipe conn.
CRY12JA2 × 2 φ25.4 DCuT Brazing × 2
② Liquid pipe conn.
CRY12JA2 × 2 φ15.9 DCuT Brazing × 2
③ Control wire intake φ28 hole × 2
④ Grounding terminal in switch box M6 bolt × 2

Notes:
1. FRY25JB has 2 sets of CRY12JA2.
2. Two outdoor units are the same as shown in the drawing for No.1 outdoor unit Remote condenser when delivered. Such installation shown on the left will be possible when the piping direction of No.2 outdoor unit is changed.

(unit : mm)

FRY30JB

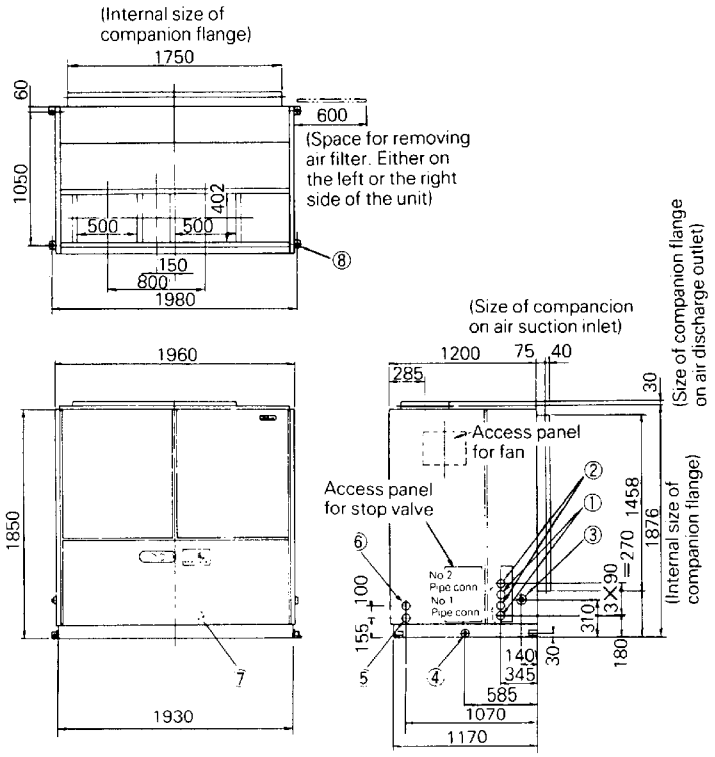


① Liquid pipe conn. φ19.1 DCuT Brazing
② Gas pipe conn. φ31.8 DCuT Brazing
③ Upper drain FPS1¼B
④ Lower drain FPS1B
⑤ Power supply intake φ58 hole
⑥ Control wire intake φ58 hole
⑦ Grounding terminal in switch box M8 bolt
⑧ Anchor bolt set plate 4-φ17 hole (Detachable)

Note:
①~⑥ are provided on the right side (Standard), but they can be provided on the left side on the spot.

(unit : mm)

FRY40JB·FRY50JB



① Liquid pipe conn. φ22.2 DCuT Brazing
② Gas pipe conn. φ38.1 DCuT Brazing
③ Upper drain FPS1¼B
④ Lower drain FPS1B
⑤ Power supply intake φ58 hole
⑥ Control wire intake φ58 hole
⑦ Grounding terminal in switch box M8 bolt
⑧ Anchor bolt set plate 4-φ17 hole (Detachable)

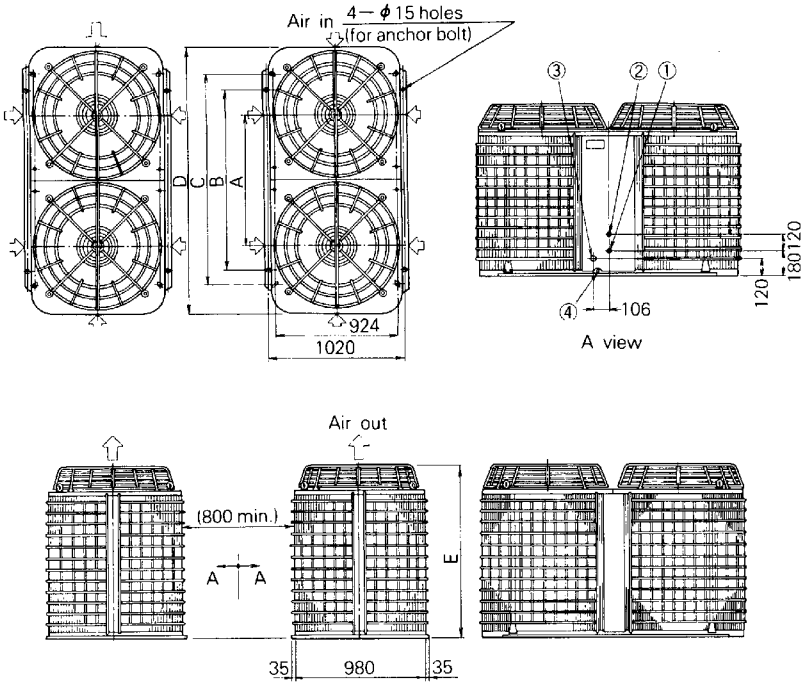
Note:
①~⑥ are provided on the right side (Standard), but they can be provided on the left side on the spot.

Model	A	B	C	D	E
FRY40JB	150	1458	342	310	140
FRY50JB	0	1651	149	136	160

(unit : mm)

(CRY15JA2)×2
(CRY20JA2)×2

No.1 Outdoor unit **No.2 Outdoor unit**



① Liquid pipe conn.
(CRY15JA2) × 2 φ19.1 DCuT Brazing × 2
(CRY20JA2) × 2 φ22.2 DCuT Brazing × 2
② Gas pipe conn.
(CRY15JA2) × 2 φ31.8 DCuT Brazing × 2
(CRY20JA2) × 2 φ38.1 DCuT Brazing × 2
③ Control wire intake
(CRY15JA2) × 2 φ28 hole × 2
(CRY20JA2) × 2 φ40 hole × 2
④ Grounding terminal in switch box M6 bolt × 2

Note: FRY30JB and 40JB have 2 sets of CRY15JA2 and CR20JA2 respectively.

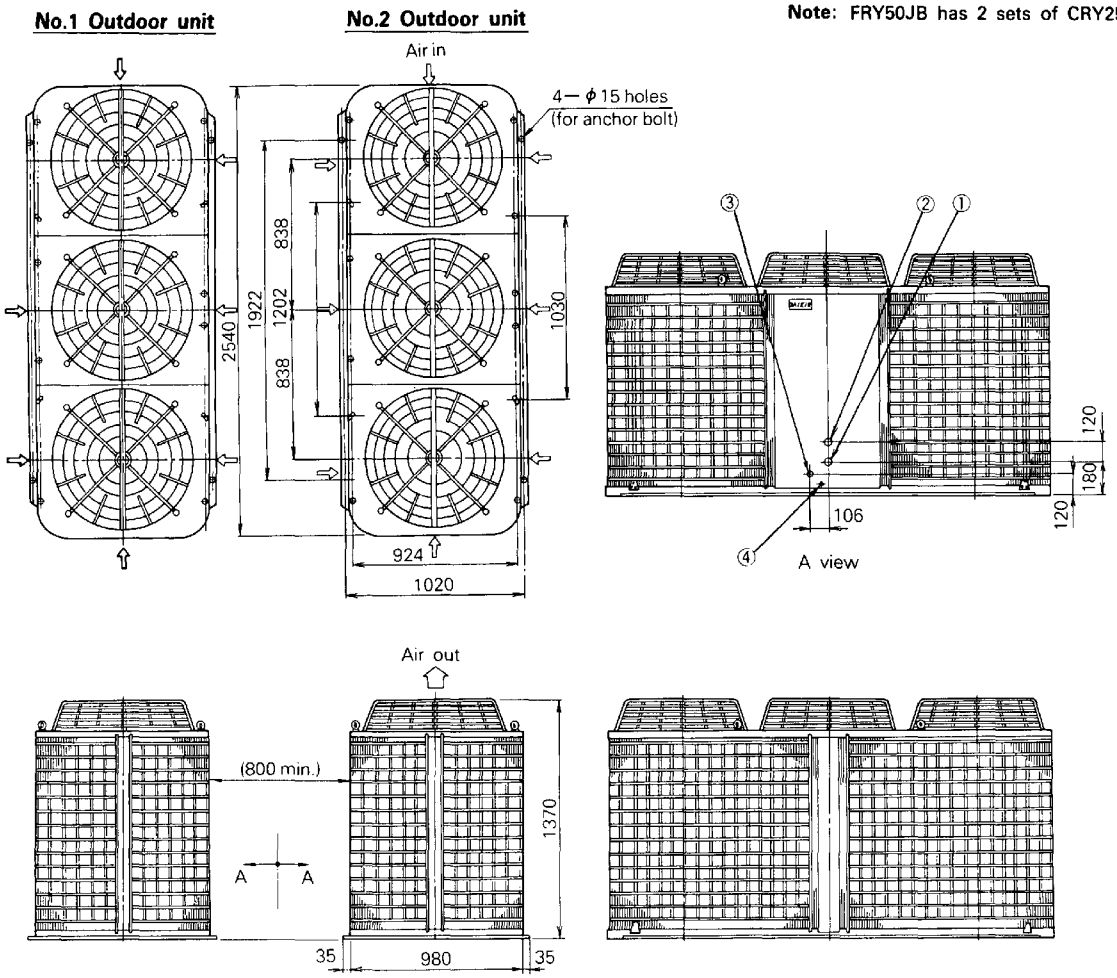
Model	A	B	C	D	E
CRY15JA2	838	1000	1306	1700	1115
CRY20JA2	982	1342	1566	1960	1275

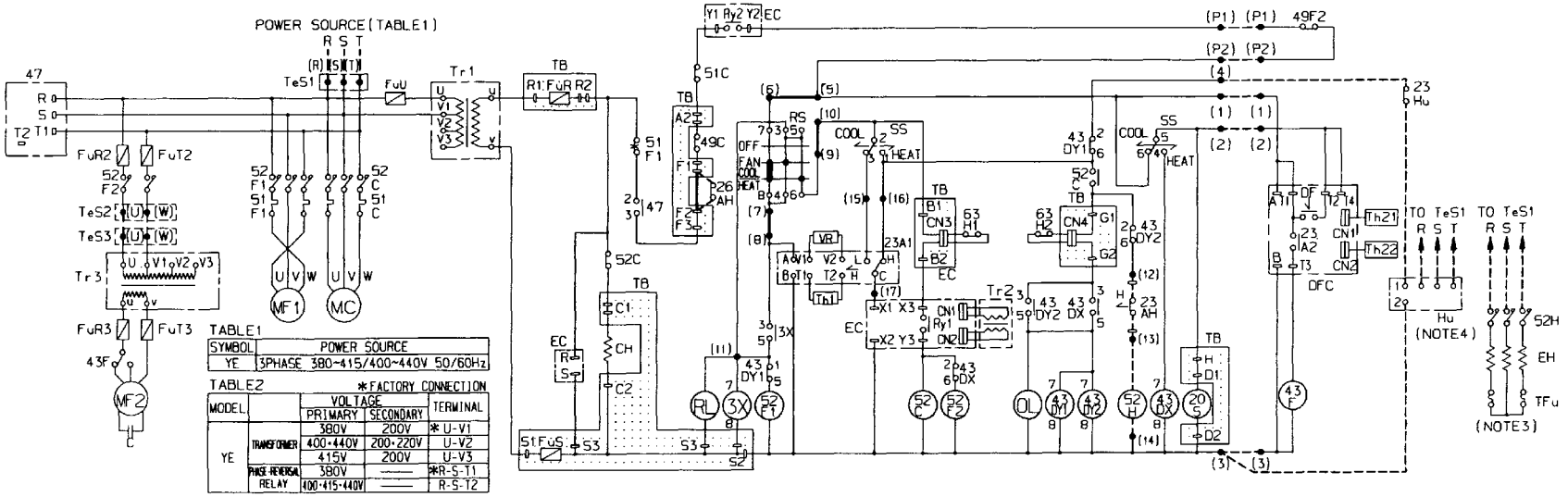
(unit:mm)

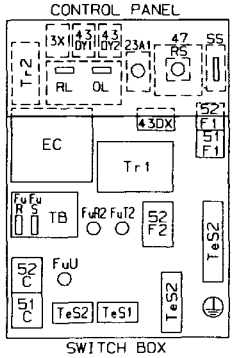
(CRY25J50)×2

① Liquid pipe conn. φ22.2 DCuT Brazing
② Gas pipe conn. φ38.1 DCuT Brazing
③ Control wire intake φ40 hole × 2
④ Grounding terminal in switch box M6 bolt × 2

Note: FRY50JB has 2 sets of CRY25J50.







NOTES
1. [ ] :TERMINAL BOARD(TB) —●— :TEAMINAL OF TeS
—▯— :CONNECTOR
2. - - - :FIELD WIRING ——— :JUMPER —o— :TAB
3. IF THE ELECTRIC HEATER IS USED, REMOVE THE JUMPER BETWEEN (F1) AND (F2) AND CONNECT THE HEATING CIRCUIT (23AH, 26AH, 52H, EH, TFu).
4. IF THE HUMIDIFIER (PAN TYPE) IS USED CONNECT THE HUMIDIFYING CIRCUIT (23Hu, Hu) BETWEEN (3) AND (4) OF TeS2.
5. CHANGE THE CONNECTION OF TRANSFORMER AND PHASE-REVERSAL RELAY ACCORDING TO THE TABLE2.
6. IF THE REVERSED PHASE CONNECTION WAS MADE THE UNIT WILL NOT OPERATE. IN THIS CASE, CHANGE THE TWO WIRES WITH EACH OTHER AMONG THE THREE.

1-RED	14-BLACK	D2-RED	S2-BLACK	3X	MAGNETIC RELAY	52F1	MAGNETIC CONTACTOR(MF1)	FuU	FUSE(600V,5A)	Th1	THERMISTOR(AIR)	OPTIONAL ACCESSORIES	
2-WHITE	15-BLUE	F1-YELLOW	S3-BLACK	20S	4 WAY VALVE	52F2	MAGNETIC CONTACTOR(MF2)	MC	MOTOR(COMPRESSOR)	Th21	THERMISTOR(REFRIGERANT)	23AH	THERMOSTAT(EH)
3-BLACK	16-YELLOW	F2-WHITE	Y1-RED	23A1·2	THERMOSTAT	63H1	PRESSURE SWITCH(HIGH)	MF1	MOTOR(INDOOR FAN)	Th22	THERMISTOR(AIR)	23Hu	HUMIDISTAT
4-ORANGE	17-BROWN	F3-GRAY	Y2-YELOW	43DX	MAGNETIC RELAY(DEFROST)	63H2	PRESSURE SWITCH(HIGH-CONTROL)	MF2	MOTOR (OUTDOOR FAN)	Tr1	TRANSFORMER(75VA)	26AH	THERMO SWITCH(OVER HEAT)
5-RED	U -RED	G1-BLUE	Y3-BLUE	43DY1·2	MAGNETIC RELAY(DEFROST)	C	CAPACITOR	OL	PILOT LAMP(DEFROST-ORANGE)	Tr2	TRANSFORMER(EC)	52H	MAGNETIC CONTACTOR(EH)
6-BLUE	W -BLUE	G2-GRAY		43F	MAGNETIC RELAY	CH	CRANKCASE HEATER	RL	PILOT LAMP(OPERATION-RED)	Tr3	TRANSFORMER(500VA)	EH	ELECTRIC HEATER
7-PINK	A2-BLACK	H -WHITE		47	PHASE-REVERSAL RELAY	CN1-4	CONNECTOR	RS	ROTARY SWITCH	VR	VARIABLE RES)STOR(23A1)	Hu	HUMIDIFIER(PAN TYPE)
8-GRAY	B1-BLACK	P1-YELLOW		49C	THERMO SWITCH(MC)	DFC	DEFROST CONTROLLER	Ry1	MAGNETIC RELAY			TFu	THERMAL FUSE(110℃)
9-BROWN	B2-ORANGE	P2-RED		49F2	THERMO SWITCH(MF2)	EC	PRINTED CIRCUIT BOARD	Ry2	MAGNETIC RELAY				
10-BLACK	C1-BROWN	R1-RED		51C	OVER-CURRENT RELAY(MC)	FuR·S	FUSE(250V,3A)	SS	SELECTOR SWITCH(COOL/HEAT)				
11-RED	C2-BROWN	R2-RED		51F1	OVER-CURRENT RELAY(MF1)	FuR2·T2	FUSE(600V,10A)	TB	TERMINAL BOARD				
12-YELLOW	D1-RED	S1-WHITE		52C	MAGNETIC CONTACTOR(MC)	FuR3·T3	FUSE(250V,10A)	TeS1-3	TERMINAL STRIP				

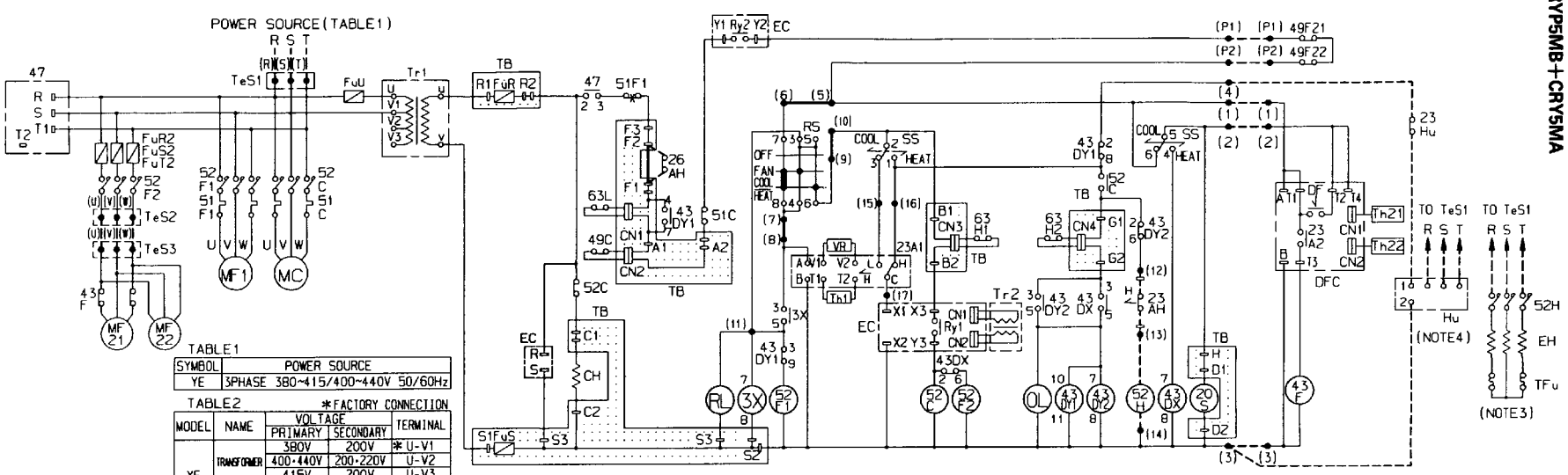
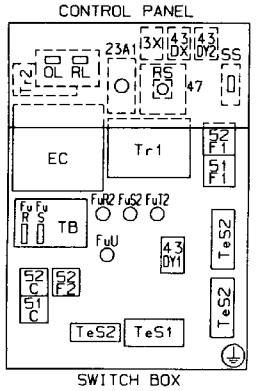


TABLE1

SYMBOL	POWER SOURCE
YE	3PHASE 380~415/400~440V 50/60Hz

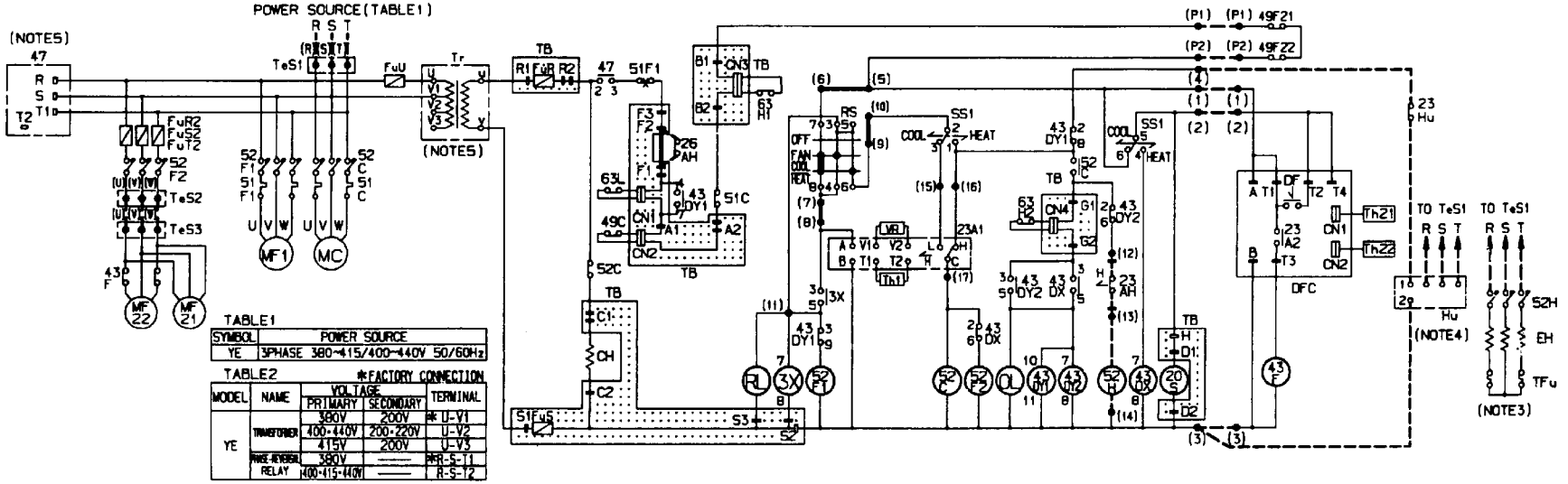
TABLE2 *FACTORY CONNECTION

MODEL	NAME	VOLTAGE PRIMARY	VOLTAGE SECONDARY	TERMINAL
YE	TRANSFORMER	380V	200V	*U-V1
		400・440V	200・220V	U-V2
		415V	200V	U-V3
	PHASE-REVERSAL RELAY	380V	——	*R-S-T1
		400・415・440V	——	R-S-T2



NOTES
1. □ :TERMINAL BOARD(TB) —●— :TEAMINAL OF TeS
   —⊓— :CONNECTOR
2. - - - :FIELD WIRING ——— :JUMPER —○— :TAB
3. IF THE ELECTRIC HEATER IS USED, REMOVE THE JUMPER BETWEEN(F1)AND(F2)AND CONNECT THE HEATING CIRCUIT (23AH, 26AH, 52H, EH, TFu).
4. IF THE HUMIDIFIER(PAN TYPE) IS USED CONNECT THE HUMIDIFYING CIRCUIT(23Hu, Hu)BETWEEN(3) AND(4) OF TeS2.
5. CHANGE THE CONNECTION OF TRANSFORMER AND PHASE-REVERSAL RELAY ACCORDING TO THE TABLE2.
6. IF THE REVERSED PHASE CONNECTION WAS MADE THE UNIT WILL NOT OPERATE. IN THIS CASE, CHANGE THE TWO WIRES WITH EACH OTHER AMONG THE THREE.

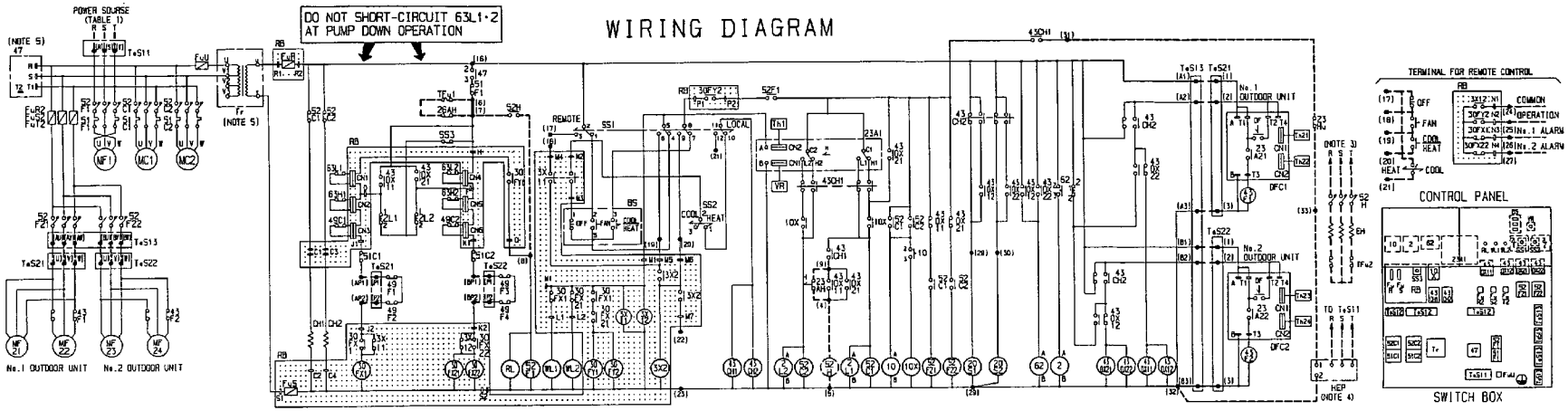
1-RED	14-BLACK	C2-BROWN	R2-RED	3X	MAGNETIC RELAY	52F1	MAGNETIC CONTACTOR(MF1)	MC	MOTOR(COMPRESSOR)	Th21	THERMISTOR(REFRIGERANT)	OPTIONAL ACCESSORIES	
2-WHITE	15-BLUE	D1-RED	S1-WHITE	20S	4 WAY VALVE	52F2	MAGNETIC CONTACTOR(MF21,22)	MF1	MOTOR(INDOOR FAN)	Th22	THERMISTOR(AIR)	23AH	THERMOSTAT(EH)
3-BLACK	16-YELLOW	D2-RED	S2-BLACK	23A1・2	THERMOSTAT	63H1	PRESSURE SWITCH(HIGH)	MF21・22	MOTOR(OUTDOOR FAN)	Tr1	TRANSFORMER(100VA)	23Hu	HUMIDISTAT
4-ORANGE	17-BROWN	F1-YELLOW	S3-BLACK	43DX	MAGNETIC RELAY(DEFROST)	63H2	PRESSURE SWITCH(HIGH-CONTROL)	OL	PILOT LAMP(DEFROST-ORANGE)	Tr2	TRANSFORMER(EC)	26AH	THERMO SWITCH(OVER HEAT)
5-RED	U -RED	F2-WHITE	X3-ORANGE	43DY1・2	MAGNETIC RELAY(DEFROST)	63L	PRESSURE SWITCH(LOW)	RL	PILOT LAMP(OPERATION-RED)	VR	VARIABLE RESISTOR(23A1)	52H	MAGNETIC CONTACTOR(EH)
6-BLUE	V -WHITE	F3-GRAY	Y1-RED	43F	MAGNETIC RELAY	CH	CRANKCASE HEATER	RS	ROTARY SWITCH			EH	ELECTRIC HEATER
7-PINK	W -BLUE	G1-BLUE	Y2-YELLOW	47	PHASE-REVERSAL RELAY	CN1~4	CONNECTOR	Ry1	MAGNETIC RELAY			Hu	HUMIDIFIER(PAN TYPE)
8-GRAY	A1-PINK	G2-GRAY	Y3-BLUE	49C	THERMO SWITCH(MC)	DFC	DEFROST CONTROLLER	Ry2	MAGNETIC RELAY			TFu	THERMAL FUSE(110℃)
9-BROWN	A2-BLACK	H -WHITE		49F21・22	THERMO SWITCH(MF21,MF22)	EC	PRINTED CIRCUIT BOARD	SS	SELECTOR SWITCH(COOL/HEAT)				
10-BLACK	B1-BLACK	P1-YELLOW		51C	OVER-CURRENT RELAY(MC)	FuR・S	FUSE(250V,3A)	TB	TERMINAL BOARD				
11-RED	B2-ORANGE	P2-RED		51F1	OVER-CURRENT RELAY(MF1)	FuR2・S2 T2・U	FUSE(600V,5A)	TeS1~3	TERMINAL STRIP				
12-YELLOW	C1-BROWN	R1-RED		52C	MAGNETIC CONTACTOR(MC)			Th1	THERMISTOR(AIR)				



NOTES
1. ▦ :TERMINAL BOARD(TB) —●— :TERMINAL OF TeS
   —⊓— :CONNECTOR
2. - - - :FIELD WIRING ——— :JUMPER —o— :TAB
3. IF THE ELECTRIC HEATER IS USED,REMOVE THE JUMPER BETWEEN (F1) AND (F2) AND CONNECT THE HEATING CIRCUIT (23AH,26AH,52H,EH,TFu).
4. IF THE HUMIDIFIER(PAN TYPE) IS USED CONNECT THE HUMIDIFYING CIRCUIT (23Hu,Hu) BETWEEN (3) AND (4) OF TeS2.
5. CHANGE THE CONNECTION OF TRANSFORMER AND PHASE-REVERSAL RELAY ACCORDING TO THE TABLE2.
6. IF THE REVERSED PHASE CONNECTION WAS MADE THE UNIT WILL NOT OPERATE. IN THIS CASE, CHANGE THE TWO WIRES WITH EACH OTHER AMONG THE THREE.

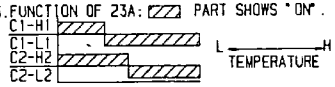
1-RED	13-ORANGE	C1-BROWN	R1-RED	3X	MAGNETIC RELAY	52F1	MAGNETIC CONTACTOR(MF1)	MC	MOTOR(COMPRESSOR)	Tr	TRANSFORMER(100VA)(SYP90ME)	OPTIONAL ACCESSORIES	
2-WHITE	14-BLACK	C2-BROWN	R2-RED	20S	4 WAY VALVE	52F2	MAGNETIC CONTACTOR(MF21,22)	MF1	MOTOR(INDOOR FAN)		TRANSFORMER(150VA)(SYP120ME)	23AH	THERMOSTAT(EH)
3-BLACK	15-BLUE	M1-RED	S1-WHITE	23A1·2	THERMOSTAT	63H1	PRESSURE SWITCH(HIGH)	MF21·22	MOTOR(OUTDOOR FAN)	VR	VARIABLE RESISTOR(23A1)	23Hu	HUMIDISTAT
4-ORANGE	16-YELLOW	D2-RED	S2-BLACK	43DX	MAGNETIC RELAY(DEFROST)	63H2	PRESSURE SWITCH(HIGH-CONTROL)	OL	P.I.O. LAMP(DEFROST-ORANGE)			26AH	THERMO SWITCH(OVER HEAT)
5-RED	17-WHITE	F1-YELLOW	S3-BLACK	43DY1·2	MAGNETIC RELAY(DEFROST)	63L	PRESSURE SWITCH(LOW)	RL	P.I.O. LAMP(OPERATION-RED)			52H	MAGNETIC CONTACTOR(EH)
6-BLUE	U -RED	F2-WHITE		43F	MAGNETIC RELAY	CH	CRANKCASE HEATER	RS	ROTARY SWITCH			EH	ELECTRIC HEATER
7-PINK	V -WHITE	F3-GRAY		47	PHASE-REVERSAL RELAY	CNI-4	CONNECTOR	SS1	SELECTOR SWITCH(COOL/HEAT)			Hu	HUMIDIFIER(PAN TYPE)
8-GRAY	W -BLUE	B1-BLUE		49C	THERMO SWITCH(MC)	DFC	DEFROST CONTROLLER	TB	TERMINAL BOARD			TFu	THERMAL FUSE(110℃)
9-BROWN	A1-PINK	B2-GRAY		49F21·22	THERMO SWITCH(MF21,MF22)	FuR·S	FUSE(250V,3A)(SYP90ME)	TeS1·3	TERMINAL STRIP				
10-BLACK	A2-BLACK	H -WHITE		51C	OVER-CURRENT RELAY(MC)		FUSE(250V,5A)(SYP120ME)	Th1	THERMISTOR(AIR)				
11-RED	B1-PINK	P1-YELLOW		51F1	OVER-CURRENT RELAY(MF1)	FuR2·S2	FUSE(600V,5A)	Th21	THERMISTOR(REFRIGERANT)				
12-YELLOW	B2-YELLOW	P2-RED		52C	MAGNETIC CONTACTOR(MC)	T2·U		Th22	THERMISTOR(AIR)				

WIRING DIAGRAM



NOTE;

1. [:::]:RELAY BOARD(RB) —●— :TERMINAL OF T₀S
   —[]— :CONNECTOR
2. ----:FIELD WIRING ——— :JUMPER —+— :TAB
3. IF THE ELECTRIC HEATER IS USED, REMOVE THE JUMPER BETWEEN (6) AND (7) AND CONNECT THE HEATING CIRCUIT (23AH, 26AH, 52H, EH, TFu1·2). THE POWER SUPPLY FOR "EH" SHOULD NOT BE CONNECTED TO T₀S11.
4. IF THE HUMIDIFIER (PAN TYPE) IS USED, CONNECT THE HUMIDIFYING CIRCUIT (23Hu, HEP) BETWEEN (31) AND (32) OF T₀S12.
5. CHANGE THE CONNECTION OF TRANSFORMER AND PHASE REVERSAL RELAY ACCORDING TO THE TABLE 2.
6. FUNCTION OF 23A: ▨ PART SHOWS "ON".



7. IF THE REVERSED PHASE CONNECTION WAS MADE THE UNIT WILL NOT OPERATE. IN THIS CASE, CHANGE THE TWO WIRES WITH EACH OTHER AMONG THE THREE.
8. DO NOT OPERATE THE UNIT BY SHORT-CIRCUITING 63L1·2. THIS CAN CAUSE A FAILURE OF THE UNIT.

TABLE 1

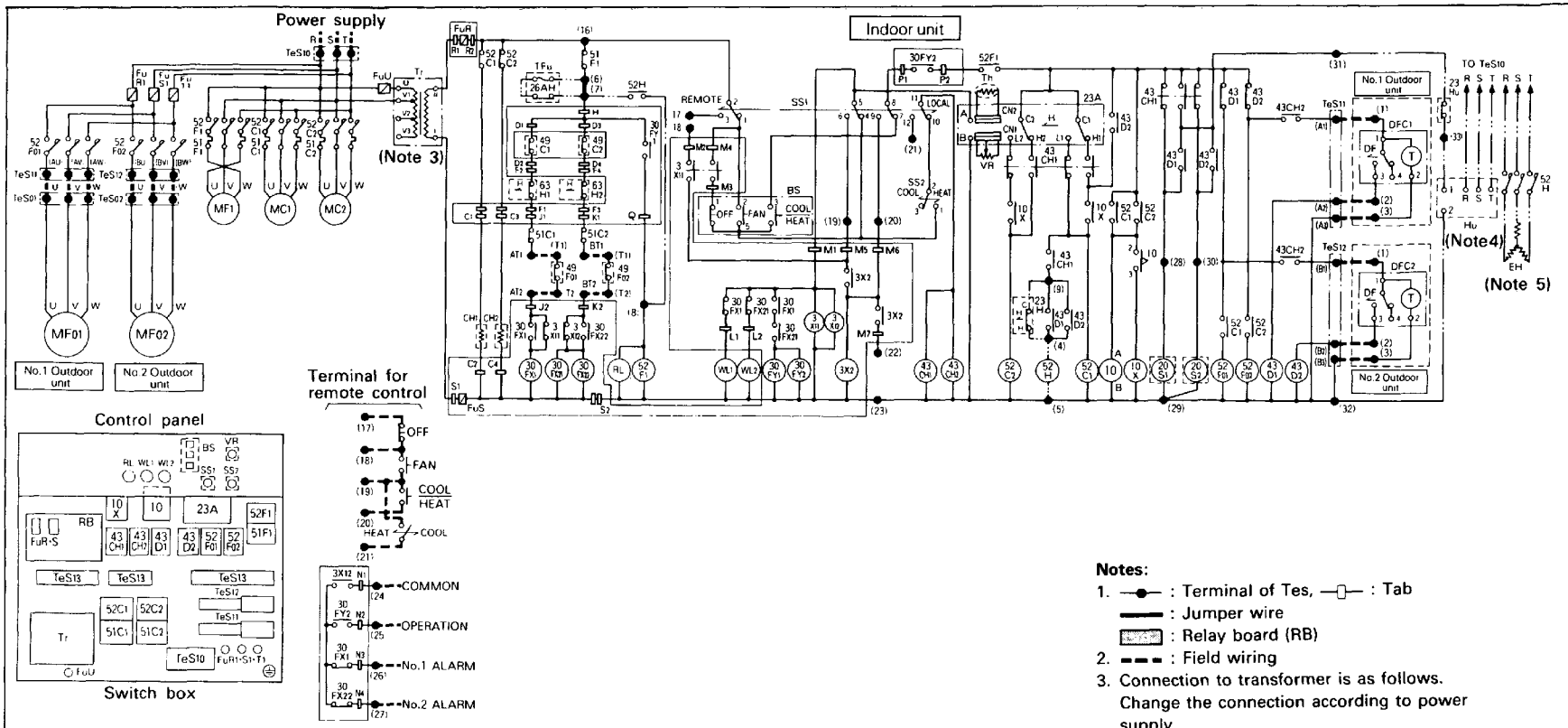
SYMBOL	POWER SOURCE
YE	3 PHASE 380~415/400~440 50/60Hz

TABLE 2

*FACTORY CONNECTION

MODEL	NAME	VOLTAGE		TERMINAL
		PRIMARY	SECONDARY	
YE	TRANSFORMER	380V	200V	*U-V1
		400·440V	200·220V	U-V2
		415V	200V	U-V3
	PHASE-REVERSAL RELAY	380V	-	*R-S-T1
		400·415·440V	-	R-S-T2

4-BROWN	28-ORANGE	BP2-RED	M4-ORANGE	2	TIME-LAG RELAY (5 SEC.)	52F1	MAGNETIC CONTACTOR (MF1)	SS2		SELECTOR SWITCH (COOL/HEAT)
5-BLACK	29-BLACK	BU-RED	M5-BROWN	2L1·2	TIME-LAG RELAY (60SEC.)	52F21·22	MAGNETIC CONTACTOR (MF21~24)	SS3		SELECTOR SWITCH (PUMP DOWN)
6-ORANGE	30-PINK	BV-WHITE	M6-YELLOW	3X2·11·12	MAGNETIC RELAY	62	TIME-LAG RELAY (2 SEC.)	T₀S11·12·13		TERMINAL STRIP (INDOOR UNIT)
7-BLACK	31-GRAY	BW-BLUE	M7-PINK	10	TIME-LAG RELAY (5 SEC.)	63H1·2	PRESSURE SWITCH (HIGH)	T₀S21·22		TERMINAL STRIP (OUTDOOR UNIT)
8-ORANGE	32-BLACK	C1-PINK	N1-BROWN	10X	MAGNETIC RELAY	63L1·2	PRESSURE SWITCH (LOW)	Th1·21·23		THERMISTOR (AIR)
9-BLUE	33-	C3-YELLOW	N2-RED	20S1·S2	4 WAY VALVE	BS	PUSH BOTTON SWITCH	Th22·24		THERMISTOR (REFRIGARANT)
16-RED	A1-RED	D -BLUE	N3-YELLOW	23A1·21·22	THERMOSTAT	CH1·2	CRANKCASE HEATER	Tr		TRANSFORMER (200VA)
17-YELLOW	A2-WHITE	F -BLUE	N4-GRAY	30FX1·21·22	MAGNETIC RELAY (ALARM)	CN1~6	CONNECTOR	VR		VARIABLE RESISTOR (23A1)
18-ORANGE	A3-BLACK	H -BLACK	P1-GRAY	30FY1·2	MAGNETIC RELAY (ALARM)	DFC1·2	DEFROST CONTROLLER	WL1·2		PILOT LAMP (ALARM-WHITE)
19-BROWN	AP1-YELLOW	J1-BROWN	P2-YELLOW	43CH1·2	MAGNETIC RELAY (COOL/HEAT)	FuR·S	FUSE (250V, 5A)	OPTIONAL ACCESSORIES		
20-YELLOW	AP2-RED	J2-RED	Q -ORANGE	43DX 21·12 22	MAGNETIC RELAY (DEFROST)	FuU	FUSE (600V, 5A)	23AH		THERMOSTAT (EH)
21-BLACK	AU-RED	K1-BROWN	R1-RED	43F1·2	MAGNETIC RELAY	FuR2·S2·T2	FUSE (600V, 10A)	23Hu		HUMIDISTAT
22-PINK	AV-WHITE	K2-RED	R2-RED	47	PHASE-REVERSAL RELAY	MC1·2	MOTOR (COMPRESSOR)	26AH		THERMO SWITCH (OVER HEAT)
23-BLACK	AW-BLUE	L1-YELLOW	S1-WHITE	49C1·2	THERMO SWITCH (MC1·2)	MF21·22·23·24	MOTOR (OUTDOOR FAN)	52H		MAGNETIC CONTACTOR (EH)
24-BROWN	B1-RED	L2-ORANGE	S2-BLACK	49F1·2·3·4	THERMO SWITCH (MF21~24)	MF1	MOTOR (INDOOR FAN)	EH		ELECTRIC HEATER
25-RED	B2-WHITE	M1-BLUE		51C1·2	OVER-CURRENT RELAY (MC1·2)	RB	RELAY BOARD	HEP		HUNIDIFIER (PAN TYPE)
26-YELLOW	B3-BLACK	M2-WHITE		51F1	OVER-CURRENT RELAY (MF1)	RL	PILOT LAMP (OPERATION-RED)	TFu1		THERMAL FUSE (110℃)
27-GRAY	BP1-YELLOW	M3-BLUE		52C1·2	MAGNETIC CONTACTOR (MC1·2)	SS1	SELECTOR SWITCH (REMOTE/LOCAL)	TFu2		THERMAL FUSE (130℃)



Symbols:

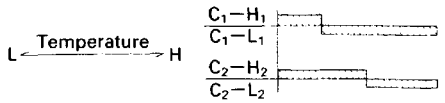
3X	Magnetic relay	52F	Magnetic contactor (MF)	TeS	Terminal strip
10	Timing relay (5 sec.)	$52F_1$	Magnetic switch (MF_1)	Th	Thermistor (23A)
10X	Magnetic relay	63H	High pressure switch	Tr	Transformer (200VA)
20S	4 way solenoid valve	BS	Push button switch	VR	Variable resistor (23A)
23A	Thermostat	CH	Crankcase heater	WL	Pilot lamp (Alarm)
30FX	Magnetic relay (Alarm)	CN	Connector (23A)	⏚	Grounding terminal
30FY	Magnetic relay (Alarm)	DFC	Defrost controller		
43CH	Magnetic relay (Cool / Heat)	FuR,S	Fuse (250V, 5A)		**Optional accessories**
43D	Magnetic relay (Defrost)	FuR_1,	Fuse (600V, 10A)	23H	Thermostat
49C	Compressor thermal	S_1,T_1		23Hu	Humidistat
	protector (MC)	FuU	Fuse (600V, 5A)	26AH	Firestat
49F	Fan motor thermal	MC	Motor (Compressor)	52H	Magnetic contactor (EH)
	protector (MF)	MF_0	Motor (Outdoor fan)	EH	Auxiliary electric heater
51C	Overcurrent relay (MC)	MF_1	Motor (Indoor fan)	Hu	Humidifier (Pan type)
$51F_1$	Overcurrent relay (MF_1)	RL	Pilot lamp (Operation-red)	TFu	Thermal fuse (110℃)
52C	Magnetic switch (MC)	SS	Selector switch		

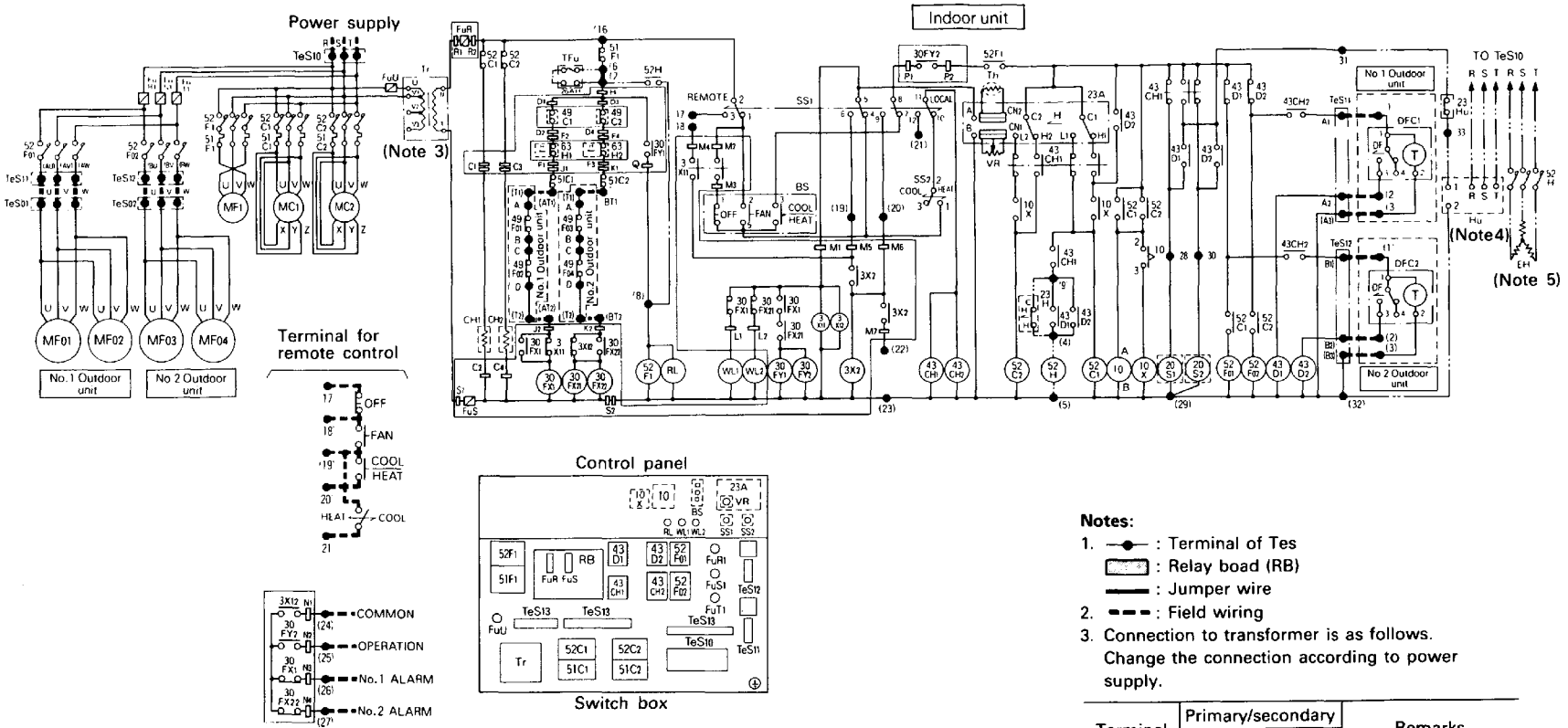
Notes:

1. —●— : Terminal of Tes, —□— : Tab
   ▬▬ : Jumper wire
   ▨ : Relay board (RB)
2. ▬ ▬ : Field wiring
3. Connection to transformer is as follows.
   Change the connection according to power supply.

Terminal	Primary/secondary [YE] Models	Remarks
U-V_1	380V/200V	Factory connection
U-V_2	400V/200V 440V/220V	Change connection on the spot
U-V_3	415V/200V	

4. If the humidifier (pan type) is used, connect the humidifying circuit between (31) and (32) of TeS_{13} (—·—·—).
5. If the electric heater is used, remove the jumper between (6) and (7), and connect the heating circuit (26AH,23H,52H,EH,TFu) of Tes_{13} (—·—·—).
6. Function of 23A: ▨ Part shows "ON".



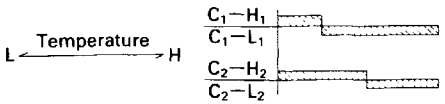


Notes:

1. —●— : Terminal of Tes
   ▭ : Relay boad (RB)
   ——— : Jumper wire
2. ▬ ▬ : Field wiring
3. Connection to transformer is as follows. Change the connection according to power supply.

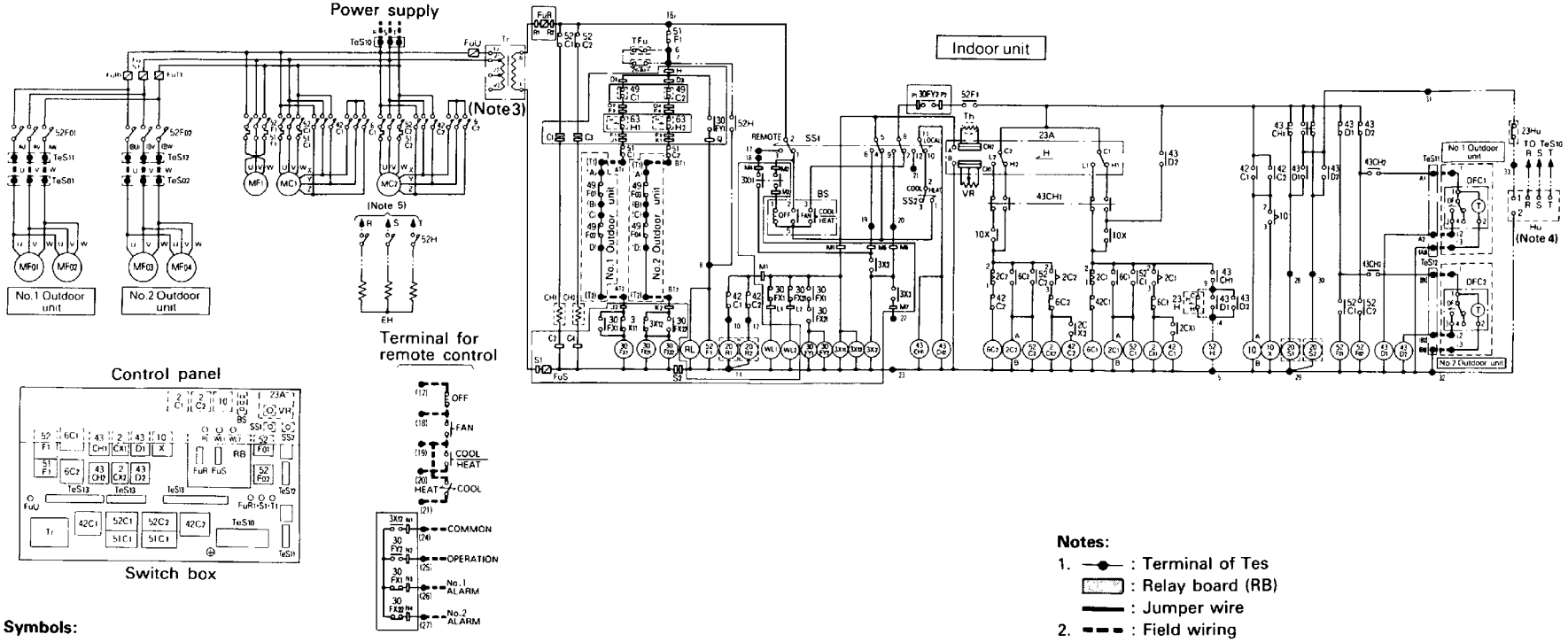
Terminal	Primary/secondary 「YE」Models	Remarks
U-V_1	380V/200V	Factory connection
U-V_2	400V/200V 440V/220V	Change connection on the spot
U-V_3	415V/200V	

4. If the humidifier (pan type) is used, connect the humidifying circuit between (31) and (32) of TeS_{13} (—·—·—).
5. If the electric heater is used, remove the jumper between (6) and (7), and connect the heating circuit (26AH,23H,52H,EH,TFu) of Tes_{13} (—··—··—).
6. Function of 23A: ▨ Part shows "ON".



Symbols:

3X	Magnetic relay	$52F_1$	Magnetic switch (MF_1)	Th	Thermistor (23A)
10	Timing relay (5 sec.)	63H	High pressure switch	Tr	Transformer (300VA)
10X	Magnetic relay	BS	Push button switch	VR	Variable resistor (23A)
20S	4 way solenoid valve	CH	Crankcase heater	WL	Pilot lamp (Alarm-white)
23A	Thermostat	CN	Connector (23A)	⏚	Grounding terminal
30FX	Magnetic relay (Alarm)	DFC	Defrost controller		
30FY	Magnetic relay (Alarm)	FuR,S	Fuse (250V, 5A)		**Optional accessories**
43CH	Magnetic relay (Cool / Heat)	FuR_1,	Fuse (600V, 15A)	23H	Thermostat
43D	Magnetic relay (Defrost)	S_1T_1		23Hu	Humidistat
49C	Compressor thermal protector	FuU	Fuse (600V, 5A)	26AH	Firestat
$49F_0$	Fan motor thermal protector (MF_0)	MC	Motor (Compressor)	52H	Magnetic contactor (EH)
		MF_0	Motor (Outdoor fan)	EH	Auxiliary electric heater
51C	Overcurrent relay (MC)	MF_1	Motor (Indoor fan)	Hu	Humidifier (Pan type)
$51F_1$	Overcurrent relay (MF_1)	RL	Pilot lamp (Operation-red)	TFu	Thermal fuse (110℃)
52C	Magnetic switch (MC)	SS	Selector switch		
$52F_0$	Magnetic contactor (MF_0)	TeS	Terminal strip		



Symbols:

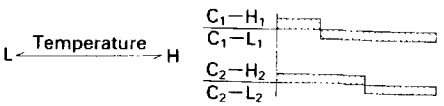
2C	Timing relay (5 sec.)	$51F_1$	Overcurrent relay (MF_1)	Th	Thermistor (23A)
2CX	Magnetic relay	52C	Magnetic switch (MC)	Tr	Transformer (500VA)
3X	Magnetic relay	$52F_0$	Magnetic contactor (MF_0)	VR	Variable resistor (23A)
6C	Magnetic contactor (MC $-\lambda$)	$52F_1$	Magnetic switch (MF_1)	WL	Pilot lamp (Alarm-white)
10	Timing relay (5 sec.)	63H	High pressure switch	⏚	Grounding terminal
10X	Magnetic relay	BS	Push button switch		
20R	Solenoid valve (Start)	CH	Crankcase heater		**Optional accessories**
20S	4 way solenoid valve	CN	Contactor (23A)	23H	Thermostat
23A	Thermostat	DFC	Defrost controller	23Hu	Humidistat
30FX	Magnetic relay	FuR,S	Fuse (250V, 10A)	26AH	Firestat
30FY	Magnetic relay	FuR_1, S_1,T_1	Fuse (600V, 15A)	52H	Magnetic contactor (EH)
42C	Magnetic contactor (MC $-\triangle$)			EH	Auxiliary electric heater
43CH	Magnetic relay	FuU	Fuse (600V, 10A)	Hu	Humidifier (Pan type)
43D	Magnetic relay (Defrost)	MC	Motor (Compressor)	TFu	Thermal fuse (110℃)
49C	Compressor thermal protector (MC)	MF_0	Motor (Outdoor fan)		
		MF_1	Motor (Indoor fan)		
$49F_0$	Fan motor thermal protector (MF_0)	RL	Pilot lamp (Operation)		
		SS	Selector switch		
51C	Overcurrent relay (MC)	TeS	Terminal strip		

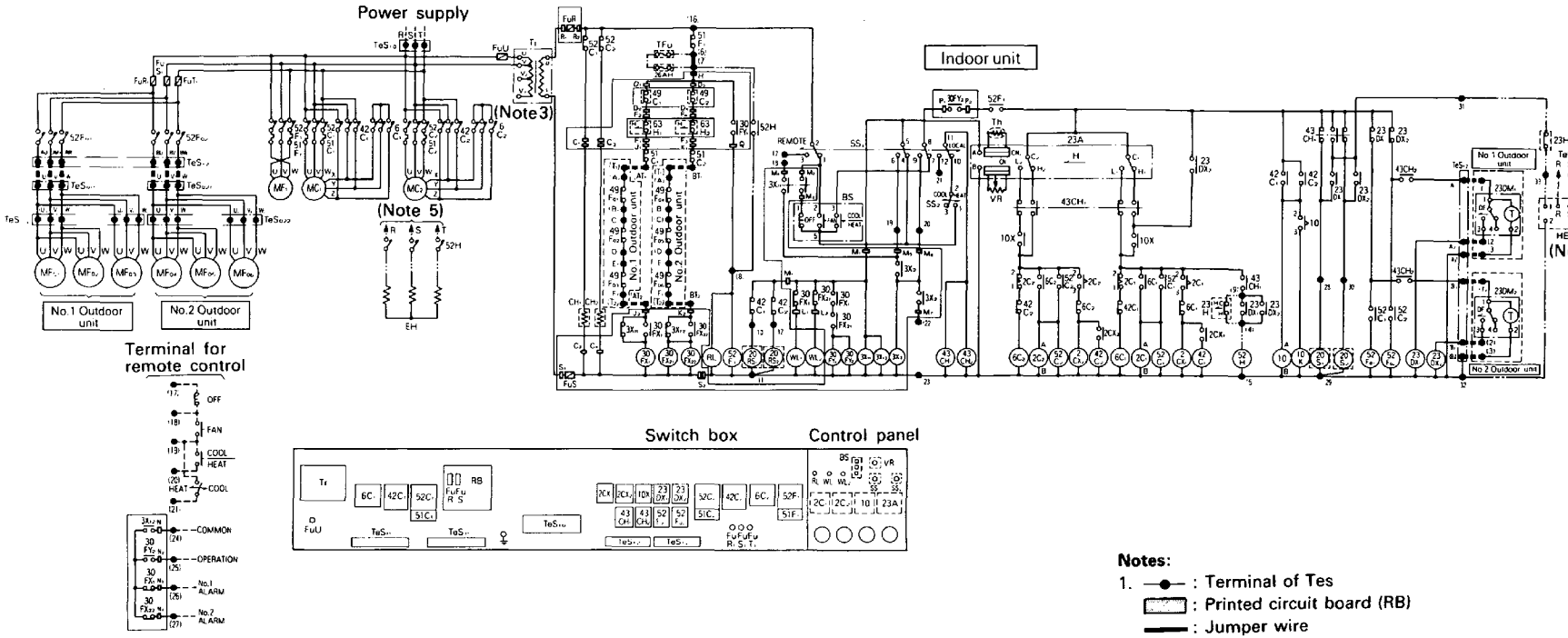
Notes:

1. —●— : Terminal of Tes
   ▭ : Relay board (RB)
   ——— : Jumper wire
2. - - - : Field wiring
3. Connection to transformer is as follows. Change the connection according to power supply.

Terminal	Primary/secondary 「YE」Models	Remarks
U-V_1	380V/200V	Factory connection
U-V_2	400V/200V 440V/220V	Change connection on the spot
U-V_3	415V/200V	

4. If the Humidifier (pan type) is used, connect the humidifying circuit between (31) and (32) of TeS_{13} (—··—).
5. If the electric heater is used, remove the jumper between (6) and (7), and connect the heating circuit (26AH,23H,52H,EH,TFu) of Tes_{13} (—··—).
6. Function of 23A: ▨ Part shows "ON".





Symbols:

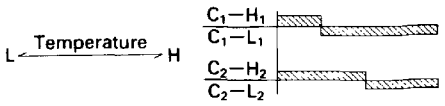
2C	Timing relay (5 sec.)	51C	Overcurrent relay (MC)	Tr	Transformer (500VA)
2CX	Magnetic relay	$51F_1$	Overcurrent relay (MF_1)	VR	Variable resistor (23A)
3X	Magnetic relay	52C	Magnetic switch (MC)	WL	Pilot lamp (Alarm-white)
6C	Magnetic contactor (MC $-\lambda$)	$52F_0$	Magnetic contactor (MF_0)	⏚	Grounding terminal
10	Timing relay (5 sec.)	$52F_1$	Magnetic switch (MF_1)		
10X	Magnetic relay	63H	High pressure switch		**Optional accessories**
20RS	Solenoid valve (Start)	BS	Push button switch	23H	Thermostat
20S	4 way solenoid valve	CH	Crankcase heater	23Hu	Humidistat
23A	Thermostat	FuR,S	Fuse (250V, 10A)	26AH	Firestat
23DM	Deicer	FuR_1,	Fuse (600V, 10A)	52H	Magnetic contactor (EH)
23DX	Magnetic relay	S_1,T_1		EH	Auxiliary electric heater
30FX	Magnetic relay	FuU	Fuse (600V, 10A)	HEP	Evaporating pan type humidifier
30FY	Magnetic relay	MC	Motor (Compressor)	TFu	Thermal fuse (110℃)
42C	Magnetic contactor (MC $-\triangle$)	MF_0	Motor (Outdoor fan)		
43CH	Magnetic relay	MF_1	Motor (Indoor fan)		
49C	Compressor thermal	RL	Pilot lamp (Operation)		
	protector (MC)	SS	Selector switch		
$49F_0$	Fan motor thermal	TeS	Terminal strip		
	protector (MF_0)	Th	Thermistor (23A)		

Notes:

1. —●— : Terminal of Tes
   ▭ : Printed circuit board (RB)
   ——— : Jumper wire
2. ▬ ▬ : Field wiring
3. Connection to transformer is as follows. Change the connection according to power supply.

Terminal	Primary/secondary 「YE」Models	Remarks
U-V_1	380V/200V	Factory connection
U-V_2	400V/200V 440V/220V	Change connection on the spot
U-V_3	415V/200V	

4. If Evaporating pan type humidifier is used, connect the humidifying circuit between (31) and (32) of TeS_{13} (——·——).
5. If the electric heater is used remove the jumper between (6) and (7), and connect the heating circuit (26AH,23H,52H,EH,TFu) of Tes_{13} (——·——).
6. Function of 23A: ▨ Part shows "ON".



7. Capacity tables

● Cooling capacity

FRYP3MB+CRY3MA **[50Hz]**

Indoor air			Outdoor temperature (°CDB)														
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20 (0.10)	16.0	23	6.2	4.6	2.0	5.9	4.5	2.2	5.6	4.4	2.4	5.3	4.2	2.6	5.2	4.1	2.8
	18.0	25	6.6	4.7	2.1	6.3	4.6	2.2	6.0	4.5	2.5	5.7	4.3	2.7	5.5	4.3	2.8
	19.5	27	6.9	4.8	2.1	6.6	4.7	2.3	6.3	4.5	2.5	6.0	4.4	2.7	5.8	4.3	2.9
	22.0	30	7.4	4.9	2.1	7.1	4.8	2.3	6.8	4.6	2.6	6.5	4.5	2.8	6.2	4.4	3.0
	24.0	32	7.9	5.0	2.2	7.6	4.8	2.4	7.2	4.7	2.6	6.8	4.6	2.9	6.6	4.5	3.0
25 (0.13)	16.0	23	6.4	5.1	2.0	6.1	5.0	2.2	5.8	4.8	2.4	5.5	4.7	2.7	5.3	4.6	2.8
	18.0	25	6.8	5.2	2.1	6.5	5.1	2.3	6.2	5.0	2.5	5.9	4.8	2.7	5.7	4.7	2.9
	19.5	27	7.1	5.3	2.1	6.8	5.2	2.3	6.5	5.1	2.5	6.2	4.9	2.8	6.0	4.8	2.9
	22.0	30	7.7	5.4	2.1	7.4	5.3	2.4	7.0	5.2	2.6	6.7	5.1	2.8	6.4	5.0	3.0
	24.0	32	8.1	5.5	2.2	7.8	5.4	2.4	7.4	5.3	2.6	7.1	5.1	2.9	6.8	5.1	3.0
33 (0.17)	16.0	23	6.6	5.3	2.1	6.3	5.6	2.2	6.0	5.5	2.5	5.7	5.4	2.7	5.5	5.3	2.8
	18.0	25	7.0	5.9	2.1	6.7	5.8	2.3	6.4	5.7	2.5	6.0	5.5	2.7	5.8	5.5	2.9
	19.5	27	7.3	6.0	2.1	7.0	5.9	2.3	6.7	5.8	2.5	6.3	5.6	2.8	6.1	5.6	2.9
	22.0	30	7.9	6.2	2.2	7.6	6.1	2.4	7.2	6.0	2.6	6.9	5.8	2.9	6.6	5.7	3.0
	24.0	32	8.4	6.3	2.2	8.0	6.2	2.4	7.7	6.1	2.7	7.3	6.0	2.9	7.0	5.9	3.1

FRYP5MB+CRY5MA

Indoor air			Outdoor temperature (°CDB)														
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
36 (0.10)	16.0	23	11.1	8.3	3.2	10.6	8.1	3.5	10.0	7.8	3.8	9.4	7.6	4.2	9.0	7.3	4.4
	18.0	25	11.9	8.5	3.3	11.4	8.2	3.6	10.8	8.0	3.9	10.1	7.8	4.3	9.6	7.5	4.5
	19.5	27	12.4	8.7	3.3	12.1	8.4	3.6	11.3	8.1	4.0	10.6	7.9	4.3	10.1	7.7	4.5
	22.0	30	13.4	8.8	3.4	12.8	8.6	3.7	12.2	8.4	4.0	11.4	8.1	4.4	11.3	8.0	4.6
	24.0	32	14.3	9.0	3.4	13.7	8.8	3.7	13.1	8.5	4.1	12.2	8.3	4.5	11.7	8.1	4.8
42 (0.12)	16.0	23	11.3	8.9	3.3	10.8	8.6	3.6	10.2	8.3	3.9	9.6	8.1	4.3	9.2	7.9	4.5
	18.0	25	12.1	9.1	3.3	11.6	8.8	3.6	11.0	8.6	4.0	10.3	8.3	4.3	9.8	8.1	4.5
	19.5	27	12.7	9.3	3.4	12.4	9.0	3.7	11.5	8.7	4.0	10.8	8.5	4.4	10.3	8.3	4.6
	22.0	30	13.7	9.4	3.4	13.1	9.2	3.7	12.4	8.9	4.1	11.6	8.7	4.4	11.5	8.6	4.7
	24.0	32	14.6	9.6	3.5	14.0	9.4	3.8	13.2	9.1	4.1	12.4	8.9	4.5	11.9	8.7	4.8
55 (0.16)	16.0	23	11.6	10.0	3.3	11.1	9.7	3.6	10.5	9.4	3.9	9.9	9.2	4.3	9.5	9.0	4.5
	18.0	25	12.5	10.3	3.4	12.0	10.0	3.7	11.3	9.8	4.0	10.6	9.5	4.4	10.1	9.3	4.6
	19.5	27	13.1	10.5	3.4	12.8	10.3	3.7	11.9	10.0	4.0	11.1	9.7	4.4	10.6	9.6	4.6
	22.0	30	14.1	10.7	3.5	13.5	10.5	3.8	12.8	10.2	4.1	12.0	9.9	4.5	11.9	9.9	4.7
	24.0	32	15.0	10.9	3.5	14.4	10.7	3.8	13.6	10.4	4.2	12.8	10.1	4.6	12.3	10.0	4.9

FRYP8MB+CRY8M

Indoor air			Outdoor temperature (°CDB)														
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
54 (0.13)	16.0	23	15.8	11.9	4.8	15.2	11.7	5.2	14.5	11.3	5.7	13.7	10.9	6.3	13.3	10.7	6.6
	18.0	25	16.9	12.2	4.9	16.2	12.0	5.3	15.4	11.6	5.8	14.7	11.2	6.4	14.2	11.0	6.7
	19.5	27	17.6	12.4	4.9	16.9	12.1	5.4	16.2	11.8	5.9	15.4	11.5	6.5	14.9	11.3	6.8
	22.0	30	19.0	12.5	5.1	18.2	12.3	5.5	17.4	11.9	6.0	16.6	11.7	6.6	16.1	11.5	6.9
	24.0	32	20.2	12.7	5.1	19.3	12.4	5.6	18.5	12.1	6.1	17.5	11.8	6.7	17.0	11.7	7.0
63 (0.15)	16.0	23	16.1	12.5	4.9	15.5	12.1	5.3	14.8	11.9	5.8	14.0	11.5	6.3	13.6	11.4	6.7
	18.0	25	17.2	12.9	4.9	16.5	12.5	5.4	15.7	12.1	5.9	15.0	11.9	6.4	14.5	11.6	6.8
	19.5	27	18.0	13.1	5.0	17.2	12.6	5.4	16.5	12.3	6.0	15.7	12.0	6.5	15.2	11.8	6.9
	22.0	30	19.4	13.2	5.1	18.6	12.9	5.6	17.8	12.6	6.1	16.9	12.3	6.7	16.4	12.2	7.0
	24.0	32	20.6	13.4	5.2	19.7	13.1	5.7	18.9	12.8	6.2	17.9	12.5	6.8	17.4	12.4	7.1
82 (0.20)	16.0	23	16.6	14.2	4.9	16.0	13.9	5.3	15.2	13.6	5.8	14.4	13.2	6.4	14.0	13.0	6.7
	18.0	25	17.7	14.5	5.0	17.0	14.3	5.4	16.2	14.0	5.9	15.5	13.6	6.5	14.9	13.4	6.8
	19.5	27	18.5	14.7	5.0	17.7	14.4	5.5	17.0	14.2	6.0	16.2	13.9	6.6	15.7	13.7	6.9
	22.0	30	20.0	15.1	5.2	19.2	14.9	5.6	18.3	14.6	6.1	17.4	14.3	6.7	16.6	14.1	7.1
	24.0	32	21.2	15.3	5.2	20.3	15.0	5.7	19.5	14.8	6.3	18.4	14.4	6.8	17.9	14.2	7.2

Symbols:

AF : Air flow (m^3/min)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
SHC : Sensible heat capacity (X1000 kcal/h)
PI : Power input (Comp.+Outdoor fan motor)

Notes:

1. Figures in ☐ show nominal capacities.
2. The above capacities are gross capacities which do not include a deduction for indoor fan motor heat.
3. SHC is based on each EWB and EDB.
   Add △ SHC to SHC.
   △ SHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 × 60 × AF (m^3/min.) × (1−BF) × (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

FRYP10MB+CRY10M **[50Hz]**

Indoor air			Outdoor temperature (°CDB)													
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
72 (0.12)	16.0	23	22.2	16.6	6.5	21.4	16.1	7.1	20.5	15.7	7.8	19.4	15.2	10.1	18.8	14.9	10.5
	18.0	25	23.6	16.9	6.7	22.7	16.5	7.3	21.8	16.0	7.9	20.7	15.5	10.3	19.9	15.2	10.7
	19.5	27	24.8	17.2	6.7	23.9	16.8	7.4	22.7	16.2	8.1	21.7	15.7	10.4	20.9	15.5	10.9
	22.0	30	26.8	17.5	6.9	25.7	17.1	7.5	24.4	16.5	8.2	23.0	16.0	10.6	22.2	15.7	11.1
	24.0	32	28.4	17.7	7.1	27.2	17.3	7.7	25.8	16.8	8.3	24.2	16.2	10.8	23.3	15.9	11.2
83 (0.14)	16.0	23	22.6	17.4	6.6	21.8	17.0	7.2	20.9	16.6	7.9	19.8	16.2	10.2	19.2	15.9	10.6
	18.0	25	24.1	17.9	6.7	23.2	17.5	7.3	22.2	17.0	8.0	21.1	16.6	10.4	20.3	16.2	10.8
	19.5	27	25.3	18.2	6.8	24.4	17.8	7.4	23.2	17.3	8.1	22.1	16.8	10.5	21.3	16.3	11.0
	22.0	30	27.3	18.6	7.0	26.2	18.2	7.6	24.9	17.6	8.3	23.5	17.1	10.7	22.6	16.8	11.2
	24.0	32	29.0	18.9	7.1	27.7	18.4	7.8	26.3	17.9	8.4	24.7	17.4	10.9	23.8	17.1	11.3
110 (0.19)	16.0	23	23.5	19.7	6.7	22.7	19.3	7.3	21.7	18.8	8.0	20.6	18.3	10.4	20.0	18.1	10.9
	18.0	25	25.1	20.2	6.9	24.1	19.7	7.5	23.1	19.3	8.2	21.9	18.8	10.6	21.1	18.5	11.0
	19.5	27	26.3	20.5	7.0	25.4	20.1	7.6	24.1	19.6	8.3	23.0	19.2	10.7	22.2	18.9	11.2
	22.0	30	28.4	21.1	7.1	27.3	20.7	7.8	25.9	20.2	8.5	24.4	19.7	10.9	23.5	19.4	11.4
	24.0	32	30.2	21.5	7.3	28.8	21.0	7.9	27.4	20.6	8.6	25.7	20.2	11.1	24.8	19.7	11.6

FRY15MB+(CRY8M2)×2

Indoor air			Outdoor temperature (°CDB)													
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
108 (0.07)	16.0	23	31.1	24.3	9.6	29.8	23.7	10.5	28.4	23.0	11.6	27.0	22.4	12.8	26.1	21.7	13.6
	18.0	25	33.1	24.9	9.8	31.9	24.4	10.6	30.4	23.6	11.8	28.7	23.0	13.1	27.7	22.5	13.9
	19.5	27	34.8	25.2	9.9	33.4	24.7	10.8	31.9	24.1	12.0	30.2	23.4	13.2	28.9	23.0	14.0
	22.0	30	37.5	25.9	10.1	36.1	25.3	10.9	34.4	24.7	12.2	32.6	24.0	13.4	31.6	23.7	14.1
	24.0	32	39.9	26.6	10.3	38.3	25.7	11.3	36.6	25.2	12.5	34.6	24.4	13.7	33.4	24.0	14.5
120 (0.08)	16.0	23	31.7	25.6	9.7	30.4	25.0	10.6	29.0	24.3	11.7	27.5	23.6	12.9	26.6	23.3	13.7
	18.0	25	33.8	26.2	9.9	32.5	25.7	10.7	31.0	24.9	11.9	29.3	24.2	13.2	28.3	23.8	14.0
	19.5	27	35.5	26.7	10.0	34.1	26.1	10.9	32.5	25.4	12.1	30.8	24.8	13.3	29.5	24.3	14.1
	22.0	30	38.3	27.3	10.2	36.8	26.7	11.0	35.1	26.1	12.3	33.3	25.5	13.5	32.2	25.1	14.2
	24.0	32	40.7	27.8	10.4	39.1	27.2	11.4	37.3	26.6	12.6	35.3	26.0	13.8	34.1	25.6	14.6
165 (0.12)	16.0	23	33.0	29.8	9.9	31.6	29.1	10.8	30.2	28.5	11.9	28.6	27.9	13.2	27.7	27.3	14.0
	18.0	25	35.2	30.6	10.1	33.8	30.0	10.9	32.2	29.3	12.1	30.5	28.7	13.5	29.4	28.2	14.3
	19.5	27	36.9	31.2	10.2	35.5	30.7	11.1	33.8	30.0	12.3	32.0	29.3	13.6	30.7	28.9	14.4
	22.0	30	39.8	32.0	10.4	38.3	31.6	11.2	36.5	30.9	12.6	34.6	30.3	13.8	33.5	29.9	14.5
	24.0	32	42.3	32.7	10.6	40.7	32.1	11.6	38.8	31.6	12.9	36.7	31.0	14.1	35.5	30.6	14.9

Symbols:

AF : Air flow (m^3/min)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
SHC : Sensible heat capacity (X1000 kcal/h)
PI : Power input (Comp. + Outdoor fan motor)

Notes:

1. Figures in [ ] show nominal capacities.
2. The above capacities are gross capacities which do not include a deduction for indoor fan motor heat.
3. SHC is based on each EWB and EDB.
   Add △ SHC to SHC.
   △ SHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 × 60 × AF (m^3/min.) × (1−BF) × (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

FRY20MB+(CRY10M2)×2 **[50Hz]**

Indoor air			Outdoor temperature (°CDB)													
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
144 (0.07)	16.0	23	45.2	34.0	12.7	43.7	33.4	14.0	41.8	32.5	15.4	39.8	31.8	16.8	38.5	30.9	17.7
	18.0	25	48.4	34.8	13.0	46.5	34.0	14.3	44.5	33.4	15.6	42.2	32.3	17.1	40.9	31.5	18.2
	19.5	27	50.8	35.3	13.2	48.8	34.5	14.5	46.5	33.6	15.8	44.1	32.8	17.5	42.5	32.2	18.5
	22.0	30	55.0	36.1	13.5	52.6	35.2	14.8	50.0	34.3	16.1	47.3	33.3	17.7	45.6	32.6	18.7
	24.0	32	58.3	36.6	13.7	55.7	35.7	15.1	52.9	34.6	16.4	49.9	33.6	18.1	48.0	33.1	19.1
165 (0.09)	16.0	23	45.7	35.9	12.8	44.1	35.1	14.1	42.2	34.2	15.5	40.2	33.0	17.0	38.9	32.9	17.9
	18.0	25	48.9	36.9	13.1	47.0	35.9	14.4	44.9	35.0	15.8	42.7	34.3	17.3	41.3	33.8	18.2
	19.5	27	51.3	37.4	13.3	49.3	36.6	14.6	47.0	35.8	16.0	44.5	34.7	17.7	42.9	34.1	18.7
	22.0	30	55.5	38.3	13.6	53.1	37.4	14.9	50.5	36.4	16.3	47.8	35.4	17.9	46.1	34.8	18.9
	24.0	32	58.9	38.9	13.8	56.3	37.9	15.2	53.4	37.0	16.6	50.4	35.9	18.3	48.5	35.3	19.3
220 (0.13)	16.0	23	47.5	41.0	13.1	45.9	40.2	14.4	43.9	39.6	15.8	41.8	38.7	17.3	40.5	38.2	18.3
	18.0	25	50.9	42.1	13.4	48.9	41.2	14.7	46.7	40.5	16.1	44.4	39.6	17.7	43.0	38.9	18.6
	19.5	27	53.4	42.9	13.6	51.3	42.1	14.9	48.9	41.1	16.3	46.3	40.3	18.1	44.6	39.6	19.1
	22.0	30	57.7	44.0	13.9	55.2	43.1	15.2	52.5	42.2	16.6	49.7	41.3	18.3	47.9	40.6	19.3
	24.0	32	61.3	44.9	14.1	58.6	44.0	15.5	55.5	43.0	16.9	52.4	42.0	18.7	50.4	41.4	19.7

FRY25JB+(CRY12JA2)×2

Indoor air			Outdoor temperature (°CDB)													
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
144 (0.07)	16.0	23	48.5	35.6	13.9	46.6	34.7	14.7	44.3	33.6	15.6	42.0	32.5	16.5	40.6	31.9	17.1
	18.0	25	52.1	36.5	14.3	49.9	35.5	15.2	47.6	34.5	16.1	45.1	33.4	17.0	43.6	32.8	17.6
	19.5	27	54.8	37.1	14.7	52.5	36.1	15.6	50.1	35.1	16.5	47.5	34.0	17.5	45.9	33.4	18.1
	22.0	30	59.5	37.9	15.3	57.1	37.0	16.2	54.6	36.0	17.2	51.8	34.9	18.2	50.0	34.3	18.8
	24.0	32	63.5	38.5	15.8	60.9	37.5	16.8	58.2	36.6	17.8	55.3	35.6	18.8	53.5	34.9	19.5
180 (0.10)	16.0	23	50.3	39.1	14.2	48.3	38.2	15.0	46.0	37.2	15.9	43.6	36.1	16.8	42.1	35.5	17.4
	18.0	25	54.0	40.2	14.6	51.8	39.3	15.5	49.4	38.3	16.4	46.8	37.2	17.4	45.2	36.5	17.9
	19.5	27	56.8	40.9	14.9	54.5	40.0	15.9	52.0	39.0	16.8	49.3	37.9	17.8	47.6	37.3	18.4
	22.0	30	61.7	42.0	15.6	59.2	41.0	16.5	56.6	40.1	17.5	53.7	39.0	18.5	51.9	38.4	19.2
	24.0	32	65.9	42.7	16.1	63.2	41.8	17.1	60.4	40.8	18.1	57.4	39.8	19.2	55.5	39.2	19.8
220 (0.13)	16.0	23	51.6	42.7	14.3	49.5	41.8	15.2	47.2	40.8	16.1	44.7	39.7	17.0	43.2	39.1	17.6
	18.0	25	55.4	43.9	14.8	53.1	43.0	15.7	50.7	42.0	16.6	48.0	40.9	17.6	46.4	40.3	18.2
	19.5	27	58.3	44.8	15.1	55.9	43.9	16.1	53.3	42.9	17.0	50.6	41.8	18.0	48.8	41.2	18.6
	22.0	30	63.3	46.0	15.8	60.7	45.1	16.7	58.0	44.2	17.7	55.1	43.1	18.8	53.2	42.5	19.4
	24.0	32	67.6	47.0	16.3	64.8	46.1	17.3	61.9	45.1	18.3	58.9	44.1	19.4	56.9	43.5	20.1

FRY30JB+(CRY15JA2)×2

Indoor air			Outdoor temperature (°CDB)													
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
192 (0.06)	16.0	23	63.6	47.2	17.7	60.3	45.7	18.7	56.9	44.1	19.9	53.3	42.5	21.1	51.2	41.5	21.8
	18.0	25	67.9	48.3	18.2	64.5	46.8	19.4	60.8	45.2	20.6	57.1	43.6	21.8	54.7	42.6	22.7
	19.5	27	71.3	49.0	18.7	67.6	47.5	19.9	63.9	45.9	21.1	59.9	44.3	22.4	57.5	43.4	23.3
	22.0	30	77.1	50.0	19.5	73.2	48.5	20.7	69.1	47.0	22.1	64.8	45.4	23.5	62.2	44.4	24.4
	24.0	32	81.9	50.7	20.2	77.7	49.2	21.5	73.5	47.7	22.9	68.9	46.1	24.4	66.2	45.2	25.3
240 (0.08)	16.0	23	65.7	52.1	18.0	62.3	50.5	19.1	58.8	49.0	20.2	55.1	47.3	21.5	52.9	46.4	22.3
	18.0	25	70.2	53.4	18.6	66.6	51.8	19.7	62.8	50.3	20.9	59.0	48.7	22.2	56.5	47.7	23.1
	19.5	27	73.7	54.3	19.0	69.9	52.8	20.2	66.0	51.2	21.5	61.9	49.6	22.9	59.4	48.7	23.7
	22.0	30	79.7	55.6	19.8	75.6	54.0	21.1	71.4	52.6	22.5	67.0	51.0	23.9	64.3	50.1	24.8
	24.0	32	84.6	56.4	20.5	80.3	55.0	21.9	75.9	53.5	23.3	71.2	52.0	24.8	68.4	51.1	25.8
320 (0.12)	16.0	23	67.8	59.3	18.3	64.3	57.8	19.4	60.7	56.3	20.6	56.9	54.7	21.8	54.6	53.7	22.7
	18.0	25	72.5	61.0	18.9	68.7	59.5	20.1	64.8	58.0	21.3	60.9	56.4	22.6	58.3	55.5	23.5
	19.5	27	76.1	62.2	19.4	72.1	60.7	20.6	68.1	59.2	21.9	63.9	57.6	23.3	61.3	56.7	24.2
	22.0	30	82.3	64.0	20.2	78.0	62.5	21.5	73.7	61.0	22.9	69.2	59.5	24.4	66.4	58.6	25.3
	24.0	32	87.3	65.2	20.9	82.9	63.8	22.3	78.3	62.3	23.7	73.5	60.8	25.3	70.6	59.9	26.3

Symbols:

AF : Air flow (m^3/min)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
SHC : Sensible heat capacity (X1000 kcal/h)
PI : Power input (Comp. + Outdoor fan motor)

Notes:

1. Figures in [ ] show nominal capacities.
2. The above capacities are gross capacities which do not include a deduction for indoor fan motor heat.
3. SHC is based on each EWB and EDB.
   Add △ SHC to SHC.
   △ SHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 × 60 × AF (m^3/min.) × (1−BF) × (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

FRY40JB+(CRY20JA2)×2 **[50Hz]**

Indoor air			Outdoor temperature (°CDB)													
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
265 (0.06)	16.0	23	91.1	66.6	24.7	86.7	64.5	26.1	82.2	62.3	27.6	77.6	60.2	29.2	74.9	59.0	30.2
	18.0	25	96.7	67.7	25.5	92.3	65.8	26.9	87.6	63.7	28.5	82.9	61.7	30.1	80.1	60.5	31.2
	19.5	27	101.5	68.8	26.1	96.7	66.7	27.5	91.8	64.6	29.2	87.0	62.7	30.9	84.2	61.5	32.0
	22.0	30	109.2	69.9	27.1	104.4	68.0	28.7	99.6	66.2	30.4	94.1	64.1	32.2	91.1	63.0	33.4
	24.0	32	115.0	70.4	28.0	110.2	68.7	29.7	105.4	66.9	31.4	99.6	65.0	33.4	96.7	63.9	34.6
330 (0.09)	16.0	23	94.3	73.1	25.2	89.7	70.9	26.6	85.0	68.8	28.1	80.3	66.8	29.7	77.5	65.5	30.7
	18.0	25	100.0	74.5	25.9	95.5	72.6	27.4	90.6	70.5	29.0	85.8	68.5	30.7	82.9	67.3	31.8
	19.5	27	105.0	75.7	26.5	100.0	73.7	28.1	95.0	71.7	29.7	90.0	69.7	31.5	87.1	68.6	32.6
	22.0	30	113.0	77.2	27.6	108.0	75.4	29.2	103.0	73.6	31.0	97.4	71.6	32.8	94.3	70.5	34.0
	24.0	32	119.0	78.1	28.5	114.0	76.4	30.2	109.0	74.7	32.0	103.0	72.7	34.0	100.0	71.7	35.2
440 (0.13)	16.0	23	97.5	82.9	25.7	92.7	80.8	27.1	87.8	78.7	28.6	83.0	76.6	30.3	80.1	75.5	31.3
	18.0	25	103.3	84.8	26.4	98.7	83.0	27.9	93.6	80.9	29.5	88.7	79.0	31.3	85.7	77.8	32.4
	19.5	27	108.5	86.4	27.0	103.3	84.4	28.6	98.2	82.5	30.3	93.0	80.5	32.1	90.0	79.4	33.2
	22.0	30	116.8	88.6	28.1	111.6	86.8	29.8	106.4	85.0	31.5	100.7	83.0	33.5	97.5	81.9	34.6
	24.0	32	123.0	89.9	29.0	117.8	88.2	30.8	112.6	86.6	32.6	106.4	84.6	34.6	103.3	83.6	35.9

3

FRY50JB+(CRY25J50)×2

Indoor air			Outdoor temperature (°CDB)													
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
336 (0.01)	16.0	23	111.4	84.1	29.8	106.6	81.9	31.8	101.7	79.6	33.8	96.9	77.4	36.0	94.4	76.3	37.3
	18.0	25	119.2	86.2	30.9	114.3	84.0	33.0	108.5	81.5	35.1	103.7	79.5	37.4	100.8	78.2	38.7
	19.5	27	125.0	87.5	31.8	119.2	85.0	34.0	114.3	83.1	36.2	108.5	80.7	38.5	105.6	79.5	39.9
	22.0	30	134.7	89.1	33.4	128.9	86.9	35.7	124.0	85.1	38.0	118.2	82.9	40.4	114.3	81.6	41.9
	24.0	32	142.4	90.2	34.8	136.6	88.1	37.1	130.8	86.1	39.6	125.0	84.1	42.1	122.1	83.2	43.7
420 (0.03)	16.0	23	115.0	93.2	30.5	110.0	91.0	32.4	105.0	88.8	34.5	100.0	86.6	36.7	97.4	85.5	38.0
	18.0	25	123.0	95.7	31.6	118.0	93.6	33.7	112.0	91.2	35.8	107.0	89.1	38.1	104.0	87.9	39.5
	19.5	27	129.0	97.3	32.5	123.0	94.9	34.6	118.0	93.0	36.9	112.0	90.7	39.3	109.0	89.5	40.7
	22.0	30	139.0	99.6	34.1	133.0	97.4	36.4	128.0	95.6	38.8	122.0	93.5	41.3	118.0	92.1	42.8
	24.0	32	147.0	101.0	35.5	141.0	99.0	37.9	135.0	97.1	40.4	129.0	95.1	43.0	126.0	94.1	44.6
540 (0.06)	16.0	23	118.1	105.4	31.0	113.0	103.3	33.0	107.8	101.1	35.1	102.7	99.0	37.3	100.0	97.8	38.7
	18.0	25	126.3	108.5	32.1	121.2	106.5	34.2	115.0	104.1	36.5	109.9	102.1	38.8	106.8	100.9	40.2
	19.5	27	132.5	110.7	33.0	126.3	108.3	35.2	121.2	106.4	37.5	115.0	104.1	39.9	111.9	103.0	41.4
	22.0	30	142.8	113.6	34.7	136.6	111.5	37.0	131.5	109.8	39.5	125.3	107.7	42.0	121.2	106.4	43.5
	24.0	32	151.0	115.7	36.1	144.8	113.8	38.6	138.6	111.9	41.1	132.5	109.9	43.7	129.4	109.0	45.3

Symbols:

AF : Air flow (m^3/min)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
SHC : Sensible heat capacity (X1000 kcal/h)
PI : Power input (Comp. + Outdoor fan motor)

Notes:

1. Figures in ☐ show nominal capacities.
2. The above capacities are gross capacities which do not include a deduction for indoor fan motor heat.
3. SHC is based on each EWB and EDB.
   Add △ SHC to SHC.
   △ SHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 × 60 × AF (m^3/min.) × (1−BF) × (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

● Cooling capacity [60Hz]

FRYP3MB+CRY3MA **[60Hz]**

Indoor air			Outdoor temperature (°CDB)														
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20 (0.10)	16.0	23	6.9	5.0	2.4	6.6	4.8	2.6	6.3	4.7	2.9	6.0	4.5	3.1	5.8	4.4	3.3
	18.0	25	7.3	5.1	2.4	7.0	4.9	2.7	6.7	4.8	2.9	6.3	4.6	3.2	6.1	4.5	3.4
	19.5	27	7.7	5.1	2.5	7.3	5.0	2.7	7.0	4.9	3.0	6.6	4.7	3.2	6.4	4.6	3.4
	22.0	30	8.2	5.2	2.5	7.9	5.1	2.8	7.5	4.9	3.0	7.2	4.8	3.3	6.9	4.7	3.5
	24.0	32	8.7	5.3	2.6	8.4	5.1	2.8	8.0	5.0	3.1	7.6	4.9	3.4	7.4	4.8	3.6
25 (0.13)	16.0	23	7.2	5.5	2.4	6.9	5.3	2.6	6.6	5.2	2.9	6.2	5.0	3.2	6.0	4.9	3.4
	18.0	25	7.6	5.6	2.5	7.3	5.4	2.7	7.0	5.3	3.0	6.6	5.1	3.2	6.4	5.0	3.4
	19.5	27	8.0	5.6	2.5	7.7	5.5	2.7	7.3	5.4	3.0	6.9	5.2	3.3	6.7	5.1	3.5
	22.0	30	8.6	5.8	2.6	8.2	5.6	2.8	7.9	5.5	3.1	7.5	5.3	3.4	7.2	5.3	3.6
	24.0	32	9.1	5.8	2.6	8.7	5.7	2.9	8.3	5.6	3.1	7.9	5.4	3.4	7.6	5.3	3.6
33 (0.17)	16.0	23	7.4	6.1	2.4	7.1	6.0	2.7	6.7	5.9	2.9	6.4	5.7	3.2	6.2	5.6	3.4
	18.0	25	7.8	6.3	2.5	7.5	6.1	2.7	7.2	6.0	3.0	6.8	5.9	3.3	6.6	5.8	3.5
	19.5	27	8.2	6.4	2.5	7.9	6.3	2.8	7.5	6.1	3.0	7.1	6.0	3.3	6.9	5.9	3.5
	22.0	30	8.1	6.5	2.6	8.5	6.4	2.8	8.1	6.3	3.1	7.7	6.1	3.4	7.4	6.0	3.6
	24.0	32	9.4	6.6	2.6	9.0	6.5	2.9	8.6	6.4	3.2	8.1	6.2	3.5	7.9	6.2	3.7

FRYP5MB+CRY5MA

Indoor air			Outdoor temperature (°CDB)														
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
36 (0.10)	16.0	23	12.2	8.8	4.0	11.6	8.5	4.4	11.1	8.3	4.8	10.4	7.9	5.2	10.0	7.7	5.5
	18.0	25	13.1	9.0	4.1	12.5	8.8	4.4	11.8	8.5	4.8	11.2	8.2	5.3	10.5	8.0	5.6
	19.5	27	13.7	9.2	4.1	13.1	8.9	4.5	12.4	8.6	4.9	11.6	8.4	5.4	11.2	8.2	5.7
	22.0	30	14.8	9.4	4.2	14.2	9.1	4.6	13.5	8.8	5.0	12.6	8.5	5.5	12.1	8.3	5.8
	24.0	32	15.7	9.5	4.3	15.1	9.2	4.7	14.3	8.9	5.1	13.5	8.7	5.6	13.0	8.5	5.9
42 (0.12)	16.0	23	12.6	9.4	4.0	12.0	9.1	4.4	11.4	8.8	4.8	10.7	8.5	5.3	10.3	8.3	5.5
	18.0	25	13.5	9.6	4.1	12.9	9.4	4.5	12.2	9.1	4.9	11.5	8.8	5.4	10.8	8.6	5.6
	19.5	27	14.1	9.8	4.2	13.5	9.6	4.5	12.8	9.3	5.0	12.0	9.0	5.4	11.5	8.8	5.7
	22.0	30	15.3	10.0	4.3	14.6	9.8	4.6	13.9	9.5	5.1	13.0	9.2	5.6	12.5	9.0	5.9
	24.0	32	16.2	10.2	4.3	15.5	10.0	4.7	14.7	9.6	5.2	13.9	9.4	5.7	13.4	9.2	6.0
55 (0.16)	16.0	23	13.1	10.5	4.1	12.5	10.3	4.4	11.9	10.0	4.8	11.1	9.7	5.3	10.7	9.4	5.6
	18.0	25	14.0	10.8	4.1	13.4	10.6	4.5	12.7	10.3	4.9	12.0	10.0	5.4	11.2	9.8	5.7
	19.5	27	14.7	11.0	4.2	14.0	10.8	4.6	13.3	10.5	5.0	12.5	10.2	5.5	12.0	10.0	5.8
	22.0	30	15.9	11.4	4.3	15.2	11.1	4.7	14.5	10.8	5.1	13.5	10.4	5.6	13.0	10.3	5.9
	24.0	32	16.9	11.5	4.4	16.1	11.2	4.8	15.3	11.0	5.2	14.5	10.7	5.7	13.9	10.5	6.0

FRYP8MB+CRY8M

Indoor air			Outdoor temperature (°CDB)														
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
54 (0.13)	16.0	23	17.6	12.9	6.0	16.9	12.5	6.6	16.3	12.1	7.2	15.5	11.7	7.9	15.0	11.5	8.3
	18.0	25	18.8	13.1	6.1	18.1	12.8	6.7	17.4	12.4	7.3	16.4	12.0	8.0	15.9	11.8	8.4
	19.5	27	19.7	13.3	6.2	19.0	13.0	6.8	18.1	12.6	7.4	17.3	12.3	8.1	16.7	12.0	8.6
	22.0	30	21.3	13.5	6.4	20.5	13.2	7.0	19.8	12.8	7.6	18.6	12.4	8.3	18.0	12.2	8.8
	24.0	32	22.5	13.6	6.5	21.8	13.4	7.1	20.8	13.0	7.7	19.8	12.7	8.5	19.1	12.4	9.0
63 (0.15)	16.0	23	18.0	13.4	6.1	17.2	13.0	6.6	16.6	12.7	7.3	15.8	12.3	8.0	15.3	12.0	8.4
	18.0	25	19.2	13.7	6.2	18.5	13.3	6.8	17.7	12.9	7.4	16.7	12.6	8.1	16.2	12.3	8.5
	19.5	27	20.1	13.8	6.3	19.4	13.5	6.9	18.5	13.2	7.5	17.6	12.8	8.2	17.0	12.5	8.6
	22.0	30	21.7	14.1	6.4	20.9	13.8	7.0	20.0	13.5	7.7	19.0	13.1	8.4	18.4	12.9	8.9
	24.0	32	23.0	14.2	6.6	22.2	13.9	7.2	21.2	13.6	7.9	20.2	13.2	8.6	19.5	13.1	9.0
82 (0.20)	16.0	23	18.7	15.1	6.2	17.9	14.8	6.8	17.3	14.5	7.4	16.4	14.1	8.1	15.9	13.7	8.6
	18.0	25	20.0	15.6	6.3	19.2	15.2	6.9	18.4	14.8	7.5	17.4	14.4	8.3	16.9	14.2	8.7
	19.5	27	20.9	15.8	6.4	20.2	15.5	7.0	19.2	15.1	7.7	18.3	14.8	8.4	17.7	14.5	8.8
	22.0	30	22.6	16.2	6.6	21.7	15.8	7.2	20.8	15.5	7.8	19.8	15.2	8.6	19.1	14.9	9.0
	24.0	32	23.9	16.4	6.7	23.1	16.1	7.3	22.1	15.7	8.0	21.0	15.4	8.8	20.3	15.2	9.2

Symbols:

AF : Air flow (m^3/min)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
SHC : Sensible heat capacity (X1000 kcal/h)
PI : Power input (Comp. + Outdoor fan motor)

Notes:

1. Figures in [ ] show nominal capacities.
2. The above capacities are gross capacities which do not include a deduction for indoor fan motor heat.
3. SHC is based on each EWB and EDB.
   Add △ SHC to SHC.
   △ SHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 × 60 × AF (m^3/min.) × (1−BF) × (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

FRYP10MB+CRY10M **[60Hz]**

Indoor air			Outdoor temperature (°CDB)													
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
72 (0.12)	16.0	23	24.6	17.6	8.2	23.7	17.2	8.9	22.6	16.7	9.7	21.6	16.1	12.2	20.8	15.8	12.8
	18.0	25	26.2	18.0	8.3	25.2	17.5	9.1	24.1	17.0	9.9	23.0	16.6	12.5	22.3	16.2	13.1
	19.5	27	27.4	18.3	8.5	26.5	17.8	9.2	25.3	17.3	10.1	24.0	16.7	12.7	23.2	16.4	13.3
	22.0	30	29.6	18.6	8.7	28.5	18.2	9.5	27.2	17.7	10.4	26.0	17.1	13.0	25.1	16.8	13.5
	24.0	32	31.4	18.8	8.9	30.2	18.3	9.7	28.9	17.9	10.6	27.5	17.4	13.2	26.7	17.1	13.7
83 (0.14)	16.0	23	25.1	18.6	8.3	24.2	18.2	9.0	23.1	17.7	9.8	22.0	17.1	12.4	21.2	16.7	12.9
	18.0	25	26.7	19.0	8.4	25.7	18.5	9.2	24.6	18.0	10.0	23.5	17.5	12.6	22.7	17.2	13.2
	19.5	27	28.0	19.3	8.6	27.0	18.8	9.3	25.8	18.4	10.2	24.5	17.8	12.8	23.7	17.5	13.4
	22.0	30	30.2	19.7	8.8	29.1	19.3	9.6	27.8	18.8	10.5	26.5	18.3	13.1	25.6	18.0	13.7
	24.0	32	32.0	19.9	9.0	30.8	19.5	9.8	29.5	19.0	10.7	28.1	18.5	13.3	27.2	18.2	13.9
110 (0.19)	16.0	23	26.4	20.9	8.4	25.4	20.5	9.2	24.3	20.0	10.0	23.1	19.4	12.6	22.3	18.9	13.2
	18.0	25	28.0	21.3	8.6	27.0	21.0	9.3	25.8	20.4	10.2	24.7	20.0	12.9	23.8	19.6	13.5
	19.5	27	29.4	21.7	8.7	28.4	21.3	9.5	27.1	20.8	10.4	25.7	20.3	13.1	24.9	20.0	13.7
	22.0	30	31.7	22.3	9.0	30.6	21.8	9.8	29.2	21.3	10.7	27.8	20.8	13.3	26.9	20.5	13.9
	24.0	32	33.6	22.6	9.2	32.3	22.2	10.0	31.0	21.7	10.9	29.5	21.2	13.6	28.6	20.9	14.2

FRY15MB+(CRY8M2)X2

Indoor air			Outdoor temperature (°CDB)													
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
108 (0.06)	16.0	23	34.5	26.0	12.0	33.2	25.3	13.1	31.6	24.5	14.5	30.1	23.9	15.9	29.1	23.4	16.7
	18.0	25	36.8	26.5	12.2	35.3	25.8	13.4	33.8	25.2	14.8	32.0	24.1	16.2	31.0	24.0	17.0
	19.5	27	38.6	26.9	12.4	37.1	26.2	13.6	35.4	25.6	15.0	34.3	25.0	16.5	32.5	24.4	17.5
	22.0	30	41.6	27.4	12.7	40.1	26.8	14.0	38.2	26.1	15.4	36.4	25.4	16.9	35.2	25.0	17.8
	24.0	32	44.2	27.8	13.0	42.5	27.2	14.3	40.6	26.6	15.7	38.7	25.9	17.3	37.5	25.4	18.3
120 (0.08)	16.0	23	35.6	27.4	12.1	34.2	26.6	13.2	32.6	25.9	14.6	31.0	25.2	16.1	30.0	24.7	16.9
	18.0	25	37.9	28.0	12.3	36.4	27.3	13.5	34.8	26.6	14.9	33.0	25.8	16.4	32.0	25.3	17.2
	19.5	27	39.8	28.4	12.5	38.2	27.8	13.7	36.5	27.0	15.1	34.6	26.3	16.7	33.5	25.8	17.7
	22.0	30	42.9	29.0	12.8	41.3	28.4	14.1	39.4	27.7	15.5	37.5	27.0	17.1	36.3	26.6	18.0
	24.0	32	45.6	29.4	13.1	43.8	28.8	14.4	41.9	28.1	15.9	39.9	27.5	17.5	38.7	27.1	18.5
165 (0.12)	16.0	23	37.0	31.7	12.3	35.6	30.9	13.5	33.9	30.1	14.9	32.2	29.4	16.4	31.2	29.0	17.2
	18.0	25	39.4	32.4	12.6	37.9	31.8	13.8	36.2	31.1	15.2	34.3	30.3	16.7	33.3	29.9	17.5
	19.5	27	41.4	33.0	12.8	39.7	32.3	14.0	38.0	31.7	15.4	36.0	31.0	17.0	34.8	30.5	18.1
	22.0	30	44.6	33.8	13.1	43.0	33.2	14.4	41.0	32.7	15.8	39.0	31.9	17.4	37.8	31.5	18.4
	24.0	32	47.4	34.5	13.4	45.6	33.9	14.7	43.6	33.3	16.2	41.5	32.6	17.9	40.3	32.2	18.9

Symbols:

AF : Air flow (m^3/min)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
SHC : Sensible heat capacity (X1000 kcal/h)
PI : Power input (Comp. + Outdoor fan motor)

Notes:

1. Figures in [ ] show nominal capacities.
2. The above capacities are gross capacities which do not include a deduction for indoor fan motor heat.
3. SHC is based on each EWB and EDB.
   Add △ SHC to SHC.
   △ SHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 × 60 × AF (m^3/min.) × (1−BF) × (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

FRY20MB+(CRY10M2)×2 **[60Hz]**

Indoor air			Outdoor temperature (°CDB)														
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
144 (0.07)	16.0	23	49.6	36.1	15.8	47.7	35.2	17.5	45.7	34.3	19.3	43.5	33.2	21.4	42.1	32.7	22.7
	18.0	25	52.8	36.8	16.3	50.9	35.9	17.9	48.6	34.9	19.7	46.3	33.9	21.7	44.8	33.3	22.9
	19.5	27	55.4	37.3	16.6	53.3	36.4	18.2	51.0	35.4	20.0	48.5	34.4	22.0	46.9	33.7	23.2
	22.0	30	59.7	38.0	17.0	57.4	37.1	18.7	55.0	36.2	20.5	52.4	35.1	22.5	50.9	34.5	23.7
	24.0	32	63.3	38.4	17.4	61.0	37.6	19.1	58.4	36.6	20.8	55.8	35.8	22.8	54.0	35.2	24.0
165 (0.09)	16.0	23	50.6	38.1	16.0	48.7	37.3	17.7	46.6	36.3	19.5	44.4	35.3	21.6	43.0	34.8	22.9
	18.0	25	53.9	39.0	16.5	51.9	38.1	18.1	49.6	37.1	19.9	47.2	36.1	21.9	45.7	35.5	23.1
	19.5	27	56.5	39.5	16.8	54.4	38.7	18.4	52.0	37.7	20.2	49.5	36.6	22.2	47.9	36.2	23.4
	22.0	30	60.9	40.3	17.2	58.6	39.4	18.9	56.1	38.5	20.7	53.5	37.6	22.7	51.9	37.0	23.9
	24.0	32	64.6	40.9	17.6	62.2	40.0	19.3	59.6	39.1	21.0	56.9	38.2	23.0	55.1	37.6	24.2
220 (0.13)	16.0	23	52.6	43.2	16.3	50.7	42.3	18.1	48.5	41.4	19.9	46.2	40.4	22.0	44.7	39.9	23.4
	18.0	25	56.1	44.3	16.8	54.0	43.4	18.5	51.6	42.3	20.3	49.1	41.4	22.3	47.5	40.8	23.6
	19.5	27	58.8	45.0	17.1	56.6	44.2	18.8	54.1	43.2	20.6	51.5	42.1	22.6	49.8	41.5	23.9
	22.0	30	63.3	46.1	17.5	61.0	45.2	19.3	58.3	44.2	21.1	55.6	43.4	23.2	54.0	42.8	24.4
	24.0	32	67.2	46.9	18.0	64.7	46.0	19.7	62.0	45.1	21.4	59.2	44.2	23.5	57.3	43.6	24.7

FRY25JB+(CRY12JA2)×2

Indoor air			Outdoor temperature (°CDB)														
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
144 (0.07)	16.0	23	54.2	38.4	18.2	52.0	37.3	19.2	49.7	36.2	20.2	47.3	35.0	21.2	45.8	34.3	21.8
	18.0	25	57.8	39.1	18.8	55.6	38.1	19.8	53.1	37.0	20.9	50.6	35.8	22.0	49.0	35.1	22.7
	19.5	27	60.7	39.7	19.3	58.2	38.6	20.3	55.7	37.5	21.4	53.2	36.4	22.6	51.5	35.7	23.3
	22.0	30	65.6	40.4	20.0	63.0	39.3	21.2	60.4	38.3	22.4	57.6	37.2	23.6	55.8	36.5	24.4
	24.0	32	69.6	40.8	20.7	67.0	39.8	21.9	64.2	38.8	23.1	61.2	37.7	24.4	59.4	37.0	25.2
180 (0.10)	16.0	23	56.4	42.0	18.6	54.1	40.9	19.6	51.7	39.8	20.6	49.2	38.6	21.7	47.6	37.9	22.3
	18.0	25	60.1	42.9	19.2	57.8	41.9	20.3	55.2	40.7	21.3	52.6	39.6	22.5	51.0	38.9	23.2
	19.5	27	63.1	43.5	19.7	60.6	42.5	20.8	58.0	41.4	21.9	55.3	40.3	23.1	53.6	39.6	23.8
	22.0	30	68.2	44.4	20.5	65.5	43.4	21.6	62.8	42.4	22.9	59.9	41.3	24.1	58.1	40.6	24.9
	24.0	32	72.4	45.0	21.2	69.7	44.0	22.4	66.8	43.0	23.6	63.7	42.0	25.0	61.8	41.3	25.8
220 (0.13)	16.0	23	58.0	45.6	18.9	55.6	44.5	19.9	53.1	43.4	20.9	50.6	42.2	22.0	48.9	41.5	22.7
	18.0	25	61.8	46.6	19.5	59.4	45.6	20.6	56.7	44.5	21.7	54.1	43.4	22.8	52.4	42.7	23.5
	19.5	27	64.8	47.4	20.0	62.3	46.4	21.1	59.6	45.3	22.2	56.8	44.2	23.4	55.1	43.5	24.2
	22.0	30	70.1	48.5	20.8	67.3	47.5	22.0	64.5	46.5	23.2	61.6	45.4	24.5	59.7	44.7	25.3
	24.0	32	74.4	49.3	21.5	71.6	48.3	22.7	68.6	47.3	24.0	65.5	46.3	25.4	63.5	45.6	26.2

FRY30JB+(CRY15JA2)×2

Indoor air			Outdoor temperature (°CDB)														
AF (BF)	EWB	EDB	25			30			35			40			43		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
192 (0.05)	16.0	23	69.0	49.9	22.9	66.1	48.5	24.3	63.0	47.0	25.7	59.7	45.4	27.2	57.7	44.5	28.1
	18.0	25	73.9	51.0	23.5	70.8	49.6	25.0	67.6	48.2	26.5	64.1	46.6	28.0	61.9	45.7	28.9
	19.5	27	77.6	51.8	24.0	74.5	50.4	25.5	71.0	48.9	27.1	67.4	47.4	28.7	65.2	46.5	29.6
	22.0	30	84.2	52.8	24.9	80.6	51.4	26.5	77.0	50.0	28.1	73.0	48.5	29.8	70.6	47.6	30.8
	24.0	32	89.4	53.5	25.6	85.8	52.1	27.3	81.9	50.7	28.9	77.6	49.2	30.6	75.0	48.3	31.7
240 (0.08)	16.0	23	71.9	54.9	23.3	68.9	53.5	24.7	65.6	52.0	26.2	62.2	50.5	27.7	60.1	49.5	28.6
	18.0	25	77.0	56.3	24.0	73.8	54.9	25.5	70.4	53.4	27.0	66.8	51.9	28.5	64.5	51.0	29.5
	19.5	27	80.9	57.2	24.5	77.6	55.8	26.0	74.0	54.4	27.6	70.2	52.9	29.2	67.9	51.9	30.2
	22.0	30	87.7	58.5	25.4	84.0	57.2	27.0	80.2	55.7	28.6	76.1	54.2	30.3	73.6	53.3	31.4
	24.0	32	93.2	59.4	26.1	89.4	58.1	27.8	85.3	56.7	29.5	80.9	55.2	31.2	78.2	54.3	32.3
320 (0.12)	16.0	23	74.8	62.4	23.8	71.7	61.1	25.2	68.3	59.6	26.7	64.7	58.1	28.2	62.6	57.1	29.1
	18.0	25	80.1	64.2	24.4	76.8	62.8	25.9	73.3	61.4	27.5	69.5	59.9	29.1	67.1	59.0	30.1
	19.5	27	84.2	65.4	25.0	80.8	64.0	26.5	77.0	62.6	28.1	73.1	61.1	29.8	70.7	60.2	30.8
	22.0	30	91.3	67.2	25.9	87.4	65.8	27.5	83.5	64.4	29.2	79.2	63.0	30.9	76.6	62.0	32.0
	24.0	32	97.0	68.4	26.6	93.1	67.1	28.3	88.8	65.7	30.0	84.2	64.2	31.8	81.4	63.3	32.9

Symbols:

AF : Air flow (m^3/min)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
SHC : Sensible heat capacity (X1000 kcal/h)
PI : Power input (Comp. + Outdoor fan motor)

Notes:

1. Figures in [ ] show nominal capacities.
2. The above capacities are gross capacities which do not include a deduction for indoor fan motor heat.
3. SHC is based on each EWB and EDB.
   Add △ SHC to SHC.
   △ SHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 × 60 × AF (m^3/min.) × (1−BF) × (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

FRY40JB+(CRY20JA2)×2 **[60Hz]**

Indoor air			Outdoor temperature (°CDB)															
AF (BF)	EWB	EDB	25			30			35			40			43			
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
265 (0.06)	16.0	23	99.1	70.5	31.3	94.8	68.4	32.8	90.5	66.3	34.6	85.8	64.0	36.5	82.8	62.6	37.8	
	18.0	25	104.9	71.5	32.3	101.1	69.7	34.0	96.3	67.5	35.9	91.5	65.5	38.0	88.4	64.0	39.3	
	19.5	27	110.7	72.8	33.1	105.9	70.6	34.9	101.1	68.6	36.9	96.0	66.4	39.1	92.7	65.0	40.5	
	22.0	30	119.4	73.9	34.7	114.5	72.0	36.6	108.8	69.7	38.7	104.0	67.8	41.0	100.1	66.3	42.5	
	24.0	32	126.1	74.5	36.0	121.3	72.7	38.0	115.5	70.6	40.2	109.7	68.5	42.7	106.8	67.5	44.3	
330 (0.09)		23	103.0	77.1	32.0	98.5	75.0	33.6	94.0	72.9	35.4	89.1	70.7	37.4	86.0	69.3	38.7	
		25	109.0	78.4	33.1	105.0	76.7	34.8	100.0	74.5	36.8	95.1	72.4	38.9	91.8	71.0	40.3	
		27	115.0	79.9	34.0	110.0	77.8	35.8	105.0	75.7	37.8	99.7	73.6	40.0	96.3	72.2	41.5	
		30	124.0	81.4	35.5	119.0	79.5	37.5	113.0	77.2	39.6	108.0	75.4	42.0	104.0	74.0	43.6	
		32	131.0	82.3	36.8	126.0	80.5	38.9	120.0	78.4	41.2	114.0	76.4	43.7	111.0	75.4	45.3	
440 (0.13)	16.0	23	106.9	87.0	32.8	102.2	84.9	34.5	97.6	82.9	36.3	92.5	80.7	38.4	89.3	79.3	39.7	
	18.0	25	113.1	88.8	33.9	109.0	87.1	35.7	103.8	84.9	37.7	98.7	82.9	39.8	95.3	81.6	41.3	
	19.5	27	119.4	90.6	34.8	114.2	88.6	36.7	109.0	86.6	38.7	103.5	84.4	41.0	100.0	83.1	42.5	
	22.0	30	128.7	92.8	36.4	123.5	90.9	38.4	117.3	88.7	40.6	112.1	86.9	43.1	108.0	85.4	44.6	
	24.0	32	136.0	94.1	37.7	130.8	92.4	39.9	124.6	90.4	42.2	118.3	88.3	44.8	115.2	87.4	46.4	

FRY50JB+(CRY25J50)×2

Indoor air			Outdoor temperature (°CDB)															
AF (BF)	EWB	EDB	25			30			35			40			43			
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
336 (0.01)	16.0	23	123.5	89.9	37.9	119.6	88.0	39.9	114.8	85.7	42.1	110.0	83.4	44.4	107.1	82.1	45.8	
	18.0	25	132.2	91.9	39.2	127.4	89.8	41.4	122.5	87.6	43.7	116.7	85.1	46.1	113.9	83.8	47.6	
	19.5	27	138.0	92.9	40.3	133.1	90.8	42.6	128.3	88.8	44.9	122.5	86.4	47.4	119.6	85.2	48.9	
	22.0	30	149.6	94.9	42.2	144.7	93.0	44.6	138.9	90.8	47.1	133.1	88.5	49.7	129.3	87.1	51.3	
	24.0	32	159.2	96.2	43.8	153.4	94.1	46.3	147.6	92.0	48.9	141.8	89.9	51.6	138.0	88.5	53.3	
420 (0.03)	16.0	23	128.0	99.1	38.7	124.0	97.3	40.8	119.0	95.1	43.0	114.0	92.8	45.4	111.0	91.5	46.8	
	18.0	25	137.0	101.7	40.1	132.0	99.5	42.3	127.0	97.4	44.6	121.0	94.9	47.1	118.0	93.6	48.6	
	19.5	27	143.0	102.9	41.2	138.0	100.9	43.5	133.0	98.9	45.9	127.0	96.5	48.4	124.0	95.3	50.0	
	22.0	30	155.0	105.5	43.1	150.0	103.6	45.5	144.0	101.4	48.1	138.0	99.2	50.8	134.0	97.8	52.4	
	24.0	32	165.0	107.1	44.8	159.0	105.1	47.3	153.0	103.1	49.9	147.0	101.0	52.7	143.0	99.7	54.4	
540 (0.05)	16.0	23	132.0	111.4	39.4	127.8	109.7	41.6	122.7	107.4	43.8	117.5	105.2	46.2	114.4	103.9	47.7	
	18.0	25	141.2	114.7	40.8	136.1	112.5	43.1	130.9	110.5	45.5	124.7	107.9	48.0	121.6	106.7	49.5	
	19.5	27	147.4	116.4	42.0	142.3	114.4	44.3	137.1	112.4	46.8	130.9	110.1	49.3	127.8	108.9	50.9	
	22.0	30	159.8	119.7	43.9	154.6	117.8	46.4	148.5	115.6	49.0	142.3	113.5	51.7	138.1	112.1	53.4	
	24.0	32	170.1	121.9	45.6	163.9	120.0	48.2	157.7	117.9	50.9	151.5	116.0	53.7	147.4	114.7	55.4	

Symbols:

AF : Air flow (m^3/min)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
SHC : Sensible heat capacity (X1000 kcal/h)
PI : Power input (Comp. + Outdoor fan motor)

Notes:

1. Figures in [ ] show nominal capacities.
2. The above capacities are gross capacities which do not include a deduction for indoor fan motor heat.
3. SHC is based on each EWB and EDB.
   Add △ SHC to SHC.
   △ SHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 × 60 × AF (m^3/min.) × (1−BF) × (DB−EDB)
4. Direct interpolation is permissible. Do not extrapolate.

3

● Heating capacity [50Hz]

FRYP3MB+CRY3MA **[50Hz]**

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
20	16.0	4.3	2.0	5.6	2.2	6.7	2.3	7.5	2.4	—	—
	18.0	4.3	2.1	5.6	2.2	6.7	2.4	7.4	2.5	—	—
	20.0	4.2	2.2	5.5	2.3	6.6	2.5	7.3	2.6	8.3	2.7
	21.0	4.2	2.2	5.5	2.3	6.6	2.5	7.3	2.6	8.3	2.8
	22.0	4.2	2.2	5.5	2.3	6.6	2.5	7.3	2.7	8.3	2.8
	24.0	4.1	2.3	5.4	2.4	6.5	2.6	7.2	2.7	8.2	2.9
25	16.0	4.4	1.9	5.7	2.0	6.8	2.2	7.6	2.3	—	—
	18.0	4.4	2.0	5.7	2.1	6.8	2.3	7.5	2.4	—	—
	20.0	4.3	2.0	5.7	2.2	6.7	2.3	7.5	2.4	8.5	2.6
	21.0	4.3	2.1	5.6	2.2	6.7	2.4	7.4	2.5	8.5	2.6
	22.0	4.3	2.1	5.6	2.2	6.7	2.4	7.4	2.5	8.4	2.7
	24.0	4.2	2.1	5.6	2.3	6.6	2.5	7.3	2.6	8.3	2.8
33	16.0	4.4	1.8	5.8	1.9	6.9	2.1	7.7	2.2	—	—
	18.0	4.4	1.9	5.7	2.0	6.9	2.1	7.6	2.2	—	—
	20.0	4.4	1.9	5.7	2.1	6.8	2.2	7.5	2.3	8.6	2.5
	21.0	4.3	1.9	5.7	2.1	6.8	2.2	7.5	2.3	8.6	2.5
	22.0	4.3	2.0	5.7	2.1	6.7	2.3	7.5	2.4	8.5	2.5
	24.0	4.3	2.0	5.6	2.2	6.7	2.3	7.4	2.5	8.4	2.6

FRYP5MB+CRY5MA

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
36	16.0	9.6	3.6	10.7	3.6	12.0	3.6	13.0	3.7	—	—
	18.0	9.5	3.7	10.6	3.7	11.9	3.7	12.9	3.8	—	—
	20.0	9.4	3.8	10.5	3.8	11.8	3.8	12.8	3.9	14.2	4.1
	21.0	9.4	3.8	10.4	3.9	11.7	3.9	12.7	4.0	14.1	4.1
	22.0	9.3	3.9	10.3	3.9	11.6	4.0	12.6	4.0	14.0	4.2
	24.0	9.2	4.0	10.2	4.1	11.5	4.1	12.5	4.2	13.9	4.3
42	16.0	9.7	3.5	10.8	3.5	12.1	3.5	13.1	3.6	—	—
	18.0	9.6	3.6	10.7	3.6	12.0	3.6	13.0	3.7	—	—
	20.0	9.5	3.7	10.6	3.7	11.9	3.7	12.9	3.8	14.3	3.9
	21.0	9.5	3.7	10.5	3.8	11.8	3.8	12.8	3.9	14.2	4.0
	22.0	9.4	3.8	10.4	3.8	11.7	3.9	12.7	3.9	14.1	4.1
	24.0	9.3	3.9	10.3	4.0	11.6	4.0	12.6	4.1	14.0	4.2
55	16.0	9.8	3.3	10.9	3.3	12.2	3.3	13.2	3.4	—	—
	18.0	9.7	3.4	10.8	3.4	12.1	3.4	13.1	3.4	—	—
	20.0	9.6	3.5	10.7	3.5	12.0	3.5	13.0	3.5	14.4	3.7
	21.0	9.6	3.5	10.6	3.6	11.9	3.6	12.9	3.6	14.3	3.8
	22.0	9.5	3.6	10.5	3.6	11.8	3.7	12.8	3.7	14.2	3.9
	24.0	9.4	3.7	10.4	3.8	11.7	3.8	12.7	3.9	14.1	4.0

FRYP8MB+CRY8M

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
54	16.0	13.5	5.6	15.0	5.8	17.1	5.6	18.9	6.2	—	—
	18.0	13.4	5.7	14.9	5.9	17.0	6.2	18.7	6.3	—	—
	20.0	13.4	5.9	14.8	6.1	16.9	6.4	18.6	6.6	21.1	6.8
	21.0	13.3	6.0	14.7	6.2	16.8	6.5	18.5	6.7	21.0	6.9
	22.0	13.3	6.1	14.7	6.3	16.7	6.6	18.4	6.8	20.9	7.0
	24.0	13.3	6.3	14.6	6.5	16.6	6.8	18.3	7.0	20.6	7.3
63	16.0	13.6	5.3	15.1	5.5	17.3	5.7	19.1	5.9	—	—
	18.0	13.5	5.5	15.0	5.7	17.2	5.9	18.9	6.0	—	—
	20.0	13.5	5.6	14.9	5.8	17.1	6.1	18.8	6.2	21.3	6.5
	21.0	13.4	5.7	14.8	5.9	17.0	6.2	18.7	6.3	21.2	6.6
	22.0	13.4	5.8	14.8	6.0	16.9	6.3	18.6	6.5	21.1	6.7
	24.0	13.4	6.0	14.7	6.2	16.8	6.5	18.5	6.7	21.0	6.9
82	16.0	13.9	4.9	15.4	5.1	17.7	5.3	19.5	5.5	—	—
	18.0	13.8	5.1	15.3	5.3	17.5	5.5	19.3	5.6	—	—
	20.0	13.8	5.2	15.2	5.4	17.4	5.7	19.2	5.8	21.7	6.0
	21.0	13.7	5.3	15.1	5.5	17.2	5.7	19.1	5.9	21.6	6.1
	22.0	13.7	5.4	15.1	5.6	17.1	5.8	19.0	6.0	21.5	6.2
	24.0	13.7	5.5	15.0	5.8	17.0	6.0	18.9	6.2	21.2	6.4

Symbols:

AF : Air flow (m^3/min)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
PI : Power input (Comp.+Indoor fan motor+Outdoor fan motor)

Notes:

1. Figures in ▨ show nominal capacities.
2. The above capacities are net capacities which include an addition for indoor fan motor heat.
3. Capacities are based on the following conditions.
   Equivalent ref. piping length ..... 5 m
   Level difference ..... 0 m
   Refrigerant piping ..... Standard size
   Outdoor air: 85% RH. However, when outdoor temperature is 7°CDB, wet bulb temperature is 6°CWB.

FRYP10MB+CRY10M **[50Hz]**

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
72	16.0	20.5	7.4	21.8	7.5	24.0	7.8	25.6	7.9	—	—
	18.0	20.4	7.6	21.6	7.8	23.7	8.0	25.3	8.1	—	—
	20.0	20.2	7.8	21.4	8.0	23.5	8.2	25.2	8.4	27.8	8.6
	21.0	20.1	7.9	21.4	8.1	23.4	8.4	25.1	8.5	27.7	8.7
	22.0	20.1	8.1	21.3	8.3	23.3	8.5	25.0	8.7	27.6	8.9
	24.0	20.1	8.3	21.3	8.5	23.3	8.8	24.9	8.9	27.5	9.2
83	16.0	20.7	7.1	22.0	7.3	24.2	7.5	25.9	7.7	—	—
	18.0	20.6	7.4	21.8	7.5	23.9	7.8	25.6	7.9	—	—
	20.0	20.4	7.6	21.6	7.8	23.7	8.0	25.4	8.2	28.1	8.3
	21.0	20.3	7.7	21.6	7.9	23.6	8.1	25.3	8.3	28.0	8.5
	22.0	20.3	7.8	21.5	8.0	23.5	8.3	25.2	8.4	27.9	8.6
	24.0	20.3	8.0	21.5	8.3	23.5	8.5	25.1	8.7	27.8	8.9
110	16.0	21.1	6.7	22.4	6.9	24.7	7.1	26.4	7.2	—	—
	18.0	21.0	6.9	22.2	7.1	24.4	7.3	26.1	7.4	—	—
	20.0	20.8	7.1	22.0	7.3	24.2	7.5	25.9	7.7	28.7	7.8
	21.0	20.7	7.2	22.0	7.4	24.1	7.6	25.8	7.8	28.6	8.0
	22.0	20.7	7.4	21.9	7.5	24.0	7.8	25.7	7.9	28.5	8.1
	24.0	20.7	7.6	21.9	7.8	24.0	8.0	25.6	8.1	28.4	8.4

FRY15MB+(CRY8M2)×2

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
108	16.0	26.7	10.9	29.5	11.2	33.8	11.6	37.1	11.9	—	—
	18.0	26.6	11.2	29.3	11.5	33.5	12.0	36.8	12.3	—	—
	20.0	26.4	11.6	29.1	11.9	33.3	12.4	36.5	12.7	41.6	13.1
	21.0	26.3	11.8	29.0	12.1	33.2	12.6	36.4	12.9	41.4	13.3
	22.0	26.3	12.0	28.9	12.3	33.1	12.8	36.2	13.1	41.2	13.6
	24.0	26.2	12.4	28.7	12.8	32.9	13.3	36.0	13.6	40.8	14.1
120	16.0	26.7	10.8	29.8	11.1	34.1	11.5	37.5	11.8	—	—
	18.0	26.9	11.1	29.6	11.4	33.8	11.9	37.2	12.2	—	—
	20.0	26.7	11.5	29.4	11.8	33.6	12.3	36.9	12.6	42.0	13.0
	21.0	26.6	11.7	29.3	12.0	33.5	12.5	36.8	12.8	41.8	13.2
	22.0	26.6	11.9	29.2	12.2	33.4	12.7	36.6	13.0	41.6	13.5
	24.0	26.5	12.3	29.0	12.7	33.2	13.2	36.4	13.5	41.2	14.0
165	16.0	27.8	10.4	30.7	10.7	35.1	11.0	38.6	11.3	—	—
	18.0	27.7	10.7	30.5	10.9	34.8	11.4	38.3	11.7	—	—
	20.0	27.5	11.0	30.3	11.3	34.6	11.8	38.0	12.1	43.3	12.5
	21.0	27.4	11.2	30.2	11.5	34.5	12.0	37.9	12.3	43.1	12.7
	22.0	27.4	11.4	30.1	11.7	34.4	12.2	37.7	12.5	42.9	13.0
	24.0	27.3	11.8	29.9	12.2	34.2	12.7	37.5	13.0	42.4	13.4

Symbols:

AF : Air flow (m^3/min)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
PI : Power input (Comp.+Indoor fan motor+Outdoor fan motor)

Notes:

1. Figures in [ ] show nominal capacities.
2. The above capacities are net capacities which include an addition for indoor fan motor heat.
3. Capacities are based on the following conditions.
   Equivalent ref. piping length ..... 5 m
   Level difference ..... 0 m
   Refrigerant piping ..... Standard size
   Outdoor air: 85% RH. However, when outdoor temperature is 7°CDB, wet bulb temperature is 6°CWB.

FRY20MB+(CRY10M2)×2 **[50Hz]**

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
144	16.0	38.8	14.2	42.2	14.9	47.9	15.7	52.4	16.3	—	—
	18.0	38.5	14.6	42.0	15.3	47.5	16.2	52.0	16.8	—	—
	20.0	38.4	15.1	41.7	15.8	47.2	16.7	51.6	17.3	58.3	18.4
	21.0	38.3	15.3	41.6	16.0	47.0	17.0	51.4	17.7	58.1	18.6
	22.0	38.2	15.5	41.5	16.3	46.8	17.3	51.2	18.0	57.9	18.9
	24.0	38.0	16.0	41.2	16.8	46.4	17.9	50.7	18.6	57.2	19.5
165	16.0	39.2	13.9	42.6	14.6	48.4	15.4	52.9	16.0	—	—
	18.0	38.9	14.3	42.4	15.0	48.0	15.9	52.5	16.5	—	—
	20.0	38.8	14.8	42.1	15.5	47.7	16.4	52.1	17.0	58.9	18.0
	21.0	38.7	15.0	42.0	15.7	47.5	16.7	51.9	17.3	58.7	18.2
	22.0	38.6	15.2	41.9	16.0	47.3	17.0	51.7	17.6	58.5	18.5
	24.0	38.4	15.7	41.6	16.5	46.9	17.5	51.2	18.2	57.8	19.1
220	16.0	40.0	13.5	43.5	14.2	49.4	14.9	54.0	15.5	—	—
	18.0	39.5	13.9	43.3	14.6	49.0	15.4	53.6	16.0	—	—
	20.0	39.6	14.4	42.9	15.0	48.7	15.9	53.1	16.5	60.1	17.5
	21.0	39.5	14.6	42.8	15.2	48.5	16.2	52.9	16.8	59.9	17.7
	22.0	39.4	14.7	42.7	15.5	48.3	16.5	52.7	17.1	59.7	18.0
	24.0	39.2	15.2	42.4	16.0	47.8	17.0	52.2	17.7	59.0	18.5

FRY25JB+(CRY12JA2)×2

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
144	16.0	38.4	13.8	44.9	14.8	53.5	16.2	59.4	17.3	—	—
	18.0	38.1	14.0	44.6	15.1	52.9	16.5	58.8	17.6	—	—
	20.0	37.8	14.2	44.1	15.3	52.2	16.8	58.1	18.0	66.0	19.6
	21.0	37.6	14.3	43.9	15.4	51.9	16.9	57.7	18.1	65.5	19.8
	22.0	37.4	14.4	43.6	15.5	51.6	17.1	57.4	18.3	65.1	20.0
	24.0	37.1	14.6	43.1	15.8	50.9	17.4	56.6	18.6	64.2	20.3
180	16.0	39.2	13.4	45.9	14.4	54.6	15.7	60.7	16.8	—	—
	18.0	38.9	13.5	45.5	14.6	54.0	16.0	60.0	17.1	—	—
	20.0	38.6	13.7	45.0	14.8	53.3	16.3	59.3	17.4	67.4	19.0
	21.0	38.4	13.8	44.8	14.9	53.0	16.4	58.9	17.5	66.9	19.2
	22.0	38.2	13.9	44.5	15.0	52.7	16.5	58.6	17.7	66.5	19.3
	24.0	37.9	14.1	44.0	15.3	52.0	16.8	57.8	18.0	65.6	19.7
220	16.0	39.8	13.1	46.6	14.0	55.4	15.3	61.6	16.4	—	—
	18.0	39.5	13.2	46.2	14.2	54.8	15.6	60.9	16.7	—	—
	20.0	39.2	13.4	45.6	14.4	54.1	15.9	60.1	17.0	68.4	18.5
	21.0	38.9	13.5	45.4	14.6	53.8	16.0	59.7	17.1	67.9	18.7
	22.0	38.7	13.6	45.1	14.7	53.5	16.1	59.4	17.3	67.5	18.9
	24.0	38.4	13.8	44.6	14.9	52.7	16.4	58.6	17.6	66.5	19.2

FRY30JB+(CRY15JA2)×2

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
192	16.0	48.4	19.1	57.3	20.0	67.8	21.2	74.7	22.2	—	—
	18.0	47.8	19.3	56.7	20.2	67.0	21.5	73.8	22.6	—	—
	20.0	47.3	19.5	56.0	20.5	66.2	21.9	73.1	23.0	81.8	24.7
	21.0	46.9	19.6	55.7	20.6	65.8	22.0	72.6	23.2	81.3	24.9
	22.0	46.6	19.7	55.3	20.7	65.4	22.2	72.2	23.4	80.8	25.2
	24.0	46.1	19.9	54.6	21.0	64.5	22.6	71.2	23.9	79.8	25.7
240	16.0	49.3	18.6	58.4	19.4	69.0	20.6	76.1	21.5	—	—
	18.0	48.7	18.7	57.7	19.6	68.2	20.9	75.2	21.9	—	—
	20.0	48.2	18.9	57.0	19.9	67.4	21.2	74.4	22.3	83.3	23.9
	21.0	47.8	19.0	56.7	20.0	67.0	21.4	73.9	22.5	82.8	24.2
	22.0	47.5	19.1	56.3	20.1	66.6	21.6	73.5	22.7	82.3	24.5
	24.0	46.9	19.3	55.6	20.4	65.7	21.9	72.5	23.2	81.3	25.0
320	16.0	50.2	18.0	59.4	18.8	70.2	19.9	77.4	20.9	—	—
	18.0	49.6	18.2	58.7	19.0	69.4	20.3	76.5	21.3	—	—
	20.0	49.0	18.3	58.0	19.3	68.6	20.6	75.7	21.7	84.8	23.2
	21.0	48.6	18.4	57.7	19.4	68.2	20.8	75.2	21.9	84.3	23.5
	22.0	48.3	18.5	57.3	19.5	67.8	20.9	74.8	22.1	83.7	23.7
	24.0	47.7	18.7	56.6	19.8	66.9	21.3	73.8	22.5	82.7	24.2

Symbols:

AF : Air flow (m^3/min)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
PI : Power input (Comp.+Indoor fan motor+Outdoor fan motor)

Notes:

1. Figures in ▨ show nominal capacities.
2. The above capacities are net capacities which include an addition for indoor fan motor heat.
3. Capacities are based on the following conditions.
   Equivalent ref. piping length ..... 5 m
   Level difference ..... 0 m
   Refrigerant piping ..... Standard size
   Outdoor air: 85% RH. However, when outdoor temperature is 7°CDB, wet bulb temperature is 6°CWB.

FRY40JB+(CRY20JA2)×2 **[50Hz]**

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
265	16.0	69.7	25.0	81.4	27.4	96.2	29.5	107.2	31.2	---	---
	18.0	68.2	26.2	80.1	27.7	94.8	29.9	105.2	31.7	---	---
	20.0	66.7	26.5	78.6	28.1	93.3	30.4	103.3	32.2	117.9	35.0
	21.0	66.0	26.6	77.8	28.2	92.5	30.6	103.3	32.5	116.9	35.3
	22.0	65.3	26.7	77.1	28.4	91.8	30.8	102.3	32.8	115.9	35.6
	24.0	63.7	27.0	75.6	28.8	90.3	31.3	100.3	33.3	115.0	36.3
330	16.0	71.5	25.2	83.6	26.6	98.8	28.6	110.0	30.3	---	---
	18.0	70.0	25.4	82.2	26.9	97.3	29.0	108.0	30.8	---	---
	20.0	68.5	25.7	80.7	27.2	95.8	29.5	106.0	31.3	121.0	33.9
	21.0	67.8	25.8	79.9	27.4	95.0	29.7	106.0	31.5	120.0	34.2
	22.0	67.0	25.9	79.1	27.6	94.2	29.9	105.0	31.8	119.0	34.5
	24.0	65.4	26.2	77.6	27.9	92.7	30.4	103.0	32.3	118.0	35.2
440	16.0	73.5	24.4	85.9	25.7	101.5	27.7	113.0	29.3	---	---
	18.0	71.9	24.6	84.5	26.0	100.0	28.1	111.0	29.8	---	---
	20.0	70.4	24.9	82.9	26.4	98.4	28.6	108.9	30.3	124.3	32.9
	21.0	69.7	25.0	82.1	26.5	97.6	28.8	108.9	30.5	123.3	33.2
	22.0	68.9	25.1	81.3	26.7	96.8	29.0	107.9	30.8	122.3	33.5
	24.0	67.2	25.4	79.7	27.1	95.2	29.5	105.8	31.3	121.2	34.1

FRY50JB+(CRY25J50)×2

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
336	16.0	81.2	32.0	95.4	33.4	112.5	35.6	125.3	37.6	---	---
	18.0	80.5	32.3	94.6	33.9	111.5	36.3	124.3	38.3	---	---
	20.0	79.8	32.7	93.8	34.4	111.5	36.9	123.4	39.1	139.1	42.3
	21.0	79.4	32.9	93.5	34.6	110.5	37.2	122.4	39.4	138.2	42.8
	22.0	79.0	33.1	93.0	34.9	109.5	37.6	121.4	39.8	137.2	43.2
	24.0	78.3	33.5	92.1	35.4	108.5	38.2	120.4	40.6	136.2	44.1
420	16.0	82.3	31.0	96.7	32.3	114.0	34.5	127.0	36.4	---	---
	18.0	81.6	31.3	95.9	32.8	113.0	35.1	126.0	37.1	---	---
	20.0	80.9	31.7	95.1	33.3	113.0	35.7	125.0	37.8	141.0	41.0
	21.0	80.5	31.9	94.7	33.5	112.0	36.1	124.0	38.2	140.0	41.4
	22.0	80.1	32.1	94.2	33.8	111.0	36.4	123.0	38.6	139.0	41.9
	24.0	79.3	32.4	93.3	34.3	110.0	37.0	122.0	39.3	138.0	42.7
540	16.0	83.2	30.1	97.8	31.4	115.3	33.5	128.4	35.4	---	---
	18.0	82.5	30.4	97.0	31.9	114.2	34.1	127.4	36.0	---	---
	20.0	81.8	30.8	96.1	32.3	114.2	34.7	126.4	36.8	142.6	39.8
	21.0	81.4	31.0	95.7	32.6	113.2	35.1	125.4	37.1	141.5	40.3
	22.0	81.0	31.2	95.2	32.8	112.2	35.4	124.4	37.5	140.5	40.7
	24.0	80.2	31.5	94.3	33.3	111.2	36.0	123.3	38.2	139.5	41.5

Symbols:

AF : Air flow (m^3/min)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
PI : Power input (Comp.+Indoor fan motor+Outdoor fan motor)

Notes:

1. Figures in ▭ show nominal capacities.
2. The above capacities are net capacities which include an addition for indoor fan motor heat.
3. Capacities are based on the following conditions.
   Equivalent ref. piping length ..... 5 m
   Level difference ..... 0 m
   Refrigerant piping ..... Standard size
   Outdoor air: 85% RH. However, when outdoor temperature is 7°CDB, wet bulb temperature is 6°CWB.

3

● Heating capacity [60Hz]

FRYP3MB+CRY3MA **[60Hz]**

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
20	16.0	5.4	2.3	6.3	2.5	7.5	2.8	8.3	3.0	—	—
	18.0	5.3	2.4	6.3	2.6	7.5	2.9	8.3	3.1	—	—
	20.0	5.3	2.5	6.2	2.7	7.4	3.0	8.2	3.2	9.3	3.4
	21.0	5.3	2.5	6.2	2.7	7.4	3.0	8.1	3.2	9.2	3.5
	22.0	5.3	2.5	6.2	2.8	7.3	3.1	8.1	3.3	9.2	3.6
	24.0	5.2	2.6	6.1	2.8	7.2	3.2	8.0	3.4	9.1	3.7
25	16.0	5.5	2.2	6.5	2.4	7.7	2.6	8.5	2.8	—	—
	18.0	5.5	2.2	6.4	2.4	7.6	2.7	8.4	2.9	—	—
	20.0	5.4	2.3	6.4	2.5	7.5	2.8	8.3	3.0	9.5	3.2
	21.0	5.4	2.3	6.3	2.5	7.5	2.8	8.3	3.0	9.4	3.3
	22.0	5.4	2.4	6.3	2.6	7.5	2.9	8.3	3.1	9.4	3.3
	24.0	5.3	2.4	6.2	2.7	7.4	3.0	8.2	3.2	9.3	3.4
33	16.0	5.6	2.0	6.6	2.2	7.8	2.5	8.7	2.6	—	—
	18.0	5.6	2.1	6.5	2.3	7.8	2.5	8.6	2.7	—	—
	20.0	5.5	2.2	6.5	2.4	7.7	2.6	8.5	2.8	9.7	3.0
	21.0	5.5	2.2	6.4	2.4	7.7	2.7	8.5	2.8	9.6	3.1
	22.0	5.5	2.2	6.4	2.4	7.6	2.7	8.4	2.9	9.6	3.1
	24.0	5.4	2.3	6.3	2.5	7.5	2.8	8.3	3.0	9.4	3.2

FRYP5MB+CRY5MA

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
36	16.0	10.8	4.5	12.0	4.5	13.5	4.6	14.6	4.8	—	—
	18.0	10.7	4.6	11.9	4.7	13.3	4.8	14.4	4.9	—	—
	20.0	10.5	4.8	11.7	4.8	13.2	4.9	14.3	5.1	15.9	5.3
	21.0	10.4	4.9	11.6	4.9	13.1	5.0	14.2	5.2	15.8	5.4
	22.0	10.3	4.9	11.5	5.0	13.0	5.1	14.1	5.2	15.7	5.5
	24.0	10.3	5.1	11.4	5.2	12.9	5.3	14.0	5.4	15.5	5.7
42	16.0	10.9	4.3	12.1	4.4	13.6	4.5	14.7	4.6	—	—
	18.0	10.8	4.5	12.0	4.5	13.4	4.6	14.5	4.7	—	—
	20.0	10.6	4.6	11.8	4.7	13.3	4.7	14.4	4.9	16.1	5.1
	21.0	10.5	4.7	11.7	4.7	13.2	4.8	14.3	5.0	16.0	5.2
	22.0	10.4	4.8	11.6	4.8	13.1	4.9	14.2	5.0	15.9	5.3
	24.0	10.4	4.9	11.5	5.0	13.0	5.1	14.1	5.2	15.7	5.5
55	16.0	11.0	4.1	12.2	4.2	13.7	4.2	14.9	4.4	—	—
	18.0	10.9	4.2	12.1	4.3	13.5	4.4	14.7	4.5	—	—
	20.0	10.7	4.4	11.9	4.4	13.4	4.5	14.5	4.6	16.3	4.9
	21.0	10.6	4.4	11.8	4.5	13.3	4.6	14.4	4.7	16.2	5.0
	22.0	10.5	4.5	11.7	4.6	13.2	4.7	14.3	4.8	16.1	5.0
	24.0	10.5	4.7	11.6	4.7	13.1	4.8	14.2	5.0	15.9	5.2

FRYP8MB+CRY8M

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
54	16.0	15.6	6.9	16.9	7.2	19.1	7.5	21.0	7.6	—	—
	18.0	15.5	7.1	16.8	7.4	19.0	7.7	20.8	7.9	—	—
	20.0	15.4	7.3	16.7	7.6	18.9	7.9	20.7	8.2	23.5	8.4
	21.0	15.4	7.4	16.7	7.7	18.8	8.1	20.6	8.3	23.4	8.6
	22.0	15.4	7.6	16.7	7.9	18.7	8.2	20.5	8.4	23.2	8.8
	24.0	15.4	7.8	16.5	8.1	18.6	8.5	20.4	8.7	23.0	9.1
63	16.0	15.8	6.6	17.1	6.8	19.3	7.1	21.2	7.3	—	—
	18.0	15.7	6.8	17.0	7.0	19.2	7.3	21.0	7.5	—	—
	20.0	15.6	7.0	16.9	7.2	19.1	7.6	20.9	7.8	23.7	8.0
	21.0	15.6	7.1	16.9	7.4	19.0	7.7	20.8	7.9	23.6	8.2
	22.0	15.6	7.2	16.9	7.5	18.9	7.8	20.7	8.0	23.4	8.3
	24.0	15.5	7.4	16.7	7.7	18.8	8.1	20.6	8.3	23.2	8.6
82	16.0	16.1	6.1	17.4	6.3	19.7	6.5	21.6	6.7	—	—
	18.0	16.0	6.2	17.3	6.5	19.6	6.7	21.4	6.9	—	—
	20.0	15.9	6.4	17.2	6.7	19.5	7.0	21.3	7.1	24.2	7.4
	21.0	15.9	6.5	17.2	6.8	19.4	7.1	21.2	7.3	24.1	7.5
	22.0	15.9	6.6	17.2	6.9	19.3	7.2	21.1	7.4	23.9	7.7
	24.0	15.8	6.9	17.0	7.1	19.2	7.4	21.0	7.7	23.7	7.9

Symbols:

AF : Air flow (m^3/min)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
PI : Power input (Comp.+Indoor fan motor+Outdoor fan motor)

Notes:

1. Figures in ▨ show nominal capacities.
2. The above capacities are net capacities which include an addition for indoor fan motor heat.
3. Capacities are based on the following conditions.
   Equivalent ref. piping length ..... 5 m
   Level difference ..... 0 m
   Refrigerant piping ..... Standard size
   Outdoor air: 85% RH. However, when outdoor temperature is 7°CDB, wet bulb temperature is 6°CWB.

FRYP10MB+CRY10M **[60Hz]**

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
72	16.0	21.9	8.8	23.8	9.1	26.7	9.6	29.1	10.0	—	—
	18.0	21.7	9.0	23.6	9.4	26.5	9.9	28.9	10.3	—	—
	20.0	22.7	9.3	23.5	9.7	26.3	10.2	28.7	10.6	32.6	11.3
	21.0	22.7	9.5	28.3	9.8	26.2	10.4	28.6	10.8	32.4	11.5
	22.0	22.7	9.6	28.2	10.0	26.1	10.6	28.5	11.0	32.3	11.7
	24.0	22.6	9.9	28.1	10.3	26.0	10.9	28.3	11.4	31.8	12.1
83	16.0	22.1	8.5	24.0	8.8	27.0	9.3	29.4	9.7	—	—
	18.0	22.0	8.8	23.8	9.1	26.8	9.6	29.2	10.0	—	—
	20.0	22.9	9.0	23.7	9.4	26.6	9.9	29.0	10.3	32.9	11.0
	21.0	22.9	9.2	28.6	9.6	26.5	10.1	28.9	10.5	32.7	11.2
	22.0	22.9	9.3	28.5	9.7	26.4	10.3	28.8	10.7	32.6	11.4
	24.0	22.8	9.7	28.4	10.0	26.3	10.6	28.6	11.1	32.1	11.7
110	16.0	22.5	7.9	24.5	8.2	27.5	8.7	30.0	9.0	—	—
	18.0	22.4	8.2	24.3	8.5	27.3	9.0	29.8	9.3	—	—
	20.0	23.4	8.4	24.2	8.7	27.1	9.2	29.6	9.6	33.6	10.2
	21.0	23.4	8.5	29.2	8.9	27.0	9.4	29.5	9.8	33.4	10.4
	22.0	23.4	8.7	29.1	9.0	26.9	9.6	29.4	10.0	33.3	10.6
	24.0	23.3	9.0	29.0	9.3	26.8	9.9	29.2	10.3	32.7	10.9

FRY15MB+(CRY8M2)×2

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
108	16.0	30.8	13.3	33.5	13.7	37.8	14.3	41.4	14.8	—	—
	18.0	30.7	13.7	33.2	14.2	37.5	14.9	41.0	15.3	—	—
	20.0	30.5	14.1	33.0	14.8	37.2	15.4	40.7	15.8	46.1	16.3
	21.0	30.4	14.3	32.9	15.0	37.1	15.7	40.6	16.1	45.8	16.6
	22.0	30.3	14.7	32.8	15.3	37.0	15.9	40.4	16.4	45.7	16.9
	24.0	30.2	15.2	32.7	15.8	36.8	16.5	40.2	17.0	45.4	17.5
120	16.0	31.1	13.2	33.8	13.6	38.2	14.2	41.8	14.6	—	—
	18.0	31.0	13.6	33.5	14.1	37.9	14.7	41.4	15.1	—	—
	20.0	30.8	14.0	33.3	14.6	37.6	15.2	41.1	15.6	46.6	16.1
	21.0	30.7	14.2	33.2	14.8	37.5	15.5	41.0	15.9	46.3	16.4
	22.0	30.6	14.5	33.1	15.1	37.4	15.7	40.8	16.2	46.2	16.7
	24.0	30.5	15.0	33.0	15.6	37.2	16.3	40.6	16.8	45.9	17.3
165	16.0	32.0	12.7	34.8	13.1	39.4	13.6	43.1	14.0	—	—
	18.0	31.9	13.1	34.5	13.5	39.0	14.1	42.6	14.5	—	—
	20.0	31.7	13.4	34.3	14.0	38.7	14.6	42.3	15.0	48.0	15.5
	21.0	31.6	13.6	34.2	14.2	38.6	14.9	42.2	15.3	47.7	15.7
	22.0	31.5	13.9	34.1	14.5	38.5	15.1	42.0	15.6	47.6	16.0
	24.0	31.4	14.4	34.0	15.0	38.3	15.7	41.8	16.1	47.3	16.6

Symbols:

AF : Air flow (m³/min)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
PI : Power input (Comp.+Indoor fan motor+Outdoor fan motor)

Notes:

1. Figures in ▨ show nominal capacities.
2. The above capacities are net capacities which include an addition for indoor fan motor heat.
3. Capacities are based on the following conditions.
   Equivalent ref. piping length ..... 5 m
   Level difference ..... 0 m
   Refrigerant piping ..... Standard size
   Outdoor air: 85% RH. However, when outdoor temperature is 7°CDB, wet bulb temperature is 6°CWB.

3

FRY20MB+(CRY10M2)×2 **[60Hz]**

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
144	16.0	42.3	17.1	46.7	18.2	53.4	19.5	58.3	20.3	—	—
	18.0	42.1	17.8	46.5	18.8	53.0	20.1	57.9	21.0	—	—
	20.0	42.0	18.4	41.3	19.4	52.7	20.8	57.4	21.7	64.5	23.0
	21.0	41.9	18.7	41.2	19.7	52.5	21.1	57.2	22.0	64.2	23.3
	22.0	41.8	18.9	41.0	20.1	52.3	21.5	57.0	22.4	64.0	23.7
	24.0	41.6	19.6	40.9	20.8	52.0	22.2	56.7	23.3	63.7	24.5
165	16.0	42.7	16.8	47.2	17.8	53.9	19.1	58.9	19.9	—	—
	18.0	42.5	17.4	47.0	18.4	53.5	19.7	58.5	20.6	—	—
	20.0	42.4	18.0	41.7	19.0	53.2	20.4	58.0	21.3	65.1	22.5
	21.0	42.3	18.3	41.6	19.3	53.0	20.7	57.8	21.6	64.8	22.8
	22.0	42.2	18.5	41.4	19.7	52.8	21.1	57.6	22.0	64.6	23.2
	24.0	42.0	19.2	41.3	20.4	52.5	21.8	57.3	22.8	64.3	24.0
220	16.0	43.6	16.3	48.1	17.3	55.0	18.5	60.1	19.3	—	—
	18.0	43.4	16.9	47.9	17.9	54.6	19.1	59.7	20.0	—	—
	20.0	43.3	17.5	42.5	18.4	54.3	19.8	59.2	20.1	66.4	21.8
	21.0	43.2	17.8	42.4	18.7	54.1	20.1	59.0	21.0	66.1	22.1
	22.0	43.0	18.0	42.2	19.1	53.9	20.5	58.8	21.3	65.9	22.5
	24.0	42.8	18.6	42.1	19.8	53.6	21.2	58.5	22.1	65.6	23.3

FRY25JB+(CRY12JA2)×2

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
144	16.0	43.1	16.8	50.7	18.4	60.5	20.5	67.6	22.1	—	—
	18.0	42.5	17.0	50.1	18.6	59.7	20.8	66.7	22.4	—	—
	20.0	42.0	17.1	49.4	18.8	58.9	21.1	65.9	22.8	75.4	25.1
	21.0	41.7	17.2	49.0	19.0	58.6	21.2	65.5	22.9	74.9	25.3
	22.0	41.3	17.3	48.7	19.1	58.2	21.4	65.1	23.1	74.6	25.5
	24.0	40.7	17.4	48.0	19.3	57.5	21.7	64.3	23.5	73.7	25.9
180	16.0	44.2	16.3	52.0	17.9	62.0	19.9	69.3	21.4	—	—
	18.0	43.6	16.5	51.3	18.1	61.2	20.2	68.4	21.8	—	—
	20.0	43.0	16.6	50.6	18.3	60.4	20.5	67.5	22.1	77.3	24.3
	21.0	42.7	16.7	50.2	18.4	60.0	20.6	67.1	22.2	76.8	24.5
	22.0	42.3	16.8	49.9	18.5	59.6	20.7	66.7	22.4	76.4	24.7
	24.0	41.7	16.9	49.2	18.7	58.9	21.0	65.9	22.8	75.5	25.1
220	16.0	45.0	15.9	52.9	17.5	63.1	19.4	70.5	20.9	—	—
	18.0	44.4	16.1	52.2	17.7	62.3	19.7	69.6	21.3	—	—
	20.0	43.7	16.2	51.5	17.9	61.5	20.0	68.7	21.6	78.6	23.8
	21.0	43.4	16.3	51.1	18.0	61.0	20.1	68.3	21.7	78.1	24.0
	22.0	43.0	16.4	50.8	18.1	60.6	20.3	67.9	21.9	77.7	24.2
	24.0	42.4	16.5	50.1	18.3	59.9	20.6	67.0	22.2	76.8	24.6

FRY30JB+(CRY15JA2)×2

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
192	16.0	54.2	21.7	64.1	23.3	75.6	25.4	83.0	27.0	—	—
	18.0	53.4	22.1	63.3	23.7	74.7	25.8	82.0	27.5	—	—
	20.0	52.6	22.4	62.5	24.1	73.8	26.3	81.1	28.0	90.4	30.4
	21.0	52.2	22.5	62.1	24.3	73.3	26.6	80.6	28.3	89.9	30.7
	22.0	51.7	22.7	61.6	24.5	72.8	26.8	80.2	28.5	89.4	31.0
	24.0	50.8	23.0	60.7	24.8	71.9	27.3	79.3	29.1	88.5	31.6
240	16.0	55.4	21.0	65.6	22.5	77.3	24.5	84.9	26.0	—	—
	18.0	54.6	21.3	64.8	22.8	76.4	24.9	83.9	26.5	—	—
	20.0	53.8	21.6	63.9	23.2	75.5	25.4	83.0	27.0	92.5	29.3
	21.0	53.4	21.7	63.5	23.4	75.0	25.6	82.5	27.3	92.0	29.6
	22.0	52.9	21.9	63.0	23.6	74.5	25.8	82.0	27.5	91.5	29.9
	24.0	52.0	22.2	62.1	24.0	73.6	26.3	81.1	28.0	90.5	30.4
320	16.0	56.6	20.2	67.0	21.6	79.0	23.5	86.8	25.0	—	—
	18.0	55.8	20.4	66.2	21.9	78.1	24.0	85.7	25.5	—	—
	20.0	55.0	20.7	65.3	22.3	77.2	24.4	84.8	26.0	94.5	28.2
	21.0	54.6	20.9	64.9	22.5	76.6	24.6	84.3	26.2	94.0	28.4
	22.0	54.1	21.1	64.4	22.7	76.1	24.8	83.8	26.5	93.5	28.7
	24.0	53.1	21.4	63.5	23.0	75.2	25.3	82.9	26.9	92.5	29.3

Symbols:

AF : Air flow (m^3/min)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
PI : Power input (Comp.+Indoor fan motor+Outdoor fan motor)

Notes:

1. Figures in ☐ show nominal capacities.
2. The above capacities are net capacities which include an addition for indoor fan motor heat.
3. Capacities are based on the following conditions.
   Equivalent ref. piping length ..... 5 m
   Level difference ..... 0 m
   Refrigerant piping ..... Standard size
   Outdoor air: 85% RH. However, when outdoor temperature is 7°CDB, wet bulb temperature is 6°CWB.

FRY40JB+(CRY20JA2)×2 **[60Hz]**

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0				10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	
265	16.0	76.0	31.1	89.5	33.0	106.6	36.0	118.3	38.5	---	---
	18.0	75.3	31.3	88.7	33.3	105.6	36.5	117.3	39.1	---	---
	20.0	74.5	31.5	87.7	33.7	104.6	37.0	116.3	39.8	131.0	43.9
	21.0	74.1	31.6	87.2	33.9	103.6	37.3	115.3	40.1	131.0	44.3
	22.0	73.6	31.7	86.7	34.1	102.6	37.6	114.4	40.4	130.0	44.7
	24.0	72.7	32.0	85.6	34.5	101.7	38.1	113.4	41.1	128.1	45.5
330	16.0	77.7	30.1	91.6	32.0	109.0	34.9	121.0	37.3	---	---
	18.0	77.0	30.3	90.7	32.3	108.0	35.4	120.0	37.9	---	---
	20.0	76.2	30.5	89.7	32.6	107.0	35.9	119.0	38.5	134.0	42.5
	21.0	75.8	30.6	89.2	32.8	106.0	36.1	118.0	38.8	134.0	42.9
	22.0	75.3	30.7	88.7	33.0	105.0	36.4	117.0	39.2	133.0	43.3
	24.0	74.4	31.0	87.6	33.4	104.0	36.9	116.0	39.8	131.0	44.1
440	16.0	79.4	29.1	93.6	30.9	111.4	33.7	123.6	36.1	---	---
	18.0	78.7	29.3	92.7	31.2	110.4	34.2	122.6	36.7	---	---
	20.0	77.9	29.5	91.7	31.6	109.3	34.7	121.6	37.3	136.9	41.1
	21.0	77.5	29.6	91.1	31.8	108.3	35.0	120.6	37.6	136.9	41.5
	22.0	76.9	29.7	90.6	31.9	107.3	35.2	119.6	37.9	135.9	41.9
	24.0	76.0	30.0	89.5	32.3	106.3	35.7	118.5	38.5	133.9	42.6

FRY50JB+(CRY25J50)×2

Indoor air		Outdoor temperature (°CWB)									
AF	EDB	−5.0		0.0		6.0		10.0		15.0	
		TC	PI	TC	PI	TC	PI	TC		TC	PI
336	16.0	89.5	37.9	105.6	40.3	125.4	43.8	141.2	46.5	---	---
	18.0	89.0	38.3	104.7	40.8	124.4	44.5	140.2	47.3	---	---
	20.0	88.3	38.7	103.7	41.4	123.4	45.2	139.2	48.1	159.0	52.4
	21.0	87.9	38.9	103.7	41.7	123.4	45.5	138.2	48.5	159.0	52.9
	22.0	87.5	39.1	102.7	42.0	123.4	45.9	137.2	49.0	158.0	53.4
	24.0	86.8	39.5	101.7	42.5	121.4	46.6	136.2	49.8	157.0	54.3
420	16.0	90.7	36.7	107.0	39.1	127.0	42.4	143.0	45.1	---	---
	18.0	90.1	37.1	106.0	39.6	126.0	43.1	142.0	45.9	---	---
	20.0	89.4	37.5	105.0	40.1	125.0	43.8	141.0	46.7	161.0	50.8
	21.0	89.0	37.7	105.0	40.4	125.0	44.1	140.0	47.1	161.0	51.3
	22.0	88.6	37.9	104.0	40.7	125.0	44.5	139.0	47.5	160.0	51.7
	24.0	87.9	38.3	103.0	41.2	123.0	45.2	138.0	48.3	159.0	52.7
540	16.0	91.7	35.7	108.1	38.0	128.3	41.3	144.5	43.9	---	---
	18.0	91.1	36.1	107.1	38.5	127.3	41.9	143.5	44.6	---	---
	20.0	90.3	36.5	106.1	39.0	126.3	42.6	142.5	45.4	162.7	49.4
	21.0	89.9	36.7	106.1	39.3	126.3	42.9	141.5	45.8	162.7	49.9
	22.0	89.5	36.9	105.1	39.6	126.3	43.3	140.5	46.2	161.7	50.3
	24.0	88.8	37.3	104.1	40.1	124.3	44.0	139.5	47.0	160.7	51.2

Symbols:

AF : Air flow (m³/min)
EDB : Entering dry bulb temp. (°CDB)
TC : Total capacity (X1000 kcal/h)
PI : Power input (Comp.+Indoor fan motor+Outdoor fan motor)

Notes:

1. Figures in ☐ show nominal capacities.
2. The above capacities are net capacities which include an addition for indoor fan motor heat.
3. Capacities are based on the following conditions.
   Equivalent ref. piping length ..... 5 m
   Level difference ..... 0 m
   Refrigerant piping ..... Standard size
   Outdoor air: 85% RH. However, when outdoor temperature is 7°CDB, wet bulb temperature is 6°CWB.

- **Heating capacity at low outdoor temperature.**

The heating capacities tabulated do not include capacity drop during frosting period and defrosting operation. Namely, the integrated heating capacities in consideration with capacity drop during frosting period and defrosting operation are obtained from the following formula.

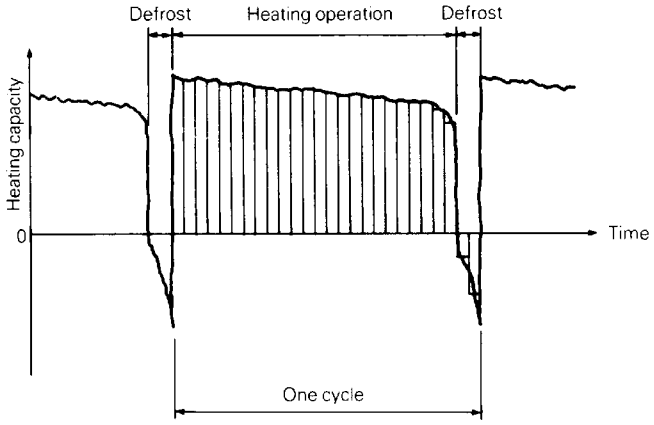
Integrated heating capacity = (Capacity tabulated) × (Integrated correction factor during frosting period) (kcal/h)

Correction factor for obtaining integrated heating capacity

Entering air temp. to air cooled heat exchanger [°C / RH=85%]	−6	−4	−2	0	2	4	6
Integrated correction factor during frosting period	0.95	0.89	0.87	0.87	0.89	0.91	1.00

Note:

Integrated heating capacity means that heating capacity during one cycle (from defrosting period to defrosting period) as shown below is integrated converted to heating capacity per hour.



Note:

In case the surface of the heat exchanger is covered with snow, heating capacity drops temporarily although it differs with outdoor temperature (°CDB), relative humidity (RH) and frosting volume.

8. Changing in capacity

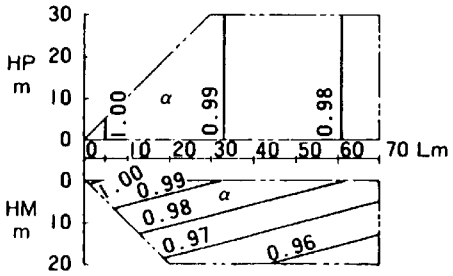
● **Change in capacity ratio due to installation location.**

	Cooling	Heating
FRYP3MB+CRY3MA	○	×
FRYP5MB+CRY5MA	×	×
FRYP8MB+CRY8M	×	×
FRYP10MB+CRY10M	×	×
FRY15MB+(CRY8M2)×2	×	×
FRY20MB+(CRY10M2)×2	×	×
FRY25JB+(CRY12JA2)×2	×	×
FRY30JB+(CRY15JA2)×2	○	×
FRY40JB+(CRY20JA2)×2	○	×
FRY50JB+(CRY25J50)×2	○	×

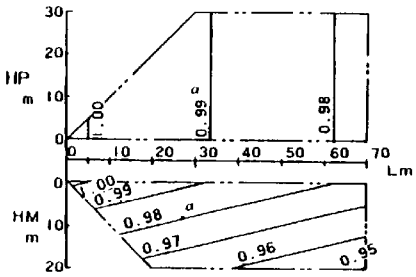
Note:
○: Capacity does not change due to installation location.
×: Capacity changes due to installation location.

1. Cooling

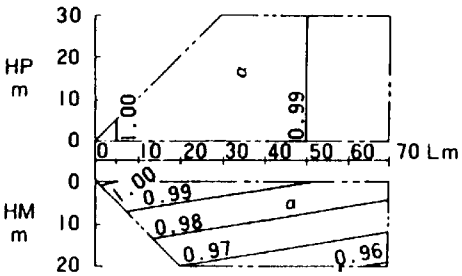
FRYP5MB+CRY5MA



FRYP8MB+CRY8M
FRY15MB+(CRY8M2)×2

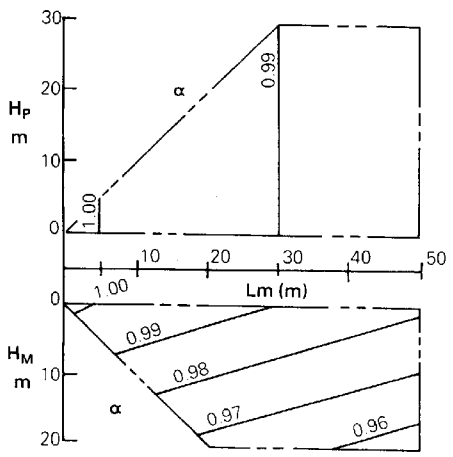


FRYP10MB+CRY10M
FRY20MB+(CRY10M2)×2

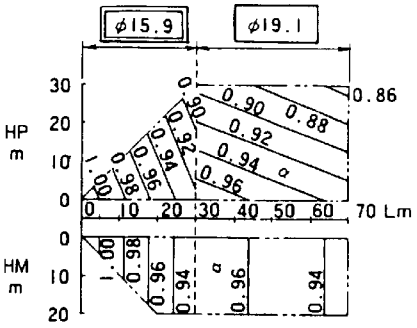


2. Heating

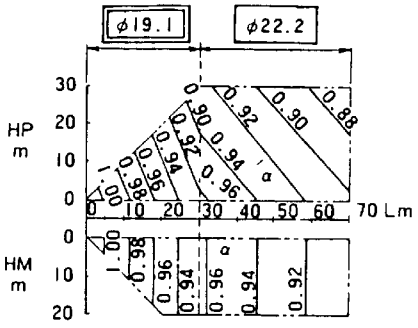
FRY25JB+(CRY12JA2)×2



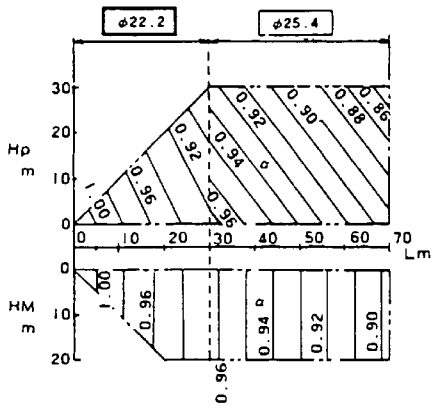
FRYP3MB+CRY3MA



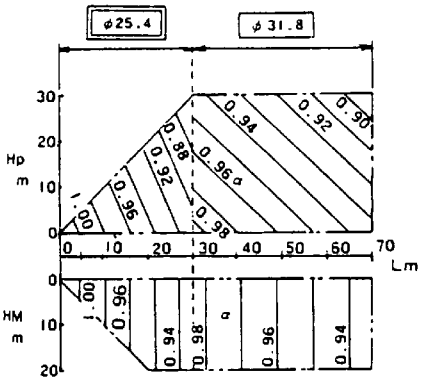
FRYP5MB+CRY5MA



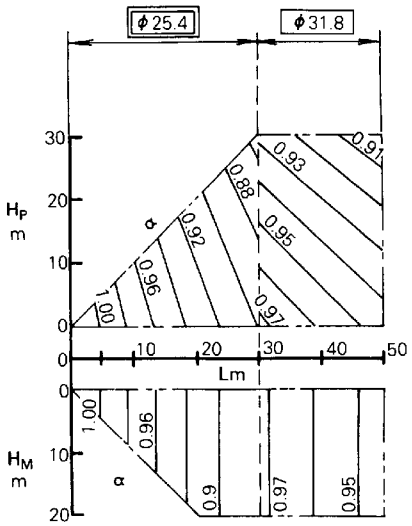
FRYP8MB+CRY8M
FRY15MB+(CRY8M2)×2



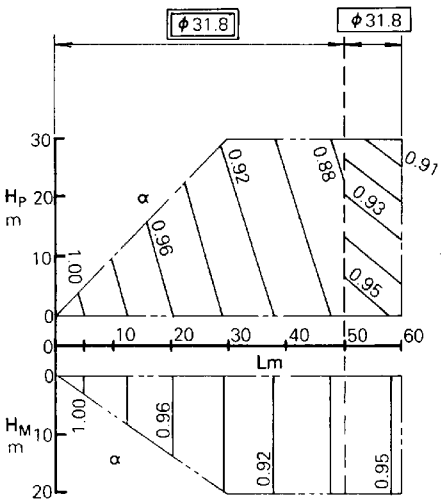
FRYP10MB+CRY10M
FRY20MB+(CRY10M2)×2



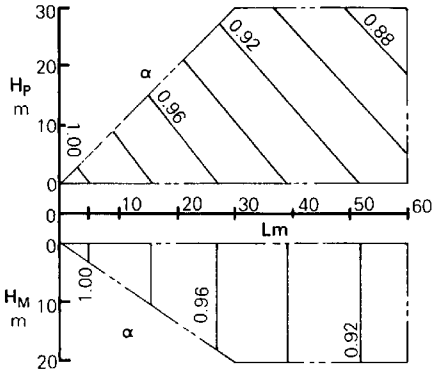
FRY25JB+(CRY12JA2)×2



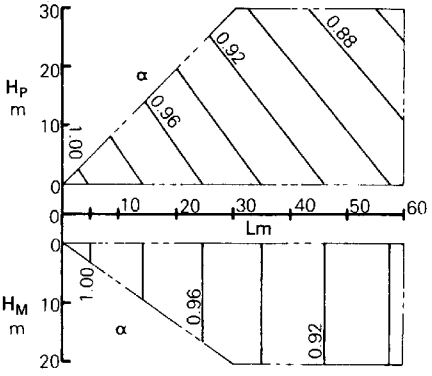
FRY30JB+(CRY15JA2)×2



FRY40JB+(CRY20JA2)×2



FRY50JB+(CRY25J50)×2



Symbols:

A : Actual piping length (m)

H_P : Difference in height between indoor unit and outdoor unit. (m)
(Indoor unit is installed lower than outdoor unit).

H_M : Difference in height between indoor unit and outdoor unit. (m)
(Indoor unit is installed height than outdoor unit).

L : Equivalent piping length (m)

α : Capacity changing ratio

Notes:

1. Gas pipe dia. shown in ☐ is the standard size. If actual piping length (A) exceeds 20m or equivalent piping length (C) exceeds 30m (in case of 30JB, 40JB, 50JB, 35m, 50m respectively), use pipes whose diameter is shown in ☐.
2. The range shown with two dotted line is the allowable installation range.
3. Calculation method for cooling (heating) capacity:
   Cooling (heating) capacity = Cooling (heating) capacity obtained from the capacity table × cooling (heating) capacity changing ratio

However, when the first refrigerant piping length differs from the second one, (FRY15MB·20MB, 25JB~50JB) multiply 1/2 of the cooling (heating) capacity obtained from the capacity table by the capacity changing ratio due to each piping length respectively and add them.

9. Fan performance

(1) Performance data

Model	Air flow (m^3/min.)	ESP	0	5	10	15	20	25	30	35	40	45	50	PD (Plenum chamber)
FRYP3MB	20	r.p.m.	560	760	950	1120	1270	1400						1
		kW	0.05	0.09	0.14	0.21	0.28	0.36						
	25	r.p.m.	720	880	1030	1180	1320							1
		kW	0.10	0.15	0.20	0.27	0.35							
	30	r.p.m.	880	1010	1150	1280								2
		kW	0.18	0.23	0.29	0.36								
	33	r.p.m.	990	1110	1220									2
		kW	0.25	0.31	0.37									
FRYP5MB	36	r.p.m.	550	730	900	1050	1190	1300	1410	1510				1
		kW	0.07	0.13	0.19	0.26	0.34	0.41	0.50	0.58				
	42	r.p.m.	620	780	930	1070	1210	1320	1430	1530				1
		kW	0.11	0.17	0.24	0.31	0.40	0.48	0.58	0.67				
	45	r.p.m.	640	810	940	1070	1210	1320	1440	1530				2
		kW	0.13	0.20	0.26	0.34	0.43	0.52	0.61	0.71				
	50	r.p.m.	700	860	980	1110	1230	1340	1450	1550				2
		kW	0.18	0.25	0.32	0.40	0.48	0.58	0.68	0.79				
	55	r.p.m.	780	910	1030	1140	1250	1360	1470	1570				2
		kW	0.24	0.31	0.39	0.47	0.55	0.66	0.77	0.88				
FRYP8MB	54.5	r.p.m.	600	710	830	930	1030	1130	1220	1300	1370			2
		kW	0.15	0.23	0.30	0.39	0.50	0.61	0.73	0.96	1.09			
	60	r.p.m.	630	750	860	960	1050	1140	1230	1310	1390	1380		2
		kW	0.20	0.29	0.37	0.47	0.57	0.69	0.90	1.05	1.19	1.33		
	65	r.p.m.	670	790	880	980	1070	1160	1240	1320	1400	1380	1360	2
		kW	0.25	0.34	0.43	0.53	0.63	0.82	0.96	1.12	1.29	1.44	1.59	
	75	r.p.m.	770	860	950	1040	1120	1190	1270	1350	1420	1480	1540	3
		kW	0.37	0.47	0.57	0.68	0.86	0.99	1.13	1.29	1.45	1.63	1.82	
	82.5	r.p.m.	840	930	1020	1090	1170	1240	1310	1380	1450	1500	1560	3
		kW	0.49	0.59	0.71	0.89	1.02	1.16	1.31	1.46	1.63	1.80	1.99	
FRYP10MB	72	r.p.m.	540	660	770	870	960	1050	1140	1220	1290	1360		2
		kW	0.21	0.29	0.38	0.48	0.60	0.72	0.86	1.00	1.15	1.30		
	83	r.p.m.	630	740	840	930	1020	1100	1180	1250	1320	1390	1380	2
		kW	0.33	0.42	0.52	0.63	0.75	0.88	1.03	1.18	1.34	1.50	1.67	
	90	r.p.m.	700	800	880	970	1050	1130	1210	1280	1340	1410	1480	3
		kW	0.43	0.52	0.63	0.74	0.87	1.01	1.16	1.31	1.48	1.65	1.83	
	100	r.p.m.	770	860	940	1020	1090	1170	1240	1310	1380	1440	1510	4
		kW	0.58	0.68	0.80	0.92	1.05	1.19	1.34	1.50	1.69	1.87	2.06	
	110	r.p.m.	860	940	1020	1090	1160	1230	1300	1360	1430	1490		4
		kW	0.80	0.92	1.04	1.18	1.32	1.47	1.63	1.80	1.98	2.16		
FRY15MB	108	r.p.m.	590	680	770	860	940	1020	1090	1160	1220	1280	1340	2
		kW	0.44	0.58	0.75	0.92	1.12	1.31	1.51	1.71	1.92	2.13	2.42	
	120	r.p.m.	660	750	830	910	990	1060	1130	1190	1260	1320	1370	2
		kW	0.62	0.77	0.95	1.14	1.34	1.55	1.77	1.98	2.20	2.55	2.78	
	135	r.p.m.	730	820	900	970	1050	1120	1180	1240	1300	1360	1410	3
		kW	0.90	1.07	1.27	1.47	1.70	1.93	2.17	2.49	2.74	3.00	3.26	
	150	r.p.m.	830	910	980	1050	1110	1180	1230	1290	1350	1410	1460	4
		kW	1.21	1.40	1.60	1.82	2.05	2.37	2.62	2.89	3.16	3.43	3.70	
	165	r.p.m.	910	970	1040	1100	1160	1220	1280	1330	1390			5
		kW	1.60	1.81	2.02	2.33	2.58	2.85	3.12	3.41	3.70			
FRY20MB FRY25JB	144	r.p.m.	630	720	800	880	960	1030	1100	1160	1230	1290	1340	3
		kW	0.78	0.94	1.11	1.30	1.50	1.71	1.94	2.18	2.49	2.75	3.01	
	165	r.p.m.	720	800	880	950	1020	1090	1150	1210	1260	1320	1370	3
		kW	1.17	1.35	1.54	1.75	1.96	2.19	2.50	2.75	3.03	3.31	3.59	
	180	r.p.m.	800	870	940	1010	1070	1140	1190	1250	1310	1360	1410	4
		kW	1.55	1.75	1.96	2.23	2.47	2.71	2.97	3.24	3.52	3.74	4.04	
	200	r.p.m.	900	960	1030	1090	1140	1200	1250	1310	1360	1410	1460	5
		kW	2.13	2.41	2.64	2.89	3.14	3.40	3.77	3.89	4.17	4.47	4.79	
	220	r.p.m.	990	1050	1110	1170	1220	1270	1320	1370	1420	1460		6
		kW	2.93	3.18	3.44	3.78	3.90	4.18	4.46	4.75	5.06	5.37		

Symbols:

ESP : External static pressure (mmH_2O)
r.p.m. : Fan speed (r.p.m.)
kW : Required motor output (kW)
PD : Pressure drop through optional plenum chamber (mmH_2O)

Note:

shows the operating range of the fan motor based on factory setting. In case the fan motor is used out of the range, change motor size.

Model			FRYP3MB	FRYP5MB	FRYP8MB	FRYP10MB	FRY15MB	FRY20MB,FRY25JB
Fan motor	Type		3 phase, 4pole, E class insulation					
	Motor speed 50/60Hz	r.p.m.	1,420/1,700	1,420/1,700	1,420/1,700	1,420/1,700	1,420/1,710	1,420/1,710
	Rated output	kW	0.4	0.75	0.75	1.5	2.2	3.7
	Max. replaceable output	kW	—	1.5	2.2	2.2	3.7	5.5*
Max. fan speed		r.p.m.	1,500	1,600	1,600	1,600	1,600	1,600
Pulley size	Motor pulley		AR99-65-14 (Variable dia.)	AL129-100-19 (Variable dia.)	AL104-75-19 (Variable dia.)	AL129-100-24 (Variable dia.)	BR151-115-28 (Variable dia.)	BR161-125-28 (Variable dia.)
	Fan pulley		A169-25 (Fixed dia.)	A195-25 (Fixed dia.)	A149-25 (Fixed dia.)	A195-35 (Fixed dia.)	B235-35 (Fixed dia.)	2B235-35 (Fixed dia.)
V belt size×No.			A28×1	A42×1	A40×1	A45×1	B40×1	B41×1
Air flow range		m^3/min.	20~33	36~55	54.5~82.5	72~110	108~165	144~220

Note: *When 5.5 kW motor is used, the number of V belts should be changed from one to two.

Model	Air flow (m^3/min.)	ESP	0	10	20	30	40	50	60	70	80	ESP (Factory set) 50 Hz	ESP (Factory set) 60 Hz *1
FRY30JB	192	r.p.m.	460	540	630	710	790	880	950	1010	1080	27.2	27.2
		kW	1.01	1.36	1.73	2.14	2.59	3.09	3.64	4.23	4.86		
	220	r.p.m.	490	580	660	740	820	900	960	1020	1090	23.2	23.2
		kW	1.52	1.91	2.33	2.77	3.24	3.76	4.31	4.91	5.51		
	240	r.p.m.	520	600	680	760	840	920	970	1030	1090	21.0	21.0
		kW	1.96	2.37	2.82	3.29	3.79	4.31	4.88	5.48	6.08		
	270	r.p.m.	580	650	730	810	880	940	1000	1060		14.0	14.0
		kW	2.78	3.25	3.74	4.26	4.80	5.36	5.91	6.50			
	300	r.p.m.	640	710	780	850	910	970	990			6.8	6.8
		kW	3.80	4.31	4.85	5.41	5.96	6.55	7.18				
	320	r.p.m.	680	750	810	880	940					1.0	1.0
		kW	4.60	5.14	5.67	6.26	6.87						
FRY40JB	265	r.p.m.	550	640	730	830	940	1030	1130	1210	1280	29.6	29.6
		kW	1.54	2.12	2.75	3.45	4.20	5.02	5.90	6.82	8.02		
	300	r.p.m.	600	690	780	880	970	1060	1150	1220	1300	24.0	24.0
		kW	2.33	2.99	3.69	4.45	5.26	6.12	7.04	8.32	9.39		
	330	r.p.m.	640	730	820	910	990	1080	1150	1230	1300	20.0	20.0
		kW	3.04	3.77	4.52	5.32	6.18	7.08	8.33	9.36	10.46		
	360	r.p.m.	690	780	860	940	1020	1100	1180	1250		15.4	15.4
		kW	3.96	4.75	5.56	6.42	7.31	8.57	9.60	10.67			
	400	r.p.m.	770	850	920	990	1060	1140	1210	1270		6.6	6.6
		kW	5.41	6.29	7.18	8.41	9.40	10.46	11.54	12.67			
	440	r.p.m.	850	920	990	1060	1120	1190	1250			—	—
		kW	7.24	8.51	9.53	10.56	11.63	12.74	13.90				
FRY50JB	280	r.p.m.	680	730	780	840	890	1060	1150	1240		42	42
		kW	2.05	2.70	3.39	4.15	4.96	5.84	6.78	7.77			
	360	r.p.m.	680	760	840	930	1010	1080	1160	1240		30	30
		kW	3.92	4.73	5.56	6.42	7.34	8.32	9.32	10.38			
	420	r.p.m.	770	850	920	1000	1070	1130	1200	1260		19	19
		kW	6.06	7.00	7.95	8.93	9.93	10.74	11.81	12.94			
	480	r.p.m.	870	940	1010	1080	1140	1190	1250			8	8
		kW	8.92	9.99	11.49	11.90	12.99	14.12	15.28				
	540	r.p.m.	970	1040	1110	1160	1210	1260				0	0
		kW	13.35	13.53	14.71	15.90	17.12	18.35					

Symbols:

ESP : External static pressure (mmH_2O)
r.p.m. : Fan speed (r.p.m.)
kW : Required motor output (kW)
PD : Pressure drop through optional plenum chamber (mmH_2O)

Note:

▨ shows the operating range of the fan motor based on factory setting. In case the fan motor is used out of the range, change motor size.

Model			FRY30JB	FRY40JB	FRY50JB
Fan motor	Type		3 phase, 4pole, B class insulation		
	Motor speed 50/60Hz	r.p.m	1,440/1,730	1,440/1,730	1,450/1,740
	Rated output	kW	5.5	7.5	11
	Max. replacement output	kW	7.5	15	18.5
	Max. fan speed	r.p.m.	1,100	1,300	1,300
Pulley size	Motor pulley		50Hz:2B161-38 60Hz:2B136-38*2	50Hz:3B171-38 60Hz:3B143-38*2	50Hz:3B191-42 60Hz:3B161-42*2
	Fan pulley		2B326-45	3B291-35	3B291-35
V belt size×No.			50Hz:B73×2 60Hz:B71×2*2	50Hz:B70×3 60Hz:B68×3*2	50Hz:B116×3 60Hz:B115×3*2
Air flow range		m^3/min.	192~320	265~440	280~540

Remark:

*1 ESP on 60Hz is the case when the attached standard motor pulley is used on the site.

*2 Setting of the motor pulley and V belt are stated below.
Those for 50Hz are set at factory and the ones for 60Hz are set on the site as they are attached standard accessories.

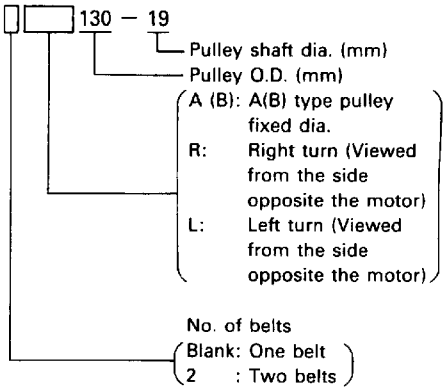
3

(2) Adjusting range of fan motor pulley

Model	No. of turn	Gap (mm)	Pitch dia. (mm)	Fan speed (r.p.m.)	
				50 Hz	60 Hz
FRYP3MB	5	0	90	795	955
	4	1.5	85	750	905
	3	3.0	80	705	850
	2	4.5	75	660	795
	1	6.0	70	615	745
	0	7.5	65	570	690
FRYP5MB FRYP10MB	5	0	120	915	1100
	4	1.5	115	880	1050
	3	3.0	110	840	1005
	2	4.5	105	800	960
	1	6.0	100*	765	915
	0	7.5	95	725	870
FRYP8MB	5	0	95	960	1150
	4	1.5	90	910	1090
	3	3.0	85	860	1030
	2	4.5	80	810	970
	1	6.0	75*	760	910
	0	7.5	70	710	850
FRY15MB	6	0	140	895	1070
	5	1.5	135	855	1030
	4	3.0	130	825	990
	3	4.5	125	790	955
	2	6.0	120	760	915
	1	7.5	115*	730	875
	0	9.0	110	700	840
FRY20MB FRY25JB	6	0	150	950	1145
	5	1.5	145	920	1105
	4	3.0	140	885	1070
	3	4.5	135	855	1030
	2	6.0	130	820	990
	1	7.5	125*	790	955
	0	9.0	120	760	915
FRY30JB	—	—	60Hz : 125*	—	685
			50Hz : 150*	685	—
FRY40JB	—	—	60Hz : 132*	—	815
			50Hz : 160*	820	—
FRY50JB	—	—	60Hz : 150*	—	830
			50Hz : 180*	830	—

* Factory set

● **Nomenclature**

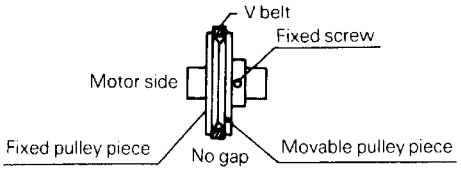


● **Pulley adjusting method**

How to adjust the variable pitch pulley

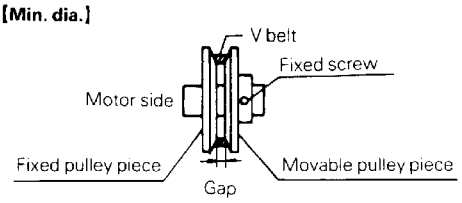
- After stopping, loosen the belt, remove the screw from the movable pulley piece and turn the movable piece in the direction shown the required number of times (tabulated in the Table).
- Insert the screw into one of two holes, from which it can contact with the flat face of the fixed pulley piece when it is tightened up.
- Retighten up the screw.
- Align the pulleys of the fan and the motor and adjust the tension of V belts.

[Max. dia.]



Turn the movable pulley piece clockwise in case of FRYP5MB~10MB (counterclockwise in case of FRYP3MB, FRY15MB, 20MB, 25JB viewed from the side opposite the motor by the number of turns tabulated.

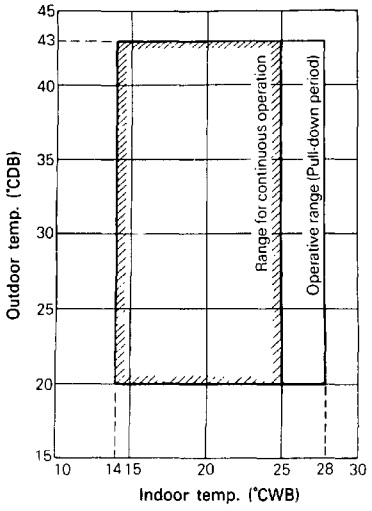
[Min. dia.]



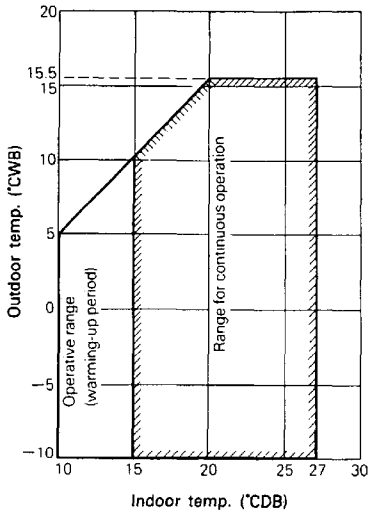
(Refer to Gap in the above table)

10. Operation limit

Cooling



Heating



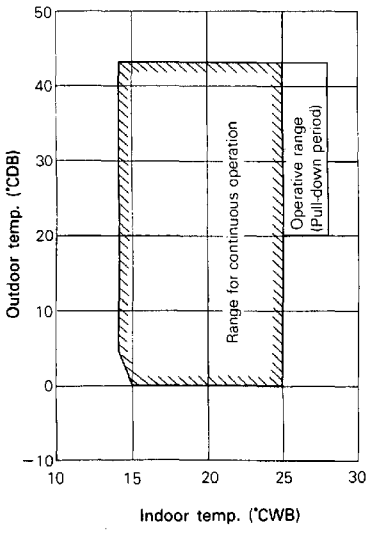
Model
FRY25JB+(CRY12JA2)×2
FRY30JB+(CRY15JA2)×2
FRY40JB+(CRY20JA2)×2
FRY50JB+(CRY25J50)×2

Note:
The graphs are made based on the following operative conditions.

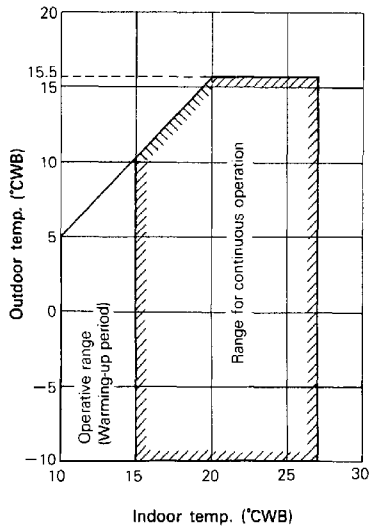
- Equivalent piping length 5m
- Level difference 0m
- Refrigerant piping Standard size

3

Cooling

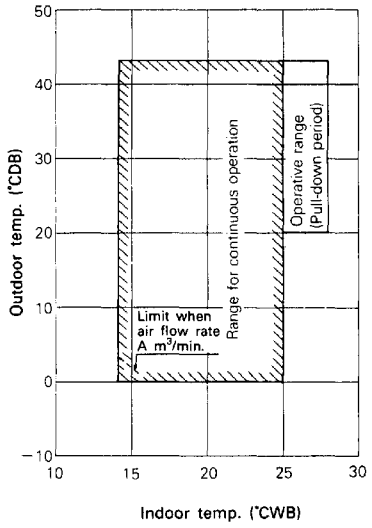


Heating

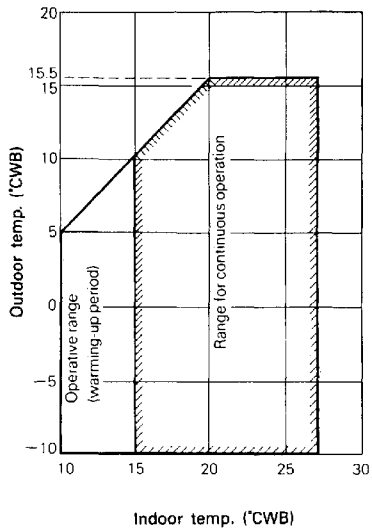


Model
FRYP8MB+CRY8M
FRYP10MB+CRY10M
FRY15MB+(CRY8M2)×2
FRY20MB+(CRY10M2)×2

Cooling



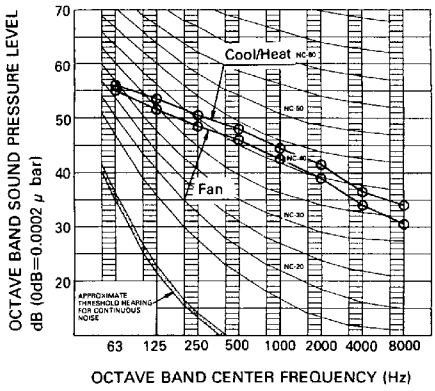
Heating



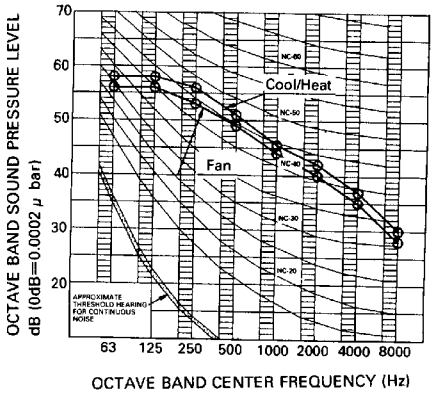
Model	
FRYP3MB+CRY3M	20.0
FRYP5MB+CRY5MA	36.0

11. Operation noise

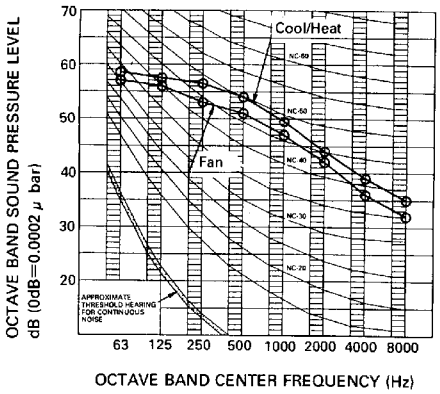
FRYP3MB



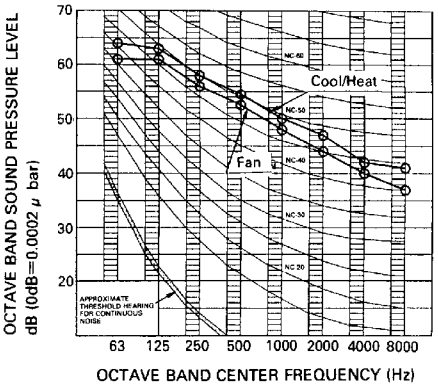
FRYP5MB



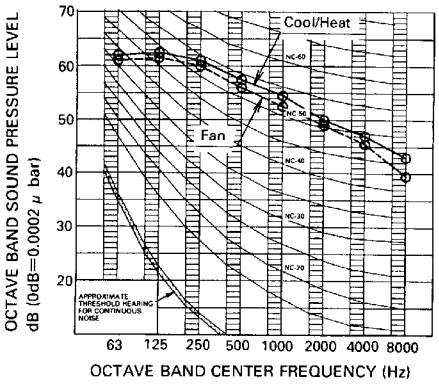
FRYP8MB



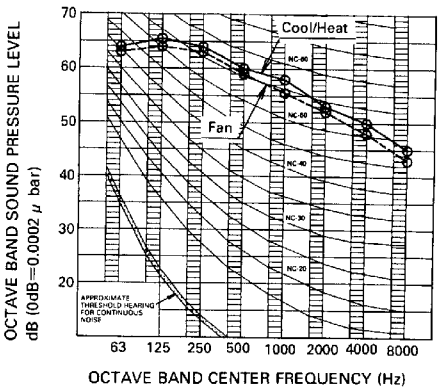
FRYP10MB



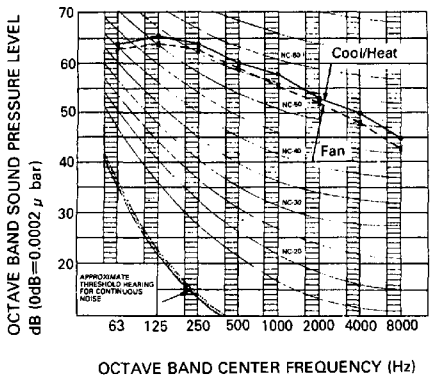
FRY15MB



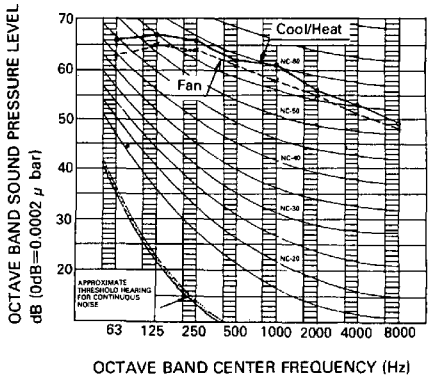
FRY20MB



FRY25JB

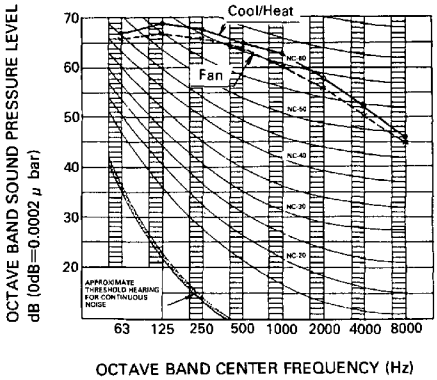


FRY30JB

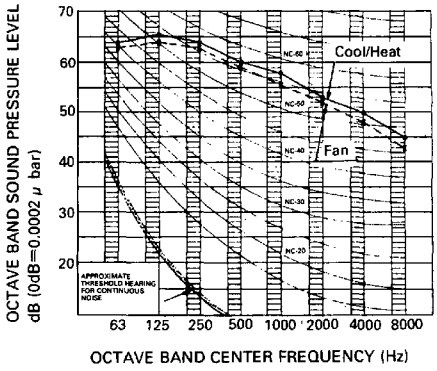


3

FRY40JB



FRY50JB



12. Electric characteristics

Model	Symbol of power supply	Rated power supply (Volts—ph—Hz)	Starting method	Indoor unit					Remote condenser		Total			
				Comp.			IFM		OFM	MRC	MRC		NRC	
				No.	LRA each	MRC each	No.	MRC each	No.	MRC each	Cooling	Heating	Cooling	Heating (EH-OFF)
FRYP3MB + CRY3MA	YE	380—3—50	Direct on line	1	30.0	7	1	1.2	1	1.7	9.9	9.9	4.9	4.4
		400—3—50			31.6					1.7	9.9	9.9	4.8	4.3
		415—3—50			32.8					1.7	9.9	9.9	4.8	4.4
		400—3—60			28.6					1.7	9.9	9.9	5.3	4.6
		440—3—60			31.5					1.9	10.1	10.1	4.9	4.5
FRYP5MB + CRY5MA	YE	380—3—50	Direct on line	1	39.7	12	1	1.8	2	1.5	15.3	15.3	7.8	7.1
		400—3—50			41.5					1.6	15.4	15.4	7.6	7.0
		415—3—50			42.9					1.6	15.4	15.4	7.6	7.0
		400—3—60			36.1					1.5	15.3	15.3	8.6	8.0
		440—3—60			38.8					1.6	15.4	15.4	8.1	7.5
FRYP8MB + CRY8M	YE	380—3—50	Direct on line	1	66.9	16	1	1.8	2	2.6	20.4	20.4	11.9	11.5
		400—3—50			70.5					2.7	20.5	20.5	11.4	11.0
		415—3—50			73.1					2.8	20.6	20.6	11.0	10.7
		400—3—60			61.6					2.6	20.4	20.4	13.1	12.4
		440—3—60			67.7					2.7	20.5	20.5	12.2	11.5
FRYP10MB + CRY10M	YE	380—3—50	Direct on line	1	86.0	22	1	3.2	2	2.6	27.8	27.8	16.1	15.2
		400—3—50			90.5					2.7	27.9	27.9	15.5	14.7
		415—3—50			93.9					2.8	28.0	28.0	15.1	14.1
		400—3—60			78.8					2.6	27.8	27.8	17.6	16.0
		440—3—60			86.7					2.7	27.9	27.9	16.2	15.1
FRY15MB + (CRY8M2)×2	YE	380—3—50	Sequence direct on line	2	66.9	16	1	4.6	2×2	2.6	41.8	41.8	23.7	23.0
		400—3—50			70.5					2.7	42.0	42.0	22.8	22.1
		415—3—50			73.1					2.8	42.2	42.2	22.1	21.5
		400—3—60			61.6					2.6	41.8	41.8	26.2	24.8
		440—3—60			67.7					2.7	42.0	42.0	24.3	24.3
FRY20MB + (CRY10M2)×2	YE	380—3—50	Sequence direct on line	2	86.0	22	1	7.2	2×2	2.6	56.4	56.4	32.8	31.1
		400—3—50			90.5					2.7	56.6	56.6	31.5	29.8
		415—3—50			93.9					2.8	56.8	56.8	30.6	28.7
		400—3—60			78.8					2.6	56.4	56.4	35.8	32.5
		440—3—60			86.7					2.7	56.6	56.6	32.9	30.8
FRY25JB + (CRY12JA2)×2	YE	380—3—50	Sequence direct on line	2	121	21	1	7.2	2	0.9	51.0	51.0	33.9	29.7
		400—3—50			127					0.9	51.0	51.0	33.9	30.2
		415—3—50			132					0.9	51.0	51.0	34.2	30.8
		400—3—60			111					1.0	51.2	51.2	38.3	32.9
		440—3—60			122					1.0	51.2	51.2	35.7	31.0
FRY30JB + (CRY15JA2)×2	YE	380—3—50	Sequence direct on line	2	154	28	1	11	4	0.6	69.4	69.4	44.0	39.4
		400—3—50			162					0.6	69.4	69.4	43.9	39.4
		415—3—50			168					0.7	69.8	69.8	44.1	40.4
		400—3—60			139					0.7	69.8	69.8	48.9	41.3
		440—3—60			153					0.7	69.8	69.8	46.0	39.3
FRY40JB + (CRY20JA2)×2	YE	380—3—50	Sequence Y-△	2	85	36	1	15	4	0.9	90.6	90.6	61.3	53.9
		400—3—50			89					0.9	90.6	90.6	61.1	54.2
		415—3—50			92					0.9	90.6	90.6	62.2	55.7
		400—3—60			77					1.0	91.0	91.0	68.1	57.8
		440—3—60			85					1.0	91.0	91.0	63.8	55.2
FRY50JB + (CRY25J50)×2	YE	380—3—50	Sequence Y-△	2	85	42	1	21	6	0.6	108.6	108.6	75.1	63.8
		400—3—50			89					0.6	108.6	108.6	74.2	63.7
		415—3—50			92					0.7	109.2	109.2	74.5	64.9
		400—3—60			77					0.7	109.2	109.2	83.3	70.0
		440—3—60			85					0.7	109.2	109.2	77.4	66.1

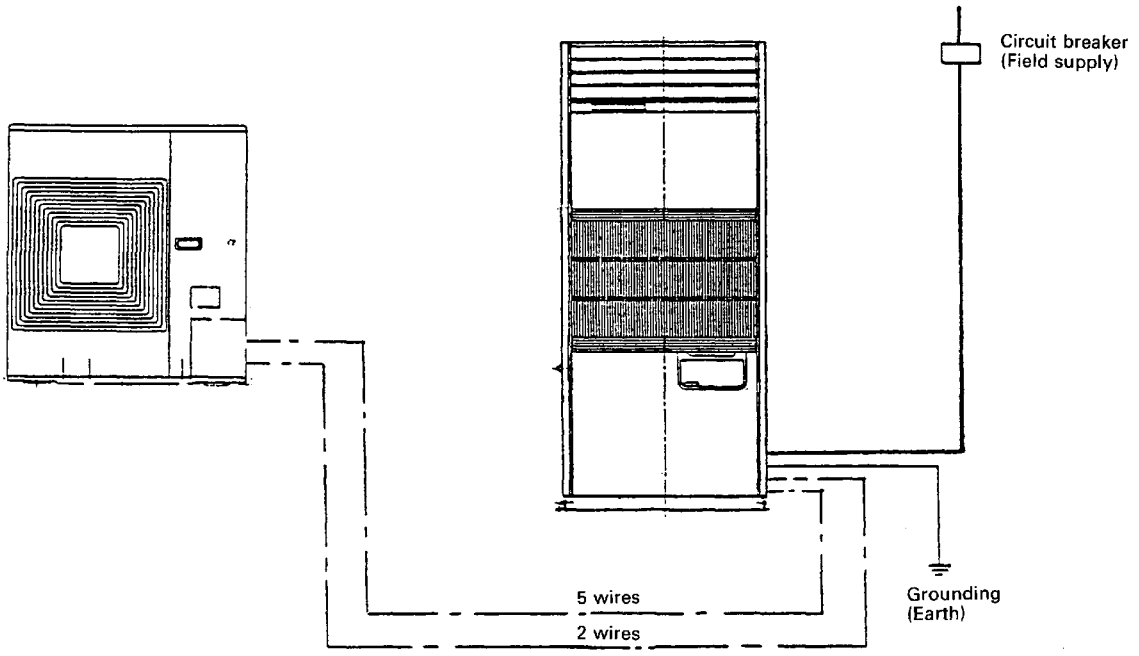
Symbols:
Comp.: Compressor
OFM : Outdoor fan motor
IFM : Indoor fan motor
EH : Aux. electric heater
LRA : Locked rotor amps (A)
MRC : Maximum running current (A)
NRC : Nominal running current (A)

Notes:
1. Total MRC means maximum running current within operating range during cooling or heating, i.e. total running current of comp. MRC, Fan motor MRC (for outdoor and indoor), and aux. electric heater MRC (during heating only).
2. Total NRC means running current for indoor unit + outdoor unit at the same conditions as the nomina1 capacities on page 5.

13. Wiring Connection

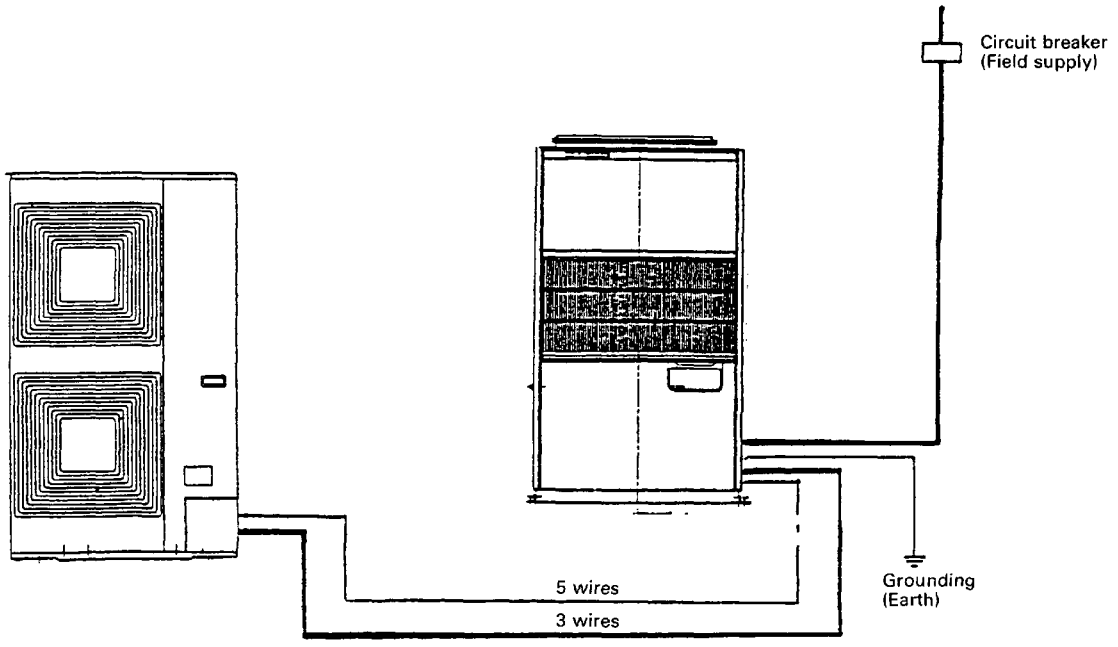
- Lay the wiring in accordance with the wiring diagram which is placed on the switch box cover of the indoor unit.
- Accord with your local code when wiring is provided on the spot.

[Outdoor unit] **[Indoor unit]**

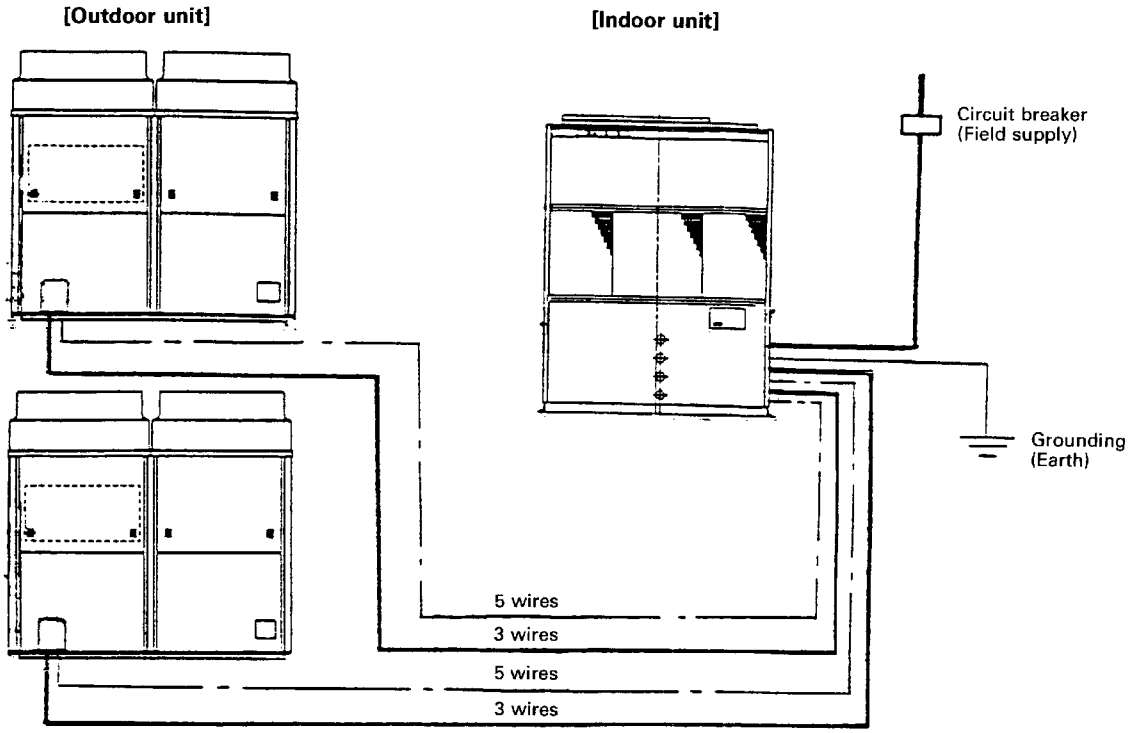


FRYP3MB+CRY3MA

[Outdoor unit] **[Indoor unit]**



FRYP5MB+CRY5MA
FRYP8·10MB+CRY8·10M



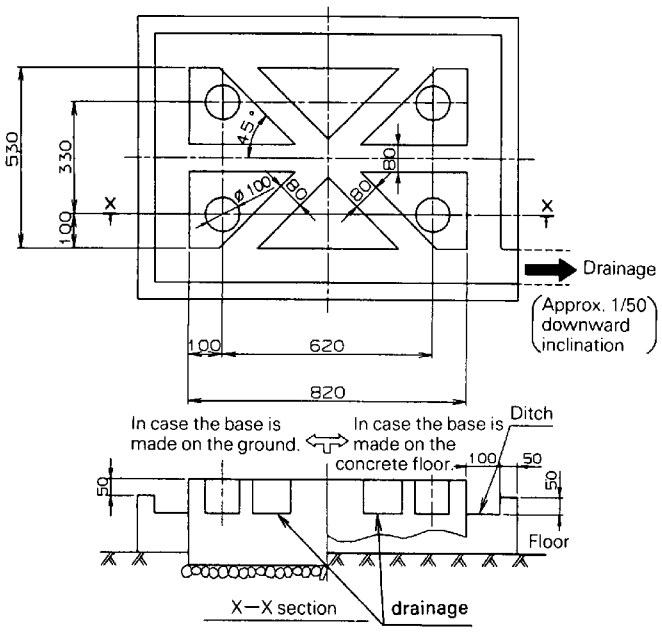
FRY15·20MB+CRY8·10M2×2
FRY25~40JB+CRY12~20JA2×2
FRY50JB+CRY25J50×2

——— Line voltage
— — — 200~220 volt line

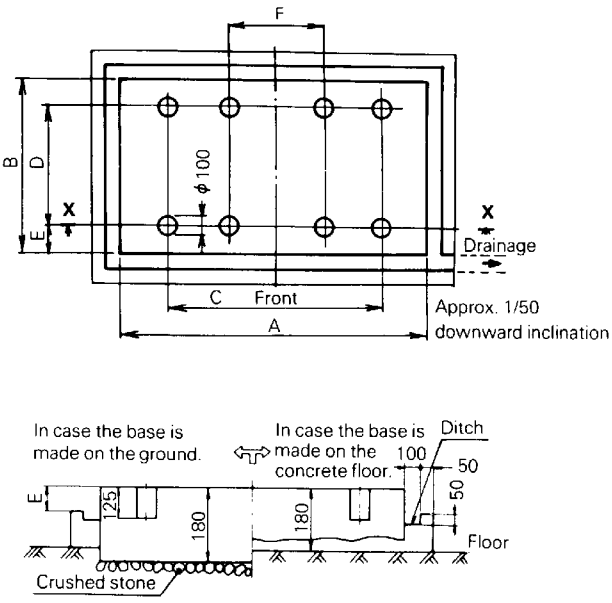
Notes:
1. All wiring components and materials to be procured on the site must comply with the applicable local and national codes.
2. Use copper conductors only.
3. As for details, see wiring diagram.
4. Install circuit breaker for safety.
5. All field wiring and components must be provided by licensed electrician.
6. Unit shall be grounded in compliance with the applicable local and national codes.
7. Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.

14. Foundation

CR(Y)3MA~10M2



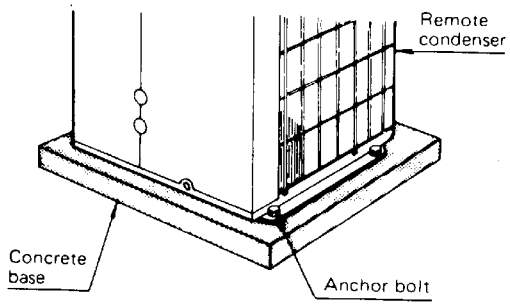
(CRY12JA2)×2



(Unit: mm)

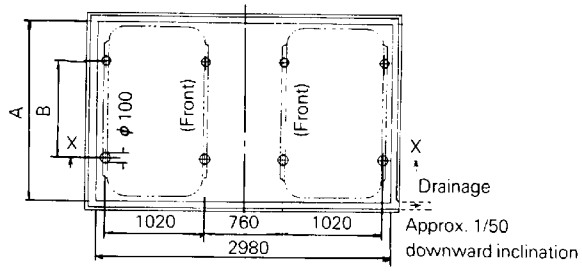
Model	A	B	C	D	E	F	Anchor bolts	
							Size	Q'ty
CRY3MA	820	530	620	330	45	—	M12×75	4
CRY5MA	820	530	620	330	45	—	M12×75	4
CRY8M	1200	926	1000	726	50	—	M12×75	4
CRY10M	1200	926	1000	726	50	—	M12×75	4
(CRY8M2)×2	1200	926	1000	726	50	—	M12×75	4
(CRY10M2)×2	1200	926	1000	726	50	—	M12×75	4
(CRY12JA2)×2	2530	1200	1850	1020	90	810	M10×75	8

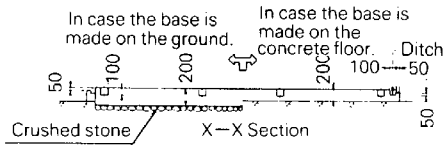
Fix the outdoor unit on the concrete base with anchor bolts. The concrete base should be made higher than the floor level by approx. 100mm, and the floor should be strong enough to support the weight of the unit and the concrete base.
The surface of concrete base should be flat and level, and provide a ditch around the base.



The above figure shows an installation example of CRY5M. The models CRY8M~ CRY12JA2 have 8 holes for anchor bolts, but they are fixed by four anchor bolts.

(CRY15JA2~CRY25J50)×2



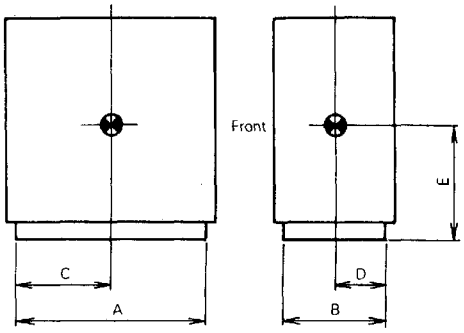


(Unit: mm)

Model	A	B	Anchor bolts	
			Size	Q'ty
(CR15JA2)×2	1840	1000	M10×100	8
(CR20JA2)×2	2100	1342	M10×100	8
(CR25J50)×2	2680	1922	M10×100	8

15. Center of gravity

■ Indoor unit

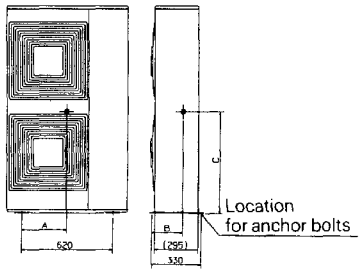


(Unit:mm)

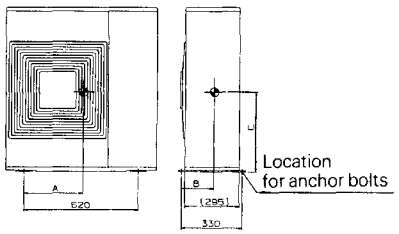
Model	Size of base frame		Centre of gravity				Machine weight (kg)
	A	B	C	D	E	F	
FRYP3MB	724	347	420	165	580	6	130
FRYP5MB	924	477	415	230	630	6	205
FRYP8MB	1114	477	585	255	600	6	235
FRYP10MB	1444	477	700	240	610	6	295
FRY15MB	1445	678	740	300	730	—	430
FRY20MB,25JB	1785	678	980	350	760	—	500
FRY30JB	1730	1018	860	580	750	—	790
FRY40JB	1930	1170	980	690	760	—	1020
FRY50JB	1930	1170	990	700	700	—	1120

■ Outdoor unit

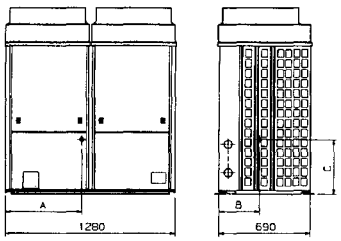
● CRY3MA



● CRY5MA

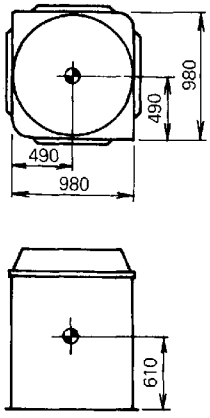


● CRY8M, 8M2
CRY10M, 10M2

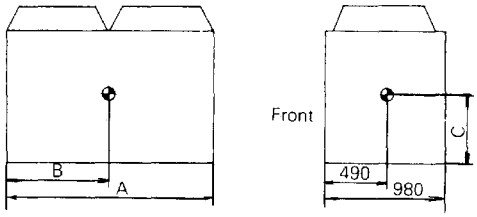


Model	A	B	C
RY250C (E1)	600	310	510
CRY8M, 8M2	680	400	470
CRY10M, 10M2	680	400	580

● CRY12JA2



● CRY15JA2
CRY20JA2



Model	A	Centre of gravity		Machine weight (kg)
		B	C	
CRY15JA2	1700	850	450	150
CRY20JA2	1960	980	520	210
CRY25J50	2540	1270	710	280

Note:
This figure shows one outdoor unit.

16. Refrigerant piping

The refrigerant is precharged in the FRY(P) unit. The amount of refrigerant is tabulated on the right. Consequently, connect the pipes to the gas and liquid pipe connections respectively with the valves V_1 and V_2 closed.
These valves have been closed before delivery.
[Valve state: ① on page 48.]

- **Checking the piping work**

1. After piping work, charge nitrogen gas and fluorocarbon refrigerant (R22) from the service ports of V_1 and V_2 valves and check the refrigerant circuit for gas tightness and gas leakage.
   [Valve state of V_1 and V_2 : ①]
2. Test pressure is 28 kg/cm^2
3. Then accomplish vacuum dry to about 76 cm Hg low pressure.
   [Valve state of V_1 and V_2 : ①]
   (However, for FRYP5MB+CRY5MA,check the refrigerant circuit for gas leakage during the initial operation.)

- **Additional refrigerant charge**

Refrigerant precharged volume is based on piping length of 5m (FRY(P)3MB~20MB), 10m (FRY30JB~50JB), but if piping length is longer than 10m (FRY30JB~50JB), additionally charge the refrigerant as stated below.

1. After vacuum drying stated above, charge the liquid refrigerant from V_1 port. At this stage, the air conditioner is not operated yet.
   [Valve state of V_1 and V_2 : ①]
2. Fully open the valves after completion of the work.
   [Valve state of V_1 and V_2 : ②]
3. If a small amount of the refrigerant should be charged additionally after the initial operation, charge the gaseous refrigerant from the service port of V_3 while the compressor is in operation. (FRYP3MB~10MB, FRY15MB, 20MB, FRY25JB)

Unit size		3	5	8	10	15	20	25	30	40	50	Remarks
Refrigerant precharge kg		2.6	4.2	5.2	6.4	5.2 ×2	6.4 ×2	10.7 ×2	14.8 ×2	21 ×2	26 ×2	R22
*1 Additional refrigerant charge (kg/m ref circuit)		0.06	0.06	0.11	0.18	0.11	0.18	0.17	0.26	0.37		
Max. level difference		Indoor unit is higher than outdoor unit by 20m										
		Indoor unit is lower than outdoor unit by 30m										
*2 Max. piping length	Actual piping length	50m						35m	45m			
	*3 Equivalent piping length	70m						50m	60m			

Notes: *1 is based on standard liquid pipe dia. and standard or one size larger gas pipe dia.

*2 If actual piping length exceeds 20 m or equivalent piping length exceeds 30 m, use the gas pipe whose diameter is larger than standard by one size. (See "Change in capacity ratio due to installation location in heating" on page 74.)

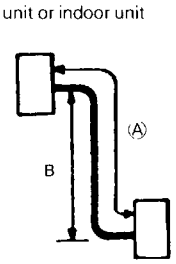
*3 How to calculate equivalent piping length:
Equivalent piping length means the total piping length of a pipe line in which L joints and traps provided in actual piping are converted to the length of straight pipe and added to actual piping length.

Equivalent piping length = Actual piping length + Numbers of L joints × an equivalent length of pipe per L joint + Numbers of trap bends × an equivalent length of pipe per trap bend.

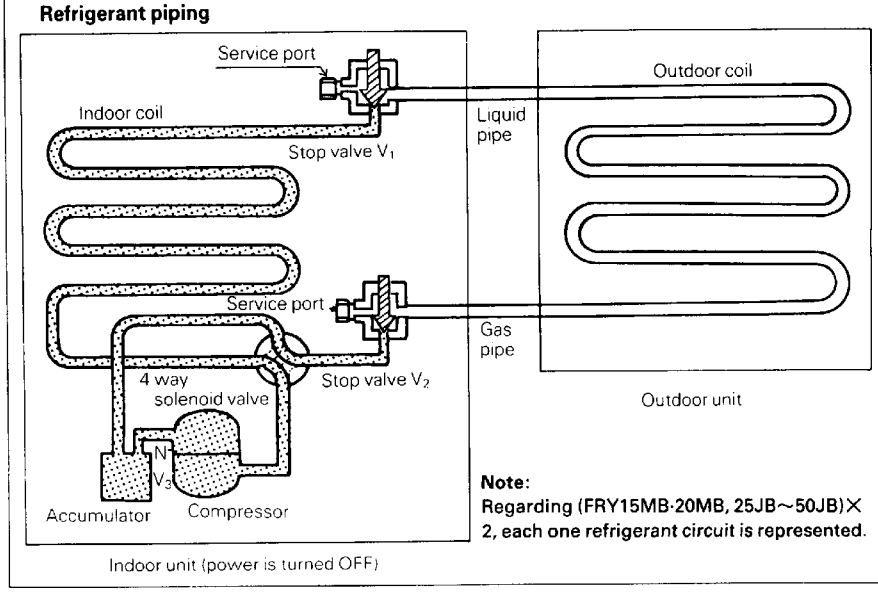
- ○ Calculation of equivalent piping length on the gas pipe line alone is enough.
- ○ Actual piping length Ⓐ is the total piping length of gas pipe line, including level difference (B).
- ○ In case two outdoor unit are connected, obtain equivalent piping length per outdoor unit, and examine each equivalent piping length.
- ○ 90° bend of piping is equivalent to L joint.

Equivalent length of pipe for various fittings (Unit: m)

Pipe dia. (mm)	L joint	Trap bend
9.5	0.18	1.3
12.7	0.20	1.5
15.9	0.25	2.0
19.1	0.35	2.4
22.2	0.40	3.0
25.4	0.45	3.4
31.8	0.55	4.0



Refrigerant piping

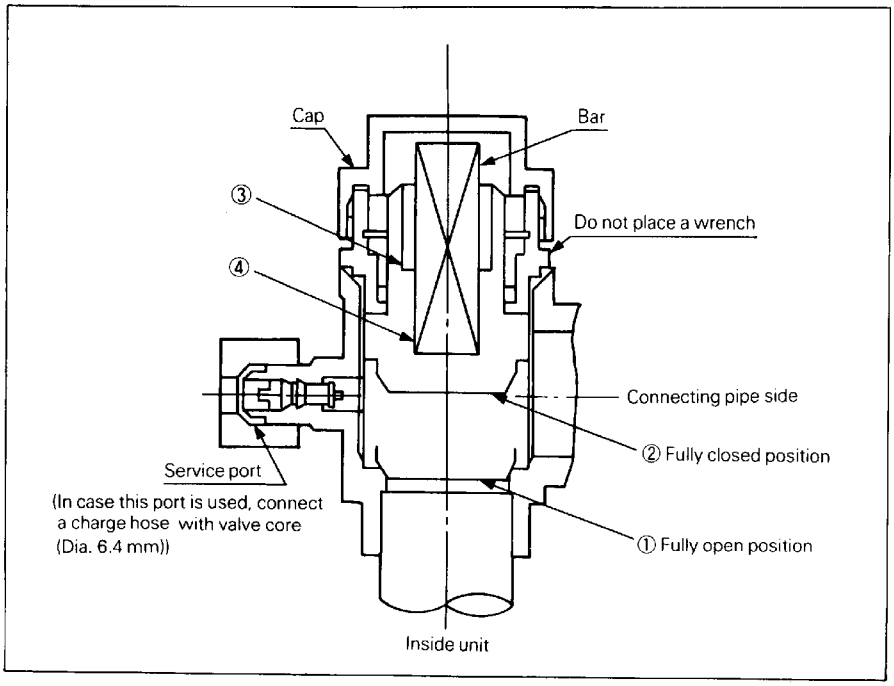


Note:
Regarding (FRY15MB·20MB, 25JB~50JB)× 2, each one refrigerant circuit is represented.

● **Manipulation of stop valve**

Remove the cap, insert a bar into ③ part and turn it up either clockwise or counterclockwise with a wrench. The valve is fully closed or fully opened.

After that, insert the bar into ④ part and return the cap.



● **Heat insulation**

Completely insulate around the piping.

Gas piping:

Heat insulation required.
Material whose heat resistance temperature is over 120℃.
Thickness of heat insulation material is over 10mm in case of glass fibre.

Liquid piping:

Heat insulation not required. However, the piping which is presumed to be in contact with human body or objects should be covered with galvanized steel plate or equivalent.

Note:

Do not insulate gas piping and liquid piping together.

17. Service space

- Be certain that sufficient service spacing is left around each unit as shown in the figure on the right.
  If any obstacles are placed around the unit, cooling capacity is reduced and also after-sales services are difficult to do.
- Be certain that the unit has been installed on such a place where the floor is flat and strong enough to support its weight. If the location is not suitable, it may cause noise and vibration.
- Be certain that the unit has been installed in such a place where there is no danger of fire due to leakage of inflammable gas.
  Avoid installing the unit in such a place which is subject to inflammable gas.

Notes:

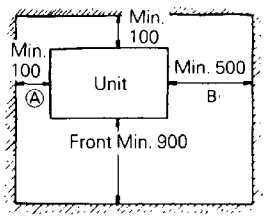
1. The measurements shown on the right are the case when the piping is connected to the right side of the unit. When the piping is connected to the left side of the unit, Ⓐ, Ⓑ measurements should be reversed.
2. No obstacle is in front of the unit, since the air is drawn into the front of the unit (FRY(P)3MB~20MB, 25JB)

- In case multiple outdoor units under CRY10M are installed with their suction inlets faced one to the other, leave the spacing as shown on the right at least.

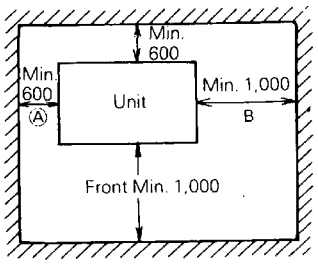
(Unit : mm)

- **Service spacing around the indoor unit and the remote condenser**

FRY(P)3MB~20MB, 25JB



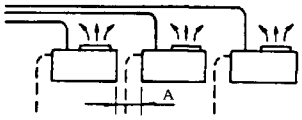
FRY30JB~FRY50JB



■ **CRY3MA·5MA**

〈Side-by-side installation〉

When the units are set up side by side, the clearance A between two units should be shorter than 100mm.

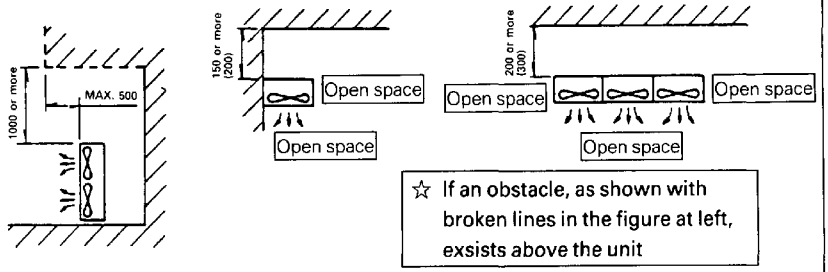


Note: To carry out the piping, as shown with broken lines in the figure, A should be shorter than 150mm.

(1) In case some obstacles exist at air suction side.

- It is possible to attach either of the left or right side of the unit to the obstacles such a wall.

In case no obstacles exist at upward side



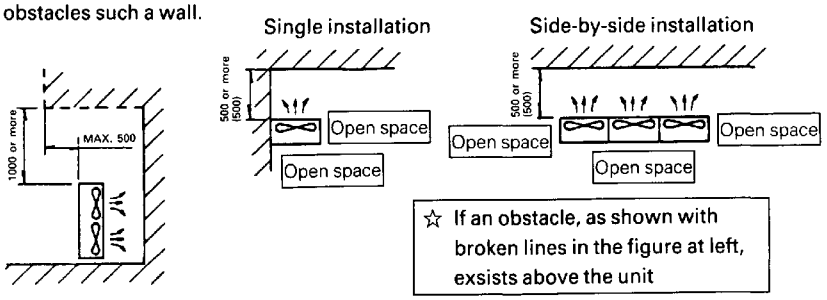
☆ If an obstacle, as shown with broken lines in the figure at left, exsists above the unit

A length of 50mm should be added to the above dimension.

(2) In case some obstacles exist at air discharge side.

- It is possible to attach either of the left or right side of the unit to the obstacles such a wall.

In case no obstacles exist at upward side



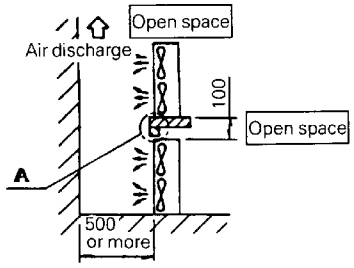
☆ If an obstacle, as shown with broken lines in the figure at left, exsists above the unit

The same space as mentioned above is required.

(3) Stacked-up installation

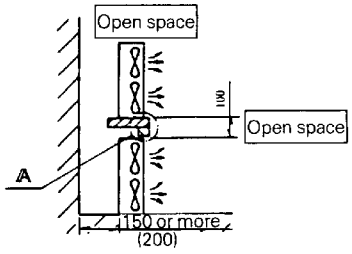
- Two units can be installed one upon the other. Do not stack three or more of them.

(a) In case some obstacles exist at air discharge side.



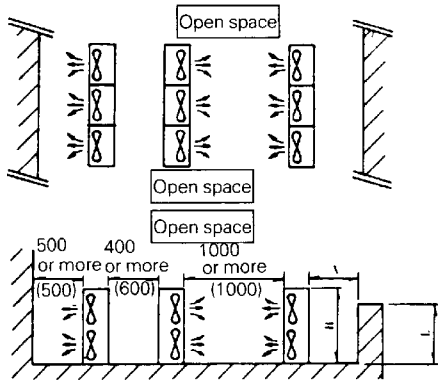
Note: 1. Side-by-side installation is possible, if open space is left in the right and left sides.
2. A should be closed so that discharge air is not by-passed.

(b) In case some obstacles exist at air suction side.



Note: 1. Can be installed side by side up to 2 units.
2. Open space should be left in the left and right sides.
3. A should be closed so that discharge air is not by-passed.

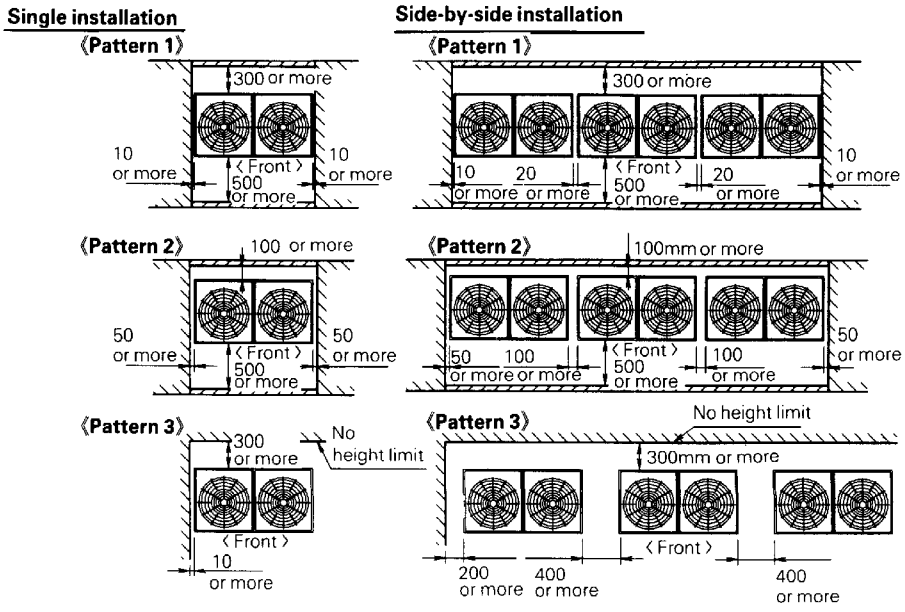
(4) Multi-row side-by-side installation (On rooftop, etc)



L	A
0<L≦1/2H	150 (200)
1/2H<L≦H	250 (350)
L>H	impossible

Note: Refer back to the note 《Side-by-side installation》 for the clearance required between two units.

■ **CRY8M·8M2·10M·10M2**

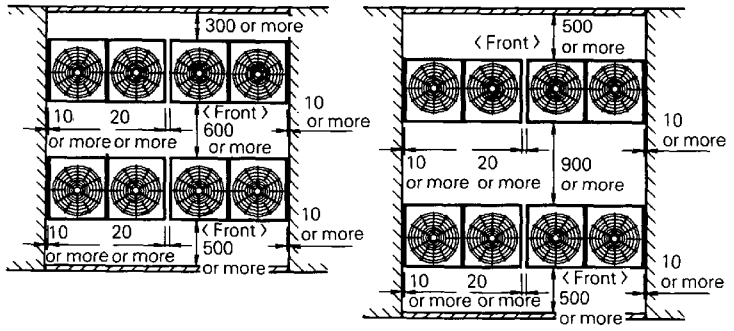


(Unit: mm)

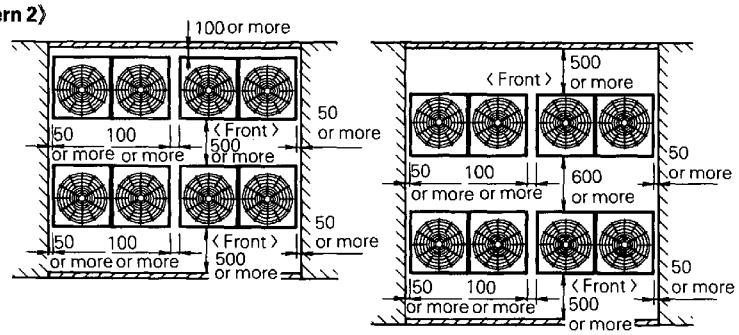
Group installation

〈Pattern 1〉

(Unit: mm)

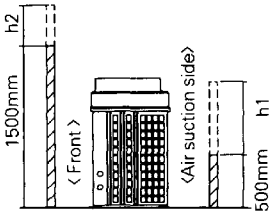


〈Pattern 2〉

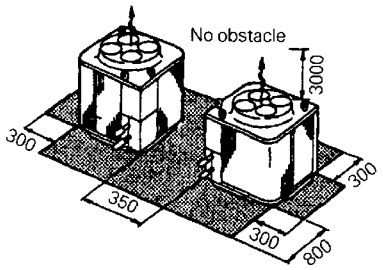


Notes:

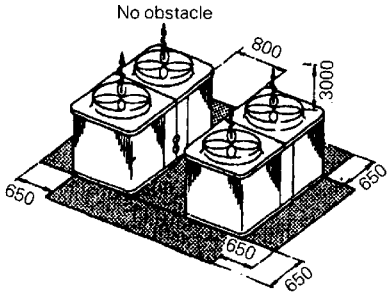
1. The wall heights should be as follows in the case of Patterns 1 and 2.
   Front: Up to 1500mm
   Suction side: Up to 500mm
   Side: No height limit
2. If the wall is higher than the above, the dimensions h1/2 and h2/2 (see the figure at right) should be added to the servicing space at the front as well as the suction side.
3. The units should be installed with the on-site space -- including passageways and air flow -- in mind. Select an appropriate pattern from those in this figure.
   (When the number of units exceeds that in the selected pattern, a short circuit should be considered for effective set-up.)
4. The front space should be provided large enough to carry out the refrigerant piping on site.



(CRY12JA2)×2



(CRY15JA2·20JA2)×2

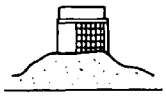


Snow preventive measures

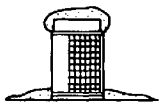
In order to operate the air conditioner normally in snowy places, it is necessary to provide sufficient snow preventive measures such as hood, foundation, etc. Even in other places, the air conditioner may not operate well if it is snow. It is, therefore, advisable to prepare an appropriate snow preventive measures at the planning.

① Variations of snow troubles

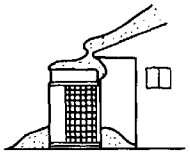
(a) The outdoor unit is buried in snow.



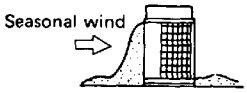
(b) Snow is settled on the top of the outdoor unit.



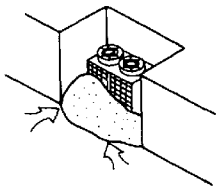
(c) Snowslide



(d) The air suction inlet (coil) is covered with snow.



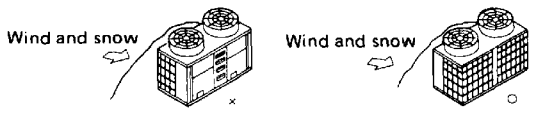
(e) The outdoor unit is buried in a snowdrift.



② Snow preventive measures in non-snowy places

○ Installation direction

1) Do not install the outdoor unit with its air cooled heat exchanger surface directed toward wind and snow.

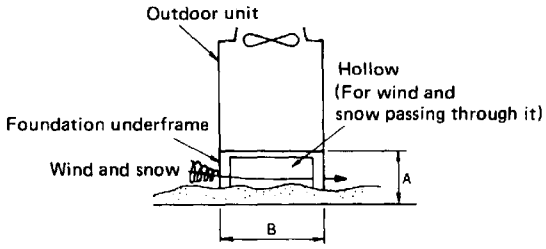


2) Do not install the outdoor unit in a snowdrift, under the eaves, but in such a place which is not affected by wind.

○ Foundation

If it is presued that considerably heavy snow is settled (over 10cm), provide underframe.

1) The height of underframe (A size) should be twice as high as that of snow settled on the ground.
(Ex. If the height of snow is presumed to be 20cm, A size should be approx. 40cm.)



2) Make an underframe of steel materials in a way wind and snow can pass it, but avoid making it of concrete.

3) The width of an underframe (Dimension B) should not be larger than that of the outdoor unit. If it is made wider, snow may be settled on it.

○ Capacity reduction while snowing

If snow contains a lot of water, snow is attached to the surface of the heat exchanger, which reduces the capacity of the air conditioner.

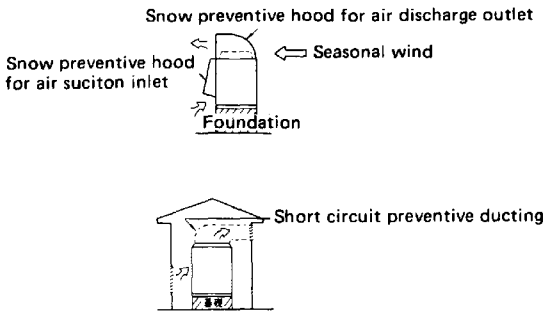
Provide necessary countermeasures not to reduce the capacity of the air conditioner if capaicty reduction can be presumed.

③ Snow preventive measures in snowy districts

Provide the following snow preventive measures additionally in snowy districts.

○ Countermeasures against snow settled on the outdoor unit and the air suction inlet

Provide snow preventive hoods over the air suction inlet and the air discharge outlet respectively or install the outdoor unit in a small hut (which is designed to be well ventilated.)

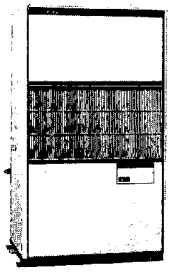


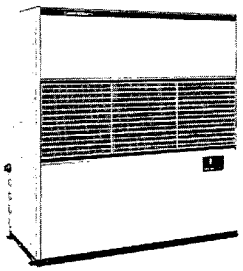
Installation example

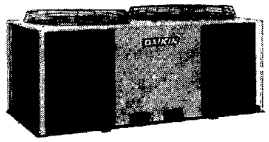
4 Air Cooled Split System Air Conditioners Floor Mounted Type

FVP	05J	RU	05J
	08J		08J
	10J		10J
FV	16J		16J(A)
	22J		22J(A)

CONTENTS







4 Air Cooled Split System Air Conditioners Floor Mounted Type FV(P)-J + RU-J(A) Series

1. Features

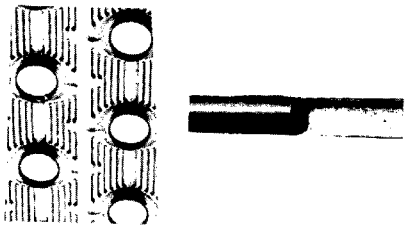
The Daikin Air Cooled Split System Air Conditioners (FV(P)-J + RU-J(A) Series) are available in 5 models from 12,300/13,300 kcal/h to 49,500/55,700 kcal/h (50/60Hz).

The units are internally wired and are subject to stringent tests at the factory before delivery. All that is required is to provide ducting, refrigerant piping and main power supply on the spot, which reduces installation works and costs greatly. In addition, since the fan coil units FV(P)-J series are particularly compact and light, they can be easily brought in and installed, and space required for installation is small.

The condensing units RU-J series are designed to be extremely low so as not to impair beauty of a building when they are installed on a roof top or a veranda. They are ideally used for air conditioning of residences, offices, shops, schools and any type of buildings in almost every part of the world, as they are designed to be operative in a wide ambient temperature range from 20°C (5°C in case a head pressure control system is attached additionally) to 52/49°C on 50/60Hz.

Fan coil unit – FV(P)-J

- All models from FVP05J to FV22J are designed for operation with ducting. However, if an optional plenum chamber is installed on the top of the units, they can be installed directly in a room to be air conditioned without ducting.
- **The evaporator** is of the unique cross fin coil type. Waffle louver fins*1 and Hi-X copper tubes*2 (internal tube surface is modified by serration) are adopted to improve heat exchange greatly.



Waffle louver fins **Hi-X tube**

U.S. PAT. *1 : No.4,434,844
*2 : No.4,480,684

- **The evaporator fan and motor**
  The evaporator fan is of the dual suction multi-blade type and is driven by the V belt. Accurate air flow rate is obtained by adjusting the variable pitch pulley, which ensures easy ducting. The motor is equipped with an overcurrent relay for safe operation.
- The electronic thermostat encased is capable of precise operation control in accordance with room temperature which in turn ensures energy saving.
- The washable air filter is attached as a standard accessory to remove dust and dirt from the room air. It can be easily attached or detached for cleaning and can be used repeatedly.
- The red signal lamp is attached to the control panel, indicating the operation.
- The white pilot lamp is attached to the control panel, indicating abnormal operation. (FV16J·22J only)

Condensing unit – RU

- **The compressor** is a compact and powerful hermetically sealed reciprocating compressor which has been developed with Daikin's own technique. The 2-pole reciprocating type compressor is held by springs in the compressor casing to minimize operation vibration. In addition, the whole compressor is installed with vibration isolation rubber to reduce vibration from going outside.
  A complete set of the safety devices such as crankcase heater, overcurrent relay, compressor thermal protector encased in the motor coil, etc. are equipped, ensuring a long life and trouble-free operation. The compressor is also equipped with a check valve for refrigeration oil charge. (oil is percharged.)
- **The condenser** is of the air cooled cross fin coil type; i.e. copper tubes are enlarged with hydraulic pressure to be in contact closely with aluminium waffle louver fins. The construction ensures excellent heat exchange. The refrigerant condensed in the condenser coil is sub-cooled additionally in the coil to raise refrigeration efficiency.
- **The condenser fan motor** is of the 8-pole (6-pole in case of RU16J·22J) water-proof induction type and is equipped with thermal protector for safe operation (RU05J~10J and RU16JA·22JA). Non-lubrication bearings are used for maintenance-free operation.

2. Specifications

Model			FVP05J+ RU05J	FVP08J+ RU08J	FVP10J+ RU10J	FV16J+ RU16J(A)	FV22J+ RU22J(A)
*1 Cooling capacity 50/60Hz		kcal/h	12,300/13,300	18,500/20,000	23,800/26,300	37,000/41,800	49,500/55,700
		Btu/h	48,800/52,800	73,400/79,400	94,500/104,000	147,000/166,000	197,000/221,000
		kW	14.3/15.5	21.5/23.3	27.7/30.6	43.0/48.6	57.6/64.8
Capacity steps		%	100—0	100—0	100—0	100—50—0	100—50—0
Refrigerant			R22				
No.of refrigeration circuit			1	1	1	2	2
Refrigerant piping	Liquid	mm	Dia.12.7	Dia.15.9	Dia.15.9	Dia.15.9×2	Dia.15.9×2
	Gas	mm	Dia.19.1	Dia.25.4	Dia.31.8	Dia.25.4×2	Dia.31.8×2
Drain piping (Fan coil unit)	Upper		FPS1B			FPS1B	
	lower		FPS$^1/_2$B			FPS1B	
Fan coil unit			**FVP05J**	**FVP08J**	**FVP10J**	**FV16J**	**FV22J**
Casing/color			Cold rolled steel plate/ivory white				
Coil	Type		Cross fin coil (Waffle louver fins and Hi-X tubes)				
	No.of rows×stages×F.P.	mm	2×22×2.0	2×22×2.0	2×22×2.0	3×28×2.0	3×28×2.0
	Face area	m^2	0.433	0.562	0.729	0.903	1.145
Fan	Type		Dual suction multi-blade				
	Model		2D1 $^5/_8$A	2D1 $^3/_4$G2	2D1 $^3/_4$G2	2D2E	2D2E
	Drive		Belt drive				
	Air flow	m^3/min.	42	60	83	120	165
		cfm	1,480	2,120	2,930	4,240	5,820
	Motor output	kW	0.4	0.75	0.75	2.2	3.75
	Air filter (Factory set)		Resin net				
Refrigerant control			—	—	—	Thermal expansion valve	
Dimensions	(H×W×D)	mm	1,640×950×510	1,640×1,170×510	1,640×1,470×510	1,870×1,470×720	1,870×1,810×720
Weight	Y1,TH models	kg	120	150	175	270	320
	YH model	kg	123	153	178	275	325
Condensing unit			**RU05J**	**RU08J**	**RU10J**	**RU16JY1(RU16JA)**	**RU22JY1(RU22JA)**
Casing/color			Paintable galvanized steel plate/ivory white				
Compressor	Type		Hermetically sealed reciprocating				
	Model×No.		2T55LG×1	3T55KG×1	3T55RG×1	3T55NF×2	3T55VF×2
	No.of cylinders		2	3	3	3×2	3×2
	Speed 50/60Hz	r.p.m.	2,900/3,450	2,900/3,450	2,900/3,450	2,900/—(2,900/3,450)	2,900/—(2,900/3,450)
	Refrigeration oil		SUNISO 3GSD				
	Charged volume	ℓ	2.6	3.2	3.2	2.7×2	2.7×2
Coil	Type		Cross fin coil (Waffle louver fins and Hi-X tubes)				
	No.of rows		2	2	2	2(2)	2(2)
	No.of stages		28	30	32	24(38)	30(42)
	Fin pitch	mm	2.0	2.0	2.0	2.0(2.0)	2.0(2.0)
	Face area	m^2	1.273	1.886	2.012	1.11(2,135)×2	1.50(2,673)×2
Refrigerant control			Capillary tube			—	—
Fan	Type		Propeller				
	Model		P60E	P70E	P80E	P70F(P70E)	P80F(P80E)
	Drive		Direct drive				
	Air flow 50/60Hz	m^3/min.	92/105	130/150	180/198	370/—(260/300)	550/—(380/420)
		cfm	3,250/3,710	4,590/5,300	6,350/6,990	13,060/—(9,180/10,600)	19,420/—(13,400/14,800)
	Motor output Y1 model	kW	0.12	0.12	0.21	1.0×2	1.5×2
	Motor output TH,YH models	kW	0.19	0.19	0.28	(0.19×2)	(0.28×2)
Safety devices			High pressure switch, low pressure switch, crankcase heater, fuse, overcurrent relays for compressor and evaporator fan motor (and condenser fan motor in case of RU16JY1,22JY1), thermal protector for compressor and condenser fan motor (RU05J~10Jand RU16JA,22JA), recycling guard timer (RU16J(A),22J(A) only)				
Dimentions	H×W×D	mm	995×770×770	1,010×980×980	1,075×980×980	813×1,800×850 (1,200×2,000×960)	945×1,900×960 (1,310×2,500×1,060)
Weight		kg	140	190	205	350(370)	440(460)

Notes:

*1 Nominal cooling capacities are based on the following conditions:
Return air temperature: 27°CDB (80°FDB), 19.5°CWB (67°FWB)
Outdoor temperature: 35°CDB (95°FDB)
Equivalent ref. piping: 5 m (Horizontal)
Capacities are gross capacities which do not include a deduction for evaporator fan motor heat.

2. In the specifications of RU16·22, the figures inside ( ) show the case of RU16JATH·YH, RU22JATH,YH and those outside ( ) show the case of RU16JY1,RU22JY1 (The others are the same either for JY1 or for JA models).

Conversion formulae		
Btu/h	=	kcal/h x 3.97
kW	=	kcal/h x 0.001163
Inches	=	mm x 0.0394
Pounds	=	kg x 2.205
Psi	=	kg/cm² x 14.22
KPa	=	kg/cm² x 98.07
Cfm	=	m³/min. x 35.3
US Gallons	=	Liter x 0.264
UK Gallons	=	Liter x 0.220

e.g. 12,300 kcal/h = 12,300 x 3.97
= 48,800 Btu/h

■ Power supply

SYMBOL	Power supply	Condensing unit	Fan coil unit
Y1	3 ϕ, 380~415V, 50Hz (4 wires)	RU05JY1	FVP05JY1
		RU08JY1	FVP08JY1
		RU10JY1	FVP10JY1
		RU16JY1	FV16JY1
		RU22JY1	FV22JY1
YH	3 ϕ, 346~380/380~400V, 50/60Hz (3 wires)	RU05JYH	FVP05JYH
		RU08JYH	FVP08JYH
		RU10JYH	FVP10JYH
		RU16JAYH	FV16JYH
		RU22JAYH	FV22JYH
TH	3 ϕ, 220/220~240V, 50/60Hz (3 wires)	RU05JTH	FVP05JTH
		RU08JTH	FVP08JTH
		RU10JTH	FVP10JTH
		RU16JATH	FV16JTH
		RU22JATH	FV22JTH

3. Standard accessories

1. **Operation manual**
2. **Installation manual (FV16·22)**
3. **Fuse**
4. **Bolts, nuts for duct flange**

4. Optional accessories

※ **1. Anti-corrosion treatment for outdoor units**
- E [Standard anti-corrosion model]
- E2 [Stronger anti-corrosion model]

※ **2. Low ambient temp. operation for outdoor units**
- down to 5°C
- down to 0°C

※ **3. Fan motor pulley change for indoor units** ☆

※ **4. Fan motor 1 size larger for indoor units** ☆

※ **5. Electric heater**

6. Hot water heater

7. Steam heater

8. Evaporating pan type humidifier

9. Steam spray type humidifier

10. Water spray type humidifier

11. Fresh air intake

12. Rear suction inlet

13. Plenum chamber

14. Side discharge grille for plenum chamber

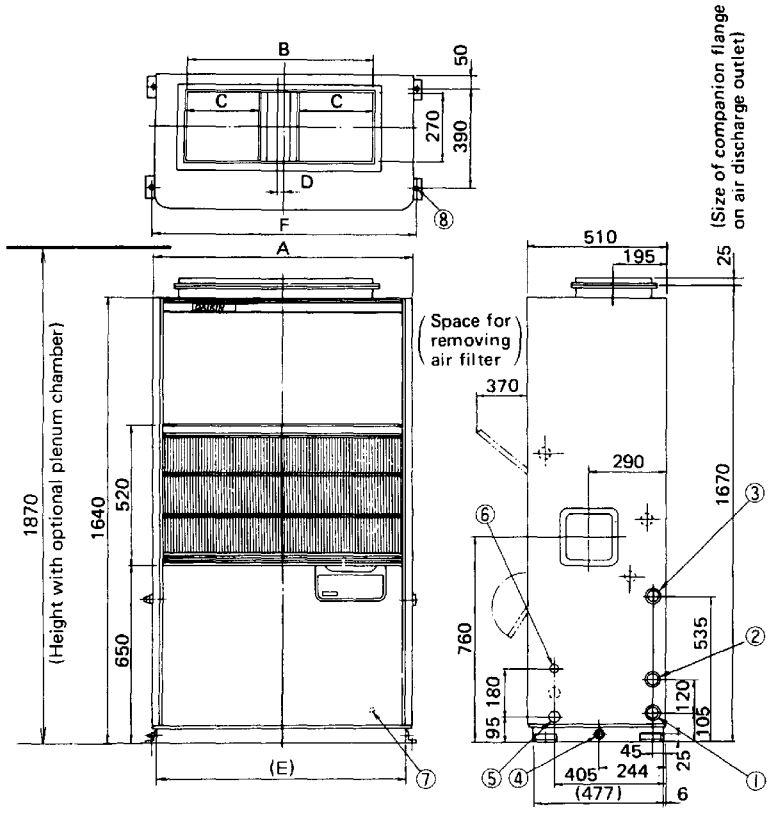
15. Pressure gauge

Note: ※ These options should be attached in DAIKIN factory.
Field modification are not available.
◎ For the detail specification of "Anti-corrosion treatment", refer to Appendix-1. (Last chapter of this catalog)
☆ In case ordering these modifications, inform "Air flow rate (m^3/min)" & "External static pressure (mmH_2O)".

5. Dimensions

(Unit: mm)

FVP05J·08J·10J (Fan coil units)



① Liquid pipe connection
- FVP05J: φ12.7 DCuT Brazing
- PVP08J: φ15.9 DCuT Brazing
- FVP10J: φ15.9 DCuT Brazing

② Gas pipe connection
- FVP05J: φ19.1 DCuT Brazing
- FVP08J: φ25.4 DCuT Brazing
- FVP10J: φ31.8 DCuT Brazing

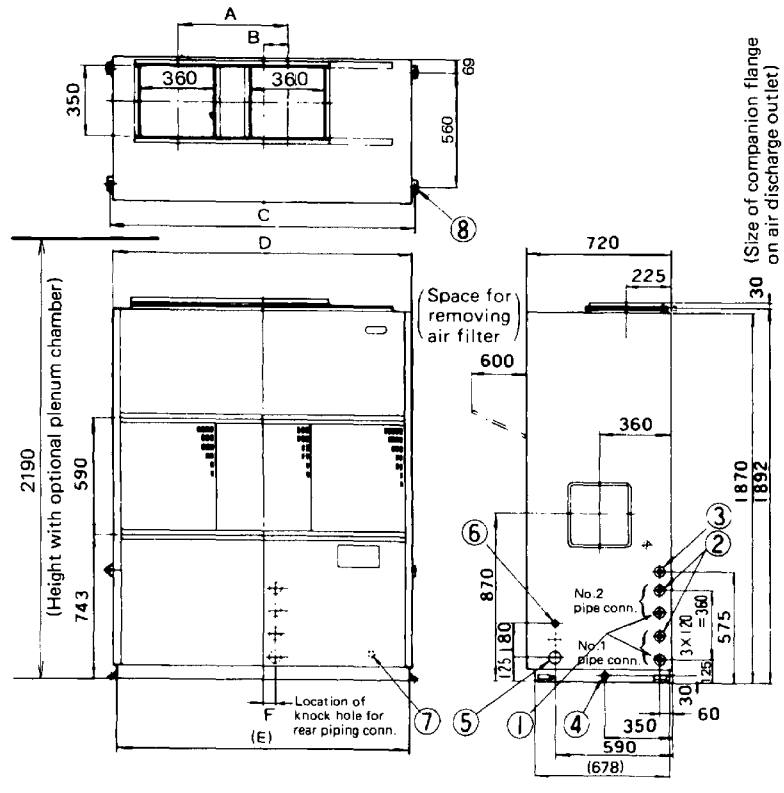
③ Upper drain: FPS1B
④ Lower drain: FPS1/2B
⑤ Power supply intake: φ45 Hole
⑥ Control wire intake: φ28 Hole
⑦ Grounding terminal in switch box M6 bolt
⑧ Anchor bolt set plate (Detachable): 4-φ15 Hole

Note:
①~⑥ are provided on the right side (Standard), but they can be also provided on the left side on the spot.

Model	A	B	C	D	E	F
FVP05J	950	695	280	27.5	924	974
FVP08J	1170	870	330	35	1144	1194
FVP10J	1470	1140	430	20	1444	1494

(Unit: mm)

FV16J·22J (Fan coil units)



① Liquid pipe connection
- FV16J: φ15.9 DCuT Brazing
- FV22J: φ15.9 DCuT Brazing

② Gas pipe connection
- FV16J: φ25.4 DCuT Brazing
- FV22J: φ31.8 DCuT Brazing

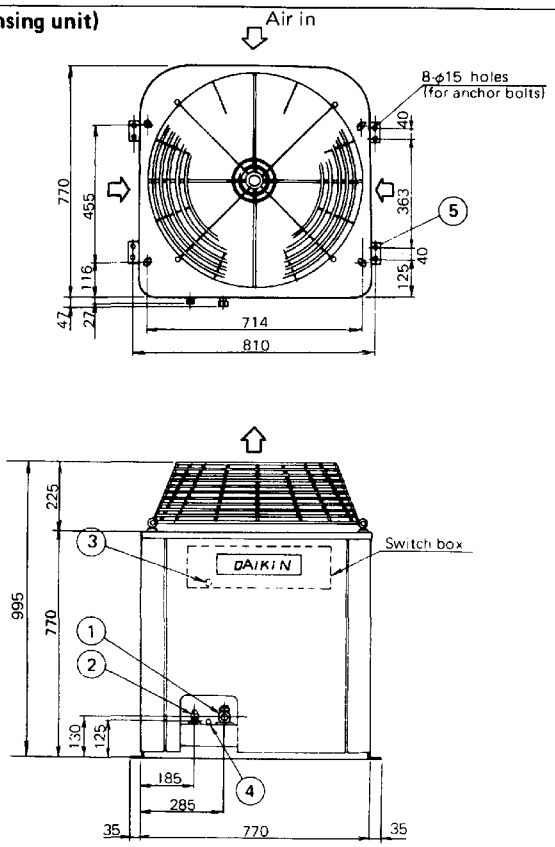
③ Upper drain: FPS1B
④ Lower drain: FPS1B
⑤ Power supply intake: φ58 Hole
⑥ Control wire intake: φ42 Hole
⑦ Grounding terminal (in switch box): M6 Bolt
⑧ Anchor bolt set plate (detachable): 4-φ17 Hole

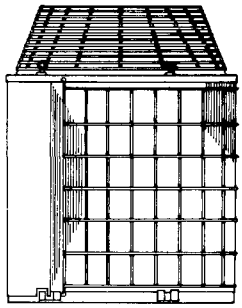
Model	A	B	C	D	E	F
FV16J	540	115	1495	1470	1445	30
FV22J	680	180	1835	1810	1785	60

4

(Unit: mm)

RU05J (Condensing unit)



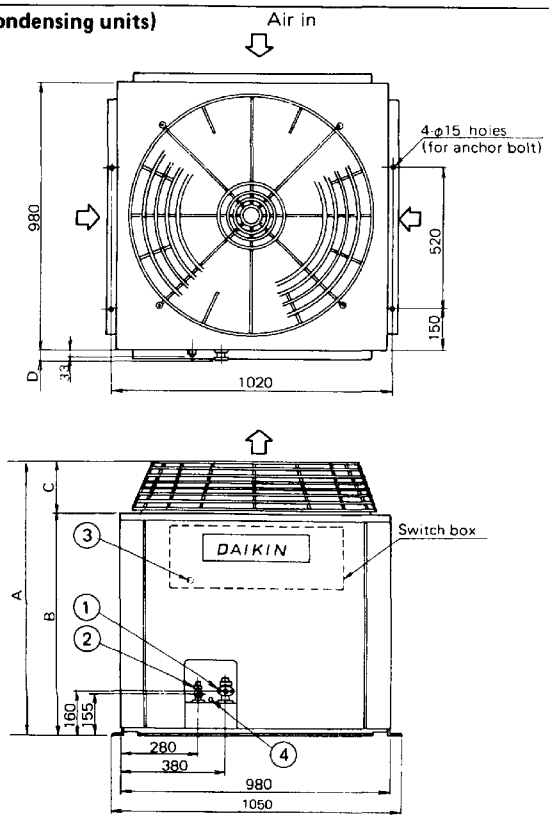


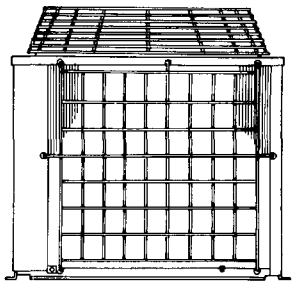
① Gas pipe conn. φ19.1 Flare
② Liquid pipe conn. φ12.7 Flare
③ Grounding terminal M6
④ Wire intake
⑤ Anchor bolt set plates
(Use one of the two holes
of each four set plates)

Note. Grounding terminal (M6 bolt) is encased in the switch box.

(Unit: mm)

RU08J·10J (Condensing units)





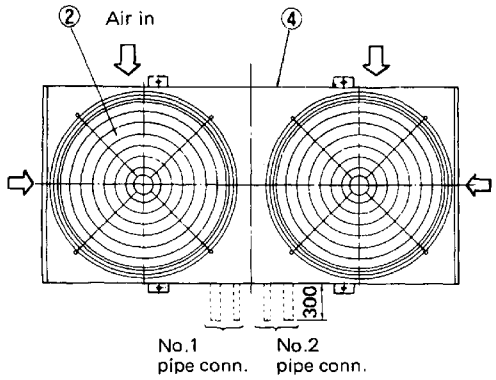
① Gas pipe conn. φ25.4 (RU08J) Brazing
φ31.8 (RU10J) Brazing
② Liquid pipe conn. φ15.9 Flare
③ Grounding terminal M6
④ Wire intake

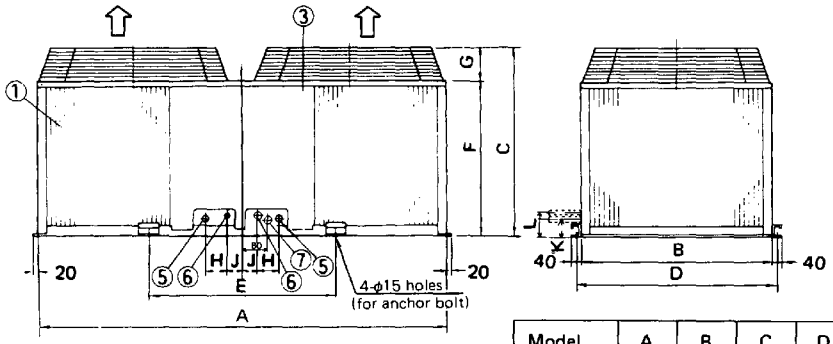
Note: Grounding terminal (M6 bolt) is encased in the switch box.

Model	A	B	C	D
RU08J	1010	830	180	22
RU10J	1075	890	185	70

(Unit: mm)

RU16J(A)·22J(A) (Condensing units)





① Condenser air inlet
② Condenser air outlet
③ Service panel for switch box
④ Service panel for compressor
⑤ Gas pipe conn. φ25.4 (φ31.8) DCuT Brazing
⑥ Liquid pipe conn. φ15.9 (φ15.9) DCuT Brazing
⑦ Power supply and control wire intake

Notes: 1. Figures in ( ) show the dimension of RU22J(A).
2. Grounding terminal (M6 bolt) is encased in the switch box.

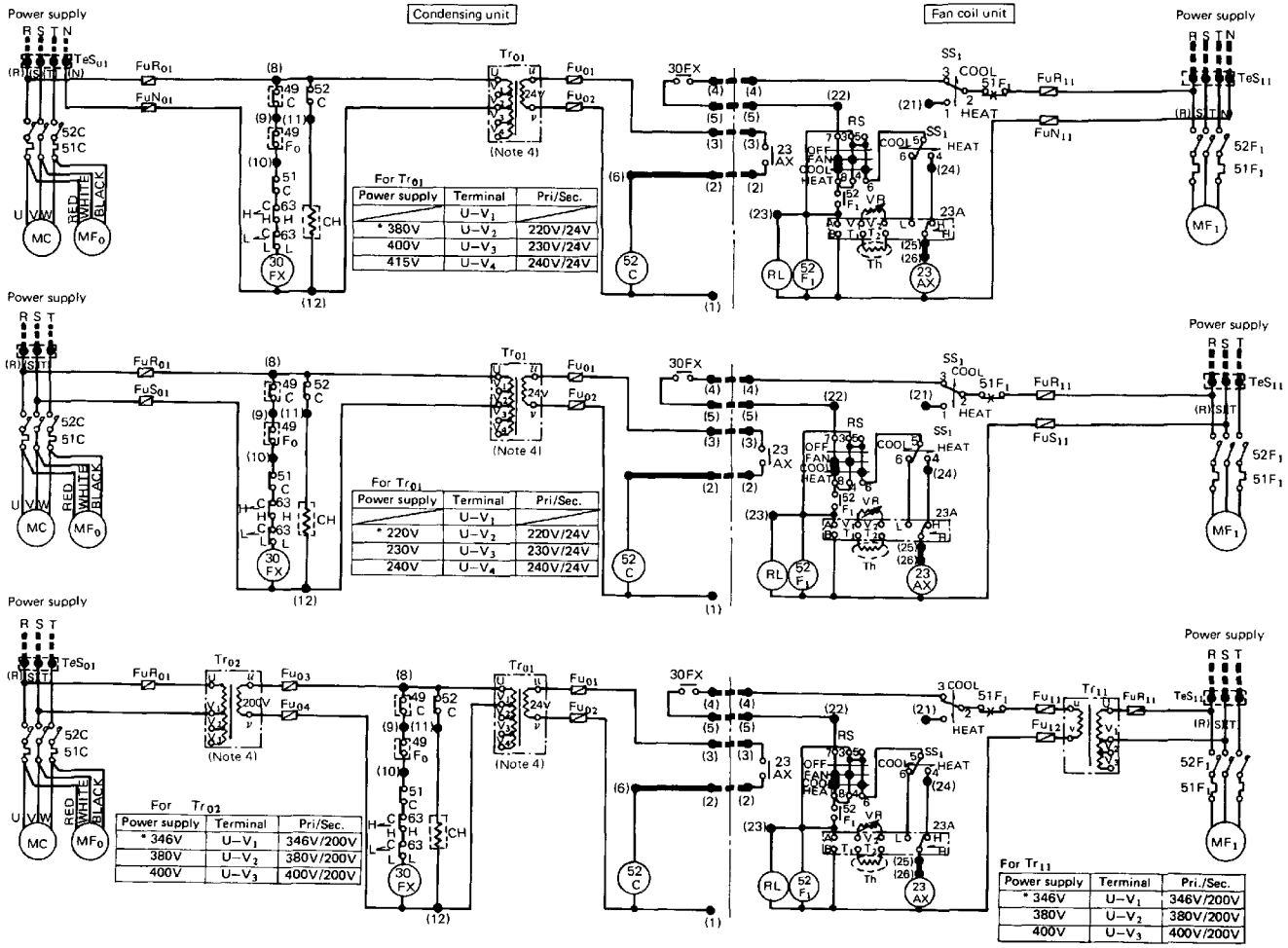
Model	A	B	C	D	E	F	G	H	J	K	L
RU16JY1	1800	850	813	900	825	668	145	70	50	65	75
RU22JY1	1900	960	945	1010	825	820	125	27	55	160	80
RU16JA	2000	960	1200	1010	825	1020	180	70	50	65	75
RU22JA	2500	1060	1310	1110	1025	1125	185	27	55	160	80

Model	Power supply	
Y1	380, 400, 415V	50Hz
TH	220/220, 230, 240V	50/60Hz
YH	346, 380/380, 400V	50/60Hz

[Y1 model]

[TH model]

[YH model]



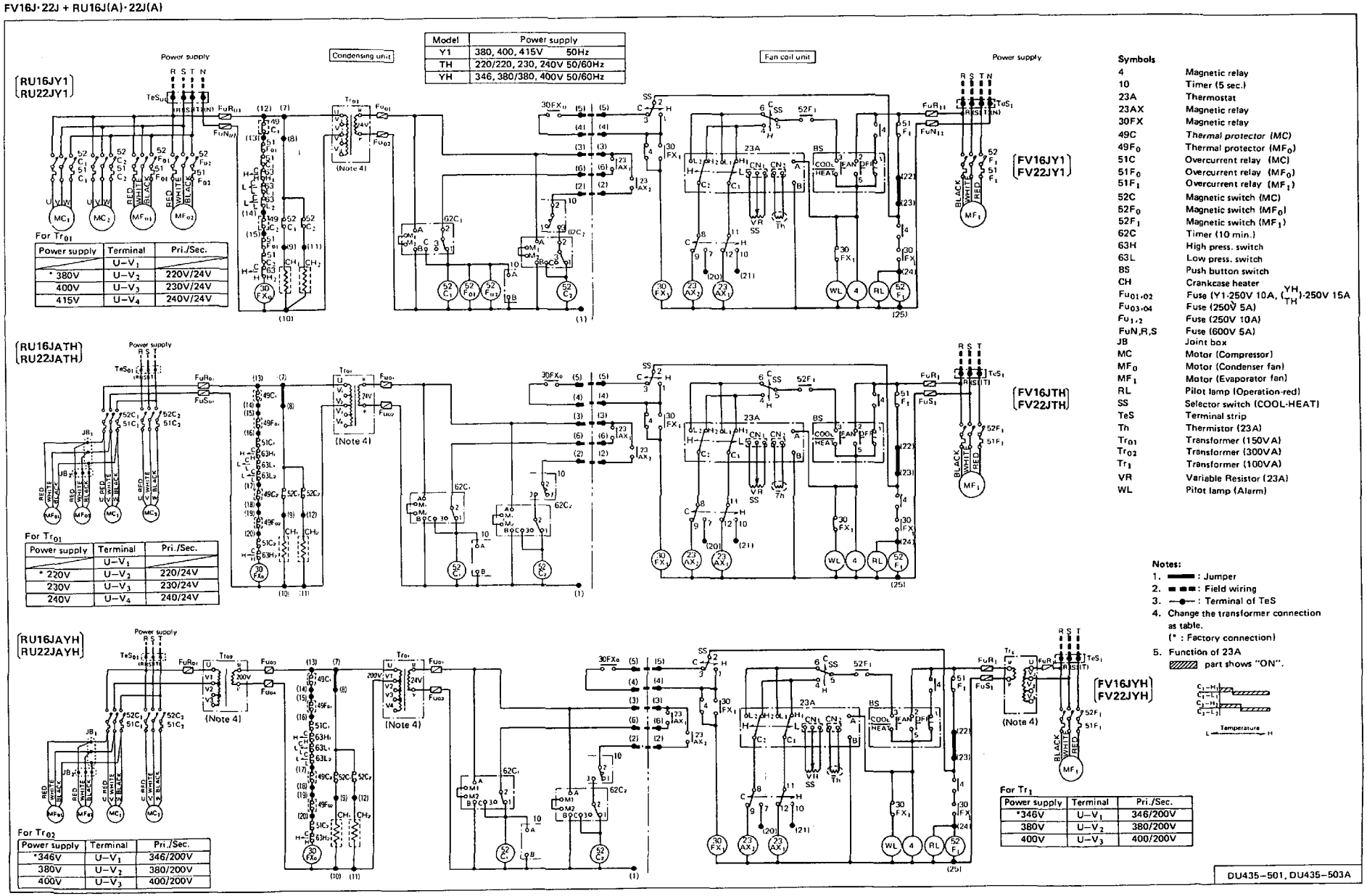
Symbols:

23A	Thermostat	CH	Crankcase heater	Th	Thermistor (23A)
23AX	Magnetic relay	$Fu_{03,04}$	Fuse (250V 5A)	$Tr_{01,11}$	Transformer (50VA)
30FX	Magnetic relay	$Fu_{01,02,11,12}$	Fuse (250V 10A)	Tr_{02}	Transformer (75VA)
49C	Compressor thermal protector	FuN,R,S	Fuse (600V 5A)	VR	Variable resistor (23A)
$49F_0$	Fan motor thermal protector	MC	Motor (Compressor)		
51C	Overcurrent relay (MC)	MF_0	Motor (Condenser fan)		
$51F_1$	Overcurrent relay (MF_1)	MF_1	Motor (Evaporator fan)		
52C	Magnetic switch (MC)	RL	Pilot lamp (Operation-red)		
$52F_1$	Magnetic switch (MF_1)	RS	Rotary switch		
63H	High press. switch	SS_1	Selector switch (COOL–HEAT)		
63L	Low press. switch	TeS	Terminal strip		

Notes:

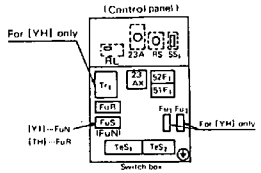
1. ▬▬ : Jumper
2. ▪▪▪ : Field wiring
3. —●— : Terminal of TeS
4. Change the transformer connection according to the above table. (* Factory connection)

DU429–558

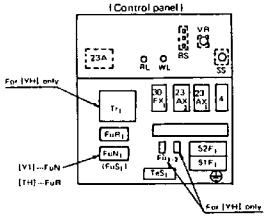

Model | Power supply
Y1 | 380, 400, 415V 50Hz
TH | 220/220, 230, 240V 50/60Hz
YH | 346, 380/380, 400V 50/60Hz
Condensing unit
Fan coil unit
Power supply
(RU16JY1) (RU22JY1)
(FV16JY1) (FV22JY1)
(RU16JATH) (RU22JATH)
(FV16JTH) (FV22JTH)
(RU16JAYH) (RU22JAYH)
(FV16JYH) (FV22JYH)
(Note 4)
For Tr01
Power supply | Terminal | Pri./Sec.
* 380V | U–V2 | 220V/24V
400V | U–V3 | 230V/24V
415V | U–V4 | 240V/24V
For Tr01
Power supply | Terminal | Pri./Sec.
* 220V | U–V2 | 220/24V
230V | U–V3 | 230/24V
240V | U–V4 | 240/24V
For Tr02
Power supply | Terminal | Pri./Sec.
*346V | U–V1 | 346/200V
380V | U–V2 | 380/200V
400V | U–V3 | 400/200V
For Tr1
Power supply | Terminal | Pri./Sec.
*346V | U–V1 | 346/200V
380V | U–V2 | 380/200V
400V | U–V3 | 400/200V
Symbols
4 Magnetic relay
10 Timer (5 sec.)
23A Thermostat
23AX Magnetic relay
30FX Magnetic relay
49C Thermal protector (MC)
49F0 Thermal protector (MF0)
51C Overcurrent relay (MC)
51F0 Overcurrent relay (MF0)
51F1 Overcurrent relay (MF1)
52C Magnetic switch (MC)
52F0 Magnetic switch (MF0)
52F1 Magnetic switch (MF1)
62C Timer (10 min.)
63H High press. switch
63L Low press. switch
BS Push button switch
CH Crankcase heater
Fu01,02 Fuse (Y1·250V 10A, (YH TH)-250V 15A
Fu03,04 Fuse (250V 5A)
Fu1,2 Fuse (250V 10A)
FuN,R,S Fuse (600V 5A)
JB Joint box
MC Motor (Compressor)
MF0 Motor (Condenser fan)
MF1 Motor (Evaporator fan)
RL Pilot lamp (Operation-red)
SS Selector switch (COOL-HEAT)
TeS Terminal strip
Th Thermistor (23A)
Tr01 Transformer (150VA)
Tr02 Transformer (300VA)
Tr1 Transformer (100VA)
VR Variable Resistor (23A)
WL Pilot lamp (Alarm)
Notes:
1. ——— : Jumper
2. ■ ■ ■ : Field wiring
3. —●— : Terminal of TeS
4. Change the transformer connection as table.
(* : Factory connection)
5. Function of 23A
▨ part shows "ON".
Temperature
DU435–501, DU435–503A

● **Switch box**

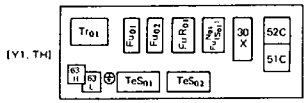
FVP05J~10J



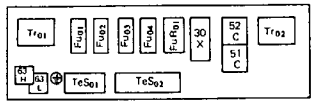
FV16J·22J



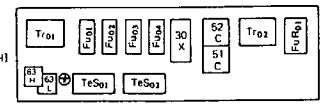
RU05J~10J



RU05J

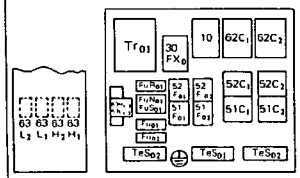


RU08J~10J

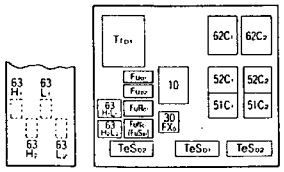


RU16J·22J

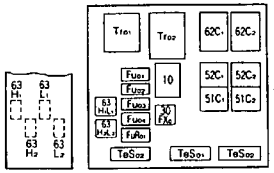
[Y1 model]



[TH model]



[YH model]



7. Capacity tables

[50Hz]

[FVP05J + RU05J]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	SHC	PI	30 TC	SHC	PI	35 TC	SHC	PI	40 TC	SHC	PI	46 TC	SHC	PI	48 TC	SHC	PI	50 TC	SHC	PI	52 TC	SHC	PI
36 (0.11)	16.0	23	11.5	8.5	3.9	11.1	8.3	4.1	10.6	8.0	4.3	10.0	7.8	4.6	9.4	7.5	4.9	---	---	---	---	---	---	---	---	---
	18.0	25	12.4	8.7	4.0	11.9	8.5	4.2	11.4	8.3	4.5	10.8	8.0	4.7	10.1	7.7	5.1	---	---	---	---	---	---	---	---	---
	19.5	27	13.0	8.9	4.0	12.5	8.4	4.3	12.0	8.4	4.5	11.4	8.2	4.8	10.7	7.9	5.2	10.4	7.8	5.3	10.2	7.7	5.5	9.9	7.6	5.6
	22.0	30	14.1	9.0	4.1	13.4	8.8	4.4	13.0	8.6	4.7	12.4	8.4	5.0	11.7	8.1	5.4	11.4	8.0	5.5	11.2	7.9	5.7	10.9	7.8	5.8
	24.0	32	15.1	9.2	4.2	14.5	9.0	4.5	13.9	8.8	4.8	13.3	8.6	5.2	12.5	8.3	5.6	12.3	8.2	5.7	12.0	8.1	5.9	---	---	---
42 (0.13)	16.0	23	11.8	9.0	3.9	11.4	8.9	4.2	10.9	8.6	4.4	10.3	8.4	4.7	9.7	8.1	5.0	---	---	---	---	---	---	---	---	---
	18.0	25	12.7	9.3	4.0	12.2	9.1	4.3	11.7	8.9	4.5	11.1	8.6	4.8	10.4	8.3	5.1	10.2	8.2	5.3	---	---	---	---	---	---
	19.5	27	13.4	9.5	4.1	12.9	9.3	4.3	12.3	9.0	4.6	11.7	8.8	4.9	11.0	8.5	5.3	10.7	8.4	5.4	10.5	8.3	5.5	10.2	8.2	5.7
	22.0	30	14.5	9.7	4.2	14.0	9.5	4.5	13.4	9.3	4.8	12.8	9.1	5.1	12.0	8.8	5.5	11.7	8.7	5.6	11.5	8.6	5.7	11.2	8.5	5.9
	24.0	32	15.5	9.9	4.3	14.9	9.6	4.6	14.3	9.4	4.9	13.7	9.2	5.2	12.9	9.0	5.6	12.6	8.9	5.8	12.3	8.8	5.9	---	---	---
48 (0.15)	16.0	23	12.0	9.6	4.0	11.6	9.4	4.2	11.1	9.2	4.4	10.5	8.9	4.7	9.9	8.6	5.0	---	---	---	---	---	---	---	---	---
	18.0	25	13.0	9.9	4.0	12.4	9.6	4.3	11.9	9.4	4.5	11.3	9.2	4.8	10.6	8.9	5.2	10.4	8.8	5.3	---	---	---	---	---	---
	19.5	27	13.7	10.0	4.1	13.2	9.8	4.4	12.5	9.6	4.6	11.9	9.4	4.9	11.2	9.1	5.3	10.9	9.0	5.4	10.7	8.9	5.6	10.4	8.8	5.7
	22.0	30	14.8	10.3	4.3	14.3	10.1	4.5	13.7	9.9	4.8	13.1	9.7	5.1	12.2	9.4	5.5	11.9	9.3	5.6	11.7	9.2	5.8	11.4	9.1	5.9
	24.0	32	15.8	10.5	4.3	15.2	10.3	4.6	14.6	10.1	4.9	14.0	9.9	5.3	13.2	9.6	5.7	12.9	9.5	5.8	12.7	9.4	6.0	---	---	---

[FVP08J + RU08J]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	SHC	PI	30 TC	SHC	PI	35 TC	SHC	PI	40 TC	SHC	PI	46 TC	SHC	PI	48 TC	SHC	PI	50 TC	SHC	PI	52 TC	SHC	PI
51 (0.13)	16.0	23	17.4	12.5	5.4	16.7	12.1	5.7	15.9	11.8	6.1	15.2	11.4	6.4	14.1	10.9	6.7	---	---	---	---	---	---	---	---	---
	18.0	25	18.7	12.8	5.6	17.9	12.4	5.9	17.1	12.1	6.2	16.2	11.7	6.5	15.2	11.2	6.9	14.8	11.0	7.1	---	---	---	---	---	---
	19.5	27	19.6	13.0	5.7	18.9	12.6	6.0	18.0	12.3	6.3	17.1	11.9	6.7	15.9	11.4	7.1	15.6	11.2	7.2	15.2	11.1	7.3	14.7	10.9	7.5
	22.0	30	21.3	13.2	5.8	20.4	12.9	6.2	19.5	12.5	6.5	18.6	12.1	6.9	17.3	11.7	7.3	16.9	11.5	7.4	16.4	11.3	7.6	16.0	11.2	7.7
	24.0	32	22.6	13.4	5.9	21.8	13.1	6.3	20.8	12.7	6.7	19.7	12.3	7.0	18.5	11.9	7.5	18.0	11.7	7.6	17.8	11.6	7.8	---	---	---
60 (0.15)	16.0	23	17.9	13.3	5.5	17.2	13.0	5.8	16.4	12.6	6.1	15.6	12.2	6.4	14.5	11.7	6.8	---	---	---	---	---	---	---	---	---
	18.0	25	19.2	13.6	5.6	18.4	13.3	6.0	17.6	12.9	6.3	16.7	12.5	6.6	15.6	12.1	7.0	15.2	11.9	7.1	---	---	---	---	---	---
	19.5	27	20.2	13.8	5.7	19.4	13.5	6.1	18.5	13.1	6.4	17.6	12.8	6.7	16.4	12.3	7.1	16.0	12.1	7.3	15.6	12.0	7.4	15.1	11.8	7.6
	22.0	30	21.9	14.2	5.9	21.0	13.9	6.2	20.1	13.5	6.6	19.1	13.1	7.0	17.8	12.6	7.4	17.4	12.5	7.5	16.9	12.3	7.7	16.5	12.1	7.9
	24.0	32	23.3	14.3	6.0	22.4	14.0	6.4	21.4	13.7	6.8	20.3	13.3	7.1	19.0	13.0	7.6	18.1	12.8	7.7	18.1	12.6	7.9	---	---	---
69 (0.17)	16.0	23	18.3	14.0	5.6	17.6	13.7	5.9	16.7	13.3	6.2	15.9	13.0	6.5	14.8	12.5	6.9	---	---	---	---	---	---	---	---	---
	18.0	25	19.6	14.4	5.7	18.8	14.1	6.0	18.0	13.7	6.3	17.0	13.3	6.7	15.9	12.9	7.1	15.5	12.7	7.2	---	---	---	---	---	---
	19.5	27	20.6	14.7	5.8	19.0	14.3	6.1	18.1	14.0	6.5	18.0	13.6	6.8	16.7	13.1	7.2	16.3	13.0	7.3	15.9	12.8	7.5	15.4	12.6	7.6
	22.0	30	22.3	15.0	5.9	21.4	14.7	6.3	20.5	14.3	6.7	19.5	14.0	7.0	18.2	13.5	7.4	17.8	13.3	7.6	17.3	13.2	7.7	16.8	13.0	7.9
	24.0	32	23.8	15.2	6.1	22.9	14.9	6.4	21.8	14.6	6.8	20.7	14.2	7.2	19.4	13.8	7.6	18.9	13.6	7.8	18.5	13.5	7.9	---	---	---

[FVP10J + RU10J]

Evap. air AFR (BF)	EWB	EDB	Entering air temp. to condenser (°C DB) 25 TC	SHC	PI	30 TC	SHC	PI	35 TC	SHC	PI	40 TC	SHC	PI	46 TC	SHC	PI	48 TC	SHC	PI	50 TC	SHC	PI	52 TC	SHC	PI
71 (0.14)	16.0	23	22.6	14.5	7.0	21.7	14.1	7.4	20.6	13.5	7.7	19.5	13.1	8.2	18.2	12.4	8.7	---	---	---	---	---	---	---	---	---
	18.0	25	24.3	14.9	7.1	23.2	14.5	7.5	22.1	13.9	8.0	21.0	13.5	8.4	19.5	12.8	8.9	19.0	12.6	9.1	---	---	---	---	---	---
	19.5	27	25.5	15.2	7.3	24.4	14.7	7.7	23.2	14.2	8.1	22.1	13.7	8.6	20.4	13.1	9.1	20.0	12.9	9.3	19.5	12.7	9.5	19.0	12.5	9.7
	22.0	30	27.6	15.5	7.5	26.5	15.1	7.9	25.2	14.6	8.4	23.9	14.1	8.9	22.4	13.5	9.5	21.8	13.3	9.7	21.3	13.1	9.9	20.7	12.9	10.1
	24.0	32	29.4	15.8	7.7	28.1	15.5	8.1	26.8	14.8	8.6	25.5	14.4	9.1	23.8	13.8	9.7	23.2	13.6	10.0	22.6	13.4	10.2	---	---	---
83 (0.16)	16.0	23	23.2	17.6	7.1	22.2	17.1	7.4	21.1	16.6	7.8	20.0	16.1	8.2	18.6	15.5	8.8	---	---	---	---	---	---	---	---	---
	18.0	25	24.9	18.0	7.2	23.8	17.4	7.6	22.6	17.0	8.0	21.5	16.4	8.5	20.0	15.9	9.0	19.5	15.7	9.2	---	---	---	---	---	---
	19.5	27	26.1	18.3	7.3	25.0	17.9	7.8	23.8	17.4	8.2	22.6	16.9	8.7	21.0	16.3	9.3	20.5	16.0	9.4	20.0	15.8	9.6	19.5	15.7	9.8
	22.0	30	28.3	18.7	7.6	27.1	18.3	8.0	25.8	17.8	8.5	24.5	17.3	9.0	22.9	16.7	9.6	22.1	16.5	9.8	21.8	16.3	10.0	20.2	16.1	10.2
	24.0	32	30.1	19.0	7.7	28.8	18.5	8.2	27.5	18.1	8.7	26.1	17.6	9.2	24.4	17.0	9.8	23.8	16.8	10.1	23.2	16.6	10.3	---	---	---
95 (0.18)	16.0	23	23.6	18.5	7.1	22.6	18.1	7.5	21.5	17.6	7.9	20.3	17.1	8.3	18.9	16.4	8.9	---	---	---	---	---	---	---	---	---
	18.0	25	25.3	19.0	7.3	24.2	18.5	7.7	23.0	18.0	8.1	21.9	17.6	8.5	20.3	17.0	9.1	19.8	16.7	9.3	---	---	---	---	---	---
	19.5	27	26.1	19.3	7.4	25.0	18.9	7.8	23.8	18.4	8.3	22.6	17.9	8.7	21.0	17.3	9.3	20.5	17.1	9.5	20.3	16.9	9.7	19.8	16.7	9.9
	22.0	30	28.8	19.8	7.6	27.6	19.4	8.1	26.2	18.9	8.5	24.8	18.4	9.0	23.3	17.8	9.6	22.7	17.6	9.8	22.3	17.4	10.1	21.6	17.2	10.3
	24.0	32	30.6	20.1	7.8	29.3	19.7	8.3	28.0	19.2	8.8	26.5	18.8	9.3	24.8	18.2	9.9	24.2	18.0	10.1	23.6	17.8	10.4	---	---	---

Symbols:

AFR	: Air flow rate	(m^3/min.)
BF	: Bypass factor	
EWB	: Entering wet bulb temp.	(°CWB)
EDB	: Entering dry bulb temp.	(°CDB)
TC	: Total cooling capacity	(x1000 kcal/h)
SHC	: Sensible heat capacity	(x1000 kcal/h)
PI	: Power input (Comp. + Cond. fan motor)	(kW)

Notes:

1. Rantings shown are goss capacities which do not include a deduction for evaporator fan motor heat.
2. ▭ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB. Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Operation limit:
   Maximum entering air temp. to condenser is 52°C (125°F).
5. Direct interpolation is permissible. Do not extrapolate.

[50Hz]

[FV16JY1 + RU16JY1]

Evap. air			Entering air temp. to condenser (°C DB)																							
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
102 (0.06)	16.0	23	35.1	25.7	13.0	33.6	25.0	13.6	32.1	24.2	14.3	30.4	23.5	15.0	28.4	22.5	15.9	---	---	---	---	---	---	---	---	---
	18.0	25	37.4	26.2	13.3	35.8	25.5	13.9	34.3	24.8	14.6	32.5	24.1	15.4	30.4	23.2	16.4	29.6	22.8	16.7	---	---	---	---	---	---
	19.5	27	39.2	26.6	13.5	37.7	25.9	14.2	35.9	25.2	14.9	34.2	24.5	15.7	31.9	23.5	16.7	31.1	23.2	17.1	30.3	22.9	17.4	29.5	22.6	17.8
	22.0	30	42.5	27.1	13.8	40.7	26.4	14.6	38.9	25.7	15.4	36.9	25.0	16.2	34.6	24.1	17.3	33.7	23.8	17.7	32.8	23.5	18.1	32.0	23.2	18.5
	24.0	32	45.1	27.4	14.1	43.2	26.8	14.9	41.3	26.1	15.7	39.3	25.4	16.6	36.7	24.5	17.8	35.8	24.2	18.2	35.0	23.9	18.6	---	---	---
120 (0.08)	16.0	23	36.1	27.5	13.1	34.6	26.8	13.8	33.0	26.1	14.5	31.3	25.3	15.2	29.2	24.4	16.1	---	---	---	---	---	---	---	---	---
	18.0	25	38.5	28.1	13.4	36.9	27.5	14.1	35.3	26.8	14.8	33.5	26.0	15.6	31.3	25.1	16.6	30.5	24.8	16.9	---	---	---	---	---	---
	19.5	27	40.4	28.6	13.6	38.8	27.9	14.3	37.0	27.2	15.1	35.2	26.5	15.9	32.8	25.5	16.9	32.0	25.2	17.3	31.2	24.9	17.7	30.4	24.6	18.0
	22.0	30	43.7	29.2	14.0	41.9	28.5	14.7	40.0	27.8	15.6	38.0	27.1	16.4	35.6	26.2	17.5	34.7	25.9	17.9	33.8	25.6	18.3	32.9	25.3	18.7
	24.0	32	46.4	29.6	14.2	44.5	29.0	15.1	42.5	28.3	15.9	40.5	27.6	16.8	37.8	26.7	18.0	36.9	26.4	18.4	36.0	26.1	18.8	---	---	---
138 (0.10)	16.0	23	36.8	29.2	13.3	35.3	28.5	13.9	33.7	27.8	14.6	31.9	27.0	15.3	29.8	26.1	16.3	---	---	---	---	---	---	---	---	---
	18.0	25	39.3	29.9	13.5	37.7	29.2	14.2	36.0	28.6	15.0	34.2	27.8	15.7	31.9	26.9	16.7	31.1	26.6	17.1	---	---	---	---	---	---
	19.5	27	41.2	30.4	13.8	39.6	29.8	14.5	37.8	29.0	15.2	35.9	28.3	16.0	33.5	27.4	17.1	32.7	27.1	17.4	31.8	26.8	17.8	31.0	26.5	18.2
	22.0	30	44.6	31.2	14.1	42.8	30.5	14.9	40.8	29.8	15.7	38.8	29.1	16.6	36.3	28.2	17.7	35.4	27.9	18.1	34.5	27.6	18.5	33.6	27.3	18.9
	24.0	32	47.4	31.7	14.4	45.4	31.0	15.2	43.4	30.3	16.1	41.3	29.7	17.0	38.6	28.8	18.2	37.7	28.5	18.6	36.7	28.2	19.0	---	---	---

[FV16J + RU16JA]

Evap. air			Entering air temp. to condenser (°C DB)																							
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
102 (0.06)	16.0	23	35.2	25.7	11.8	33.7	25.0	12.4	32.1	24.2	13.1	30.5	23.5	13.8	28.5	22.6	14.7	---	---	---	---	---	---	---	---	---
	18.0	25	37.5	26.3	12.1	36.0	25.6	12.7	34.3	24.8	13.4	32.6	24.1	14.2	30.4	23.2	15.1	29.7	22.9	15.4	---	---	---	---	---	---
	19.5	27	39.4	26.6	12.3	37.7	25.9	13.0	36.0	25.2	13.7	34.2	24.5	14.5	32.0	23.6	15.5	31.2	23.2	15.8	30.4	22.9	16.1	29.6	22.6	16.5
	22.0	30	42.5	27.1	12.6	40.7	26.4	13.4	38.9	25.7	14.2	36.9	25.0	15.0	34.6	24.1	16.0	33.8	23.8	16.4	32.9	23.5	16.8	32.2	23.2	17.1
	24.0	32	45.2	27.5	12.9	43.2	26.8	13.7	41.3	26.1	14.5	39.3	25.4	15.4	36.8	24.5	16.5	36.0	24.2	16.9	35.1	23.9	17.3	---	---	---
120 (0.08)	16.0	23	36.2	27.6	11.9	34.7	26.9	12.6	33.0	26.1	13.3	31.4	25.4	14.0	29.3	24.4	14.9	---	---	---	---	---	---	---	---	---
	18.0	25	38.6	28.2	12.2	37.0	27.5	12.9	35.3	26.8	13.6	33.5	26.0	14.4	31.3	25.1	15.3	30.6	24.8	15.6	---	---	---	---	---	---
	19.5	27	40.5	28.6	12.4	38.8	27.9	13.2	37.0	27.2	13.9	35.2	26.5	14.7	32.9	25.6	15.7	32.1	25.3	16.0	31.3	24.9	16.4	30.5	24.6	16.7
	22.0	30	43.7	29.2	12.8	41.9	28.5	13.6	40.0	27.8	14.4	38.0	27.1	15.2	35.6	26.2	16.3	34.8	26.0	16.6	33.9	25.6	17.0	33.1	25.4	17.3
	24.0	32	46.5	29.7	13.1	44.5	29.0	13.9	42.5	28.3	14.7	40.4	27.6	15.6	37.9	26.7	16.7	37.0	26.4	17.1	36.1	26.1	17.5	---	---	---
138 (0.10)	16.0	23	36.9	29.3	12.1	35.4	28.6	12.7	33.7	27.8	13.4	32.0	27.1	14.1	29.9	26.2	15.0	---	---	---	---	---	---	---	---	---
	18.0	25	39.4	30.0	12.3	37.8	29.3	13.0	36.0	28.6	13.7	34.2	27.8	14.5	31.9	26.9	15.5	31.2	26.6	15.8	---	---	---	---	---	---
	19.5	27	41.3	30.5	12.6	39.6	29.8	13.3	37.8	29.1	14.0	35.9	28.3	14.8	33.6	27.4	15.8	32.8	27.1	16.2	31.9	26.8	16.5	31.1	26.5	16.9
	22.0	30	44.6	31.2	12.9	42.8	30.5	13.7	40.8	29.8	14.5	38.8	29.1	15.3	36.3	28.2	16.4	35.5	27.9	16.8	34.6	27.6	17.1	33.8	27.3	17.5
	24.0	32	47.5	31.7	13.2	45.4	31.0	14.0	43.4	30.3	14.9	41.2	29.6	15.8	38.7	28.8	16.9	37.8	28.5	17.3	36.8	28.2	17.6	---	---	---

[FV22JY1 + RU22JY1]

Evap. air			Entering air temp. to condenser (°C DB)																							
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
140 (0.07)	16.0	23	48.3	34.2	16.8	44.6	33.4	17.7	42.8	32.6	18.5	40.8	31.7	19.5	38.2	30.5	20.6	---	---	---	---	---	---	---	---	---
	18.0	25	49.5	35.0	17.2	47.7	34.2	18.1	45.8	33.4	19.0	43.6	32.4	20.0	40.9	31.3	21.2	39.9	30.9	21.6	---	---	---	---	---	---
	19.5	27	52.0	35.4	17.6	50.2	34.8	18.5	48.1	33.9	19.4	45.9	33.0	20.4	43.0	31.8	21.7	42.0	31.4	22.1	40.9	31.0	22.5	39.9	30.6	23.0
	22.0	30	54.5	36.4	18.1	54.4	35.6	19.1	52.2	34.7	20.1	49.8	33.8	21.2	46.7	32.7	22.5	45.6	32.3	22.9	44.5	31.9	23.4	43.3	31.5	23.8
	24.0	32	60.3	37.0	18.6	58.0	36.1	19.6	55.7	35.3	20.7	53.1	34.4	21.8	49.8	33.3	23.1	48.7	32.9	23.6	47.4	32.5	24.1	---	---	---
165 (0.09)	16.0	23	47.6	36.7	17.1	45.9	35.9	17.9	44.0	35.1	18.8	42.0	34.2	19.7	39.3	33.0	20.9	---	---	---	---	---	---	---	---	---
	18.0	25	50.9	37.7	17.5	49.1	36.9	18.4	47.1	36.0	19.3	44.9	35.1	20.3	42.1	33.9	21.5	41.1	33.5	21.9	---	---	---	---	---	---
	19.5	27	53.5	38.3	17.8	51.6	37.5	18.7	49.5	36.6	19.7	47.2	35.7	20.7	44.2	34.6	22.0	43.2	34.2	22.4	42.1	33.7	22.9	41.0	33.3	23.3
	22.0	30	58.1	39.2	18.4	56.0	38.4	19.4	53.7	37.6	20.4	51.2	36.7	21.4	48.0	35.5	22.8	46.9	35.2	23.2	45.8	34.8	23.7	44.6	34.4	24.2
	24.0	32	62.0	39.9	18.9	59.7	39.1	19.9	57.3	38.3	21.0	54.6	37.4	22.1	51.2	36.3	23.5	50.1	35.9	23.9	48.8	35.5	24.4	---	---	---
190 (0.11)	16.0	23	48.6	39.0	17.2	46.8	38.3	18.1	44.9	37.4	19.0	42.9	36.5	19.9	40.1	35.3	21.1	---	---	---	---	---	---	---	---	---
	18.0	25	51.9	40.1	17.7	50.1	39.3	18.6	48.1	38.5	19.5	45.8	37.6	20.5	43.0	36.4	21.7	41.9	36.0	22.2	---	---	---	---	---	---
	19.5	27	54.6	40.8	18.0	52.6	40.0	18.9	50.5	39.2	19.9	48.2	38.3	20.9	45.1	37.1	22.2	44.1	36.7	22.6	43.0	36.3	23.1	41.8	35.9	23.5
	22.0	30	59.3	41.9	18.6	57.1	41.1	19.6	54.8	40.3	20.6	52.2	39.4	21.7	49.0	38.2	23.0	47.8	37.8	23.5	46.7	37.4	23.9	45.5	37.0	24.4
	24.0	32	63.3	42.7	19.1	60.9	41.9	20.1	58.5	41.1	21.2	55.7	40.2	22.3	52.2	39.0	23.7	51.1	38.7	24.2	49.8	38.3	24.6	---	---	---

Symbols:

AFR	: Air flow rate	(m^3/min.)
BF	: Bypass factor	
EWB	: Entering wet bulb temp.	(°CWB)
EDB	: Entering dry bulb temp.	(°CDB)
TC	: Total cooling capacity	(x1000 kcal/h)
SHC	: Sensible heat capacity	(x1000 kcal/h)
PI	: Power input (Comp. + Cond. fan motor)	(kW)

Notes:

1. Rantings shown are goss capacities which do not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB. Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Operation limit: Maximum entering air temp. to condenser is 52°C (125°F).
5. Direct interpolation is permissible. Do not extrapolate.

[FV22J + RU22JA]

Evap. air			Entering air temp. to condenser (°C DB)																					
AFR (BF)	EWB	EDB	25			30			35			40			46			48			50			52		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
140 (0.07)	16.0	23	46.4	34.3	14.5	44.7	33.5	15.3	42.8	32.6	16.2	40.8	31.7	17.1	38.3	30.5	18.2	---	---	---	---	---	---	---	---	---
	18.0	25	49.6	35.0	14.9	47.7	34.2	15.8	45.8	33.4	16.7	43.6	32.4	17.6	40.9	31.3	18.8	40.1	30.9	19.1	---	---	---	---	---	---
	19.5	27	52.1	35.6	15.2	50.2	34.8	16.1	48.1	33.9	17.1	45.9	33.0	18.0	43.1	31.8	19.2	42.1	31.5	19.6	41.1	31.1	20.0	40.1	30.7	20.4
	22.0	30	56.6	36.4	15.8	54.4	35.6	16.8	52.2	34.7	17.7	49.8	33.8	18.7	46.8	32.7	20.0	45.7	32.3	20.4	44.6	31.9	20.8	43.6	31.5	21.3
	24.0	32	60.3	36.9	16.3	58.0	36.1	17.3	55.6	35.3	18.3	53.1	34.4	19.3	49.9	33.3	20.6	48.8	32.9	21.1	47.6	32.5	21.5	---	---	---
165 (0.09)	16.0	23	47.7	36.8	14.7	46.0	36.0	15.5	44.0	35.1	16.4	42.0	34.2	17.3	39.4	33.0	18.4	---	---	---	---	---	---	---	---	---
	18.0	25	51.0	37.7	15.1	49.1	36.9	16.0	47.1	36.0	16.9	44.9	35.1	17.8	42.1	33.9	19.0	41.2	33.6	19.4	---	---	---	---	---	---
	19.5	27	53.6	38.3	15.5	51.6	37.5	16.4	49.5	36.8	17.3	47.2	35.7	18.3	44.3	34.6	19.5	43.3	34.2	19.9	42.3	33.8	20.3	41.2	33.4	20.7
	22.0	30	58.2	39.3	16.0	56.0	38.4	17.0	53.7	37.6	18.0	51.2	36.7	19.0	48.1	35.6	20.3	47.0	35.2	20.7	45.9	34.8	21.1	44.8	34.4	21.6
	24.0	32	62.0	39.9	16.6	59.7	39.1	17.5	57.2	38.3	18.6	54.6	37.4	19.6	51.3	36.3	20.9	50.2	35.9	21.4	49.0	35.5	21.8	---	---	---
190 (0.11)	16.0	23	48.7	39.1	14.8	46.9	38.3	15.7	44.9	37.4	16.6	42.8	36.5	17.5	40.2	35.4	18.6	---	---	---	---	---	---	---	---	---
	18.0	25	52.0	40.1	15.3	50.1	39.3	16.2	48.0	38.5	17.1	45.8	37.5	18.0	42.9	36.4	19.2	42.0	36.0	19.6	---	---	---	---	---	---
	19.5	27	54.7	40.9	15.6	52.6	40.0	16.5	50.5	39.2	17.5	48.2	38.3	18.5	45.2	37.2	19.7	44.2	36.8	20.1	43.2	36.4	20.5	42.0	35.9	20.9
	22.0	30	59.4	41.9	16.2	57.1	41.1	17.2	54.8	40.3	18.2	52.2	39.4	19.2	49.1	38.3	20.5	47.9	37.9	20.9	46.8	37.5	21.3	45.7	37.1	21.8
	24.0	32	63.2	42.7	16.7	60.9	41.9	17.7	58.4	41.0	18.8	55.7	40.2	19.8	52.3	39.1	21.1	51.2	38.7	21.6	50.0	38.3	22.0	---	---	---

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bult temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW)
(Comp. + Cond. fan motor)

Notes:

1. Rantings shown are goss capacities which do not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacity.
3. SHC is based on each EWB and EDB.
   Add ΔSHC to SHC.
   ΔSHC = Capacity correction for SHC for other dry bulb temp.
   = 0.29 x 60 x AFR (m^3/min.) x (1−BF) x (DB−EDB)
4. Operation limit:
   Maximum entering air temp. to condenser is 52°C (125°F).
5. Direct interpolation is permissible.
   Do not extrapolate.

[60Hz]

[FVP05J + RU05J]

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
36 (0.11)	16.0	23	12.4	8.9	4.8	11.9	8.7	5.0	11.5	8.5	5.3	10.9	8.2	5.5	---	---	---	---	---	---
	18.0	25	13.3	9.1	4.9	12.8	8.9	5.1	12.2	8.6	5.4	11.7	8.4	5.7	10.9	8.0	6.0	10.5	7.9	6.1
	19.5	27	14.0	9.3	5.0	13.5	9.1	5.2	12.9	8.8	5.5	12.2	8.5	5.8	11.4	8.1	6.1	11.1	8.0	6.3
	22.0	30	15.2	9.4	5.1	14.7	9.3	5.4	14.0	9.0	5.7	13.3	8.7	6.0	12.4	8.4	6.4	12.0	8.2	6.5
	24.0	32	16.2	9.6	5.2	15.6	9.4	5.5	15.0	9.1	5.8	14.2	8.9	6.2	13.2	8.5	6.5	---	---	---
42 (0.13)	16.0	23	12.8	9.5	4.8	12.3	9.3	5.1	11.8	9.0	5.4	11.2	8.8	5.6	---	---	---	---	---	---
	18.0	25	13.7	9.7	4.9	13.2	9.5	5.2	12.6	9.3	5.5	12.0	9.0	5.8	11.2	8.7	6.1	10.8	8.5	6.2
	19.5	27	14.4	9.9	5.0	13.9	9.7	5.3	13.3	9.4	5.6	12.6	9.1	5.9	11.7	8.8	6.2	11.4	8.7	6.3
	22.0	30	15.6	10.1	5.2	15.1	9.9	5.5	14.4	9.6	5.8	13.7	9.4	6.1	12.8	9.1	6.4	12.4	8.9	6.6
	24.0	32	16.7	10.3	5.3	16.1	10.1	5.6	15.4	9.8	5.9	14.6	9.5	6.2	13.6	9.2	6.6	---	---	---
48 (0.15)	16.0	23	13.1	10.0	4.9	12.6	9.8	5.1	12.1	9.6	5.4	11.4	9.3	5.7	---	---	---	---	---	---
	18.0	25	14.0	10.3	5.0	13.5	10.1	5.3	12.9	9.8	5.5	12.3	9.6	5.8	11.4	9.2	6.1	11.0	9.1	6.3
	19.5	27	14.7	10.5	5.1	14.2	10.3	5.4	13.6	10.0	5.7	12.9	9.7	5.9	12.0	9.4	6.3	11.6	9.3	6.4
	22.0	30	15.9	10.7	5.2	15.4	10.5	5.5	14.7	10.3	5.8	14.0	10.0	6.1	13.1	9.7	6.5	12.7	9.5	6.6
	24.0	32	17.1	10.9	5.3	16.4	10.7	5.6	15.7	10.5	6.0	14.9	10.2	6.3	13.9	9.8	6.7	---	---	---

[FVP08J + RU08J]

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
51 (0.13)	16.0	23	18.8	13.2	6.6	18.0	12.8	6.9	17.1	12.3	7.2	16.4	12.0	7.5	---	---	---	---	---	---
	18.0	25	20.1	13.5	6.8	19.3	13.0	7.1	18.4	12.6	7.4	17.5	12.2	7.8	16.6	11.8	8.3	16.3	11.7	8.4
	19.5	27	21.1	13.6	6.9	20.2	13.2	7.2	19.4	12.8	7.6	18.5	12.5	8.0	17.4	12.0	8.5	17.1	11.9	8.7
	22.0	30	22.9	13.9	7.1	22.0	13.5	7.5	21.0	13.1	7.9	20.1	12.8	8.3	19.0	12.3	8.9	18.7	12.2	9.1
	24.0	32	24.4	14.1	7.3	23.4	13.7	7.7	22.5	13.3	8.1	21.5	13.0	8.6	20.3	12.5	9.2	---	---	---
60 (0.15)	16.0	23	19.4	14.0	6.7	18.6	13.6	7.0	17.7	13.2	7.3	16.9	12.8	7.6	---	---	---	---	---	---
	18.0	25	20.8	14.3	6.9	19.9	13.9	7.2	19.0	13.5	7.5	18.1	13.1	7.9	17.1	12.7	8.4	16.8	12.6	8.6
	19.5	27	21.8	14.5	7.0	20.9	14.2	7.3	20.0	13.8	7.7	19.1	13.4	8.1	18.0	12.9	8.6	17.7	12.8	8.8
	22.0	30	23.7	14.9	7.2	22.7	14.5	7.6	21.7	14.1	8.0	20.8	13.7	8.4	19.6	13.3	9.0	19.3	13.2	9.2
	24.0	32	25.2	15.0	7.4	24.2	14.7	7.8	23.2	14.3	8.2	22.2	14.0	8.7	21.0	13.5	9.3	---	---	---
69 (0.17)	16.0	23	19.9	14.8	6.8	19.0	14.4	7.1	18.1	14.0	7.4	17.3	13.6	7.7	---	---	---	---	---	---
	18.0	25	21.3	15.2	7.0	20.4	14.8	7.3	19.4	14.4	7.6	18.5	14.0	8.0	17.5	13.5	8.5	17.2	13.4	8.7
	19.5	27	22.3	15.4	7.1	21.4	15.0	7.4	20.5	14.6	7.8	19.6	14.2	8.2	18.4	13.8	8.7	18.1	13.7	8.9
	22.0	30	24.3	15.7	7.3	23.2	15.3	7.7	22.2	15.0	8.1	21.3	14.6	8.5	20.1	14.2	9.1	19.8	14.1	9.3
	24.0	32	25.8	16.0	7.5	24.8	15.6	7.9	23.7	15.2	8.3	22.7	14.9	8.8	21.5	14.5	9.4	---	---	---

[FVP10J + RU10J]

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
71 (0.14)	16.0	23	24.7	17.5	8.7	23.7	17.1	9.2	22.8	16.6	9.6	21.7	16.1	10.1	---	---	---	---	---	---
	18.0	25	26.5	17.9	9.0	25.4	17.4	9.4	24.3	16.9	9.9	23.2	16.5	10.4	21.9	15.9	11.1	21.4	15.6	11.3
	19.5	27	27.7	18.1	9.2	26.7	17.7	9.7	25.6	17.2	10.2	24.4	16.7	10.7	23.0	16.1	11.3	22.5	15.9	11.6
	22.0	30	30.1	18.5	9.5	28.9	18.0	10.0	27.7	17.6	10.6	26.5	17.1	11.1	25.0	16.5	11.8	24.4	16.3	12.1
	24.0	32	32.0	18.7	9.8	30.7	18.3	10.3	29.5	17.8	10.9	28.2	17.3	11.5	26.7	16.8	12.2	---	---	---
83 (0.16)	16.0	23	25.4	18.6	8.9	24.4	18.1	9.3	23.4	17.7	9.7	22.3	17.1	10.2	---	---	---	---	---	---
	18.0	25	27.2	19.1	9.1	26.1	18.6	9.6	25.0	18.1	10.1	23.9	17.6	10.6	22.5	17.0	11.2	22.0	16.8	11.4
	19.5	27	28.5	19.3	9.3	27.4	18.8	9.8	26.3	18.4	10.3	25.1	17.9	10.8	23.6	17.3	11.5	23.1	17.1	11.7
	22.0	30	30.9	19.7	9.6	29.7	19.3	10.2	28.5	18.8	10.7	27.2	18.3	11.3	25.7	17.7	12.0	25.1	17.5	12.2
	24.0	32	32.9	20.0	9.9	31.6	19.5	10.5	30.3	19.1	11.0	29.0	18.6	11.6	27.4	18.1	12.4	---	---	---
95 (0.18)	16.0	23	25.9	19.6	8.9	24.9	19.1	9.4	23.9	18.7	9.8	22.7	18.1	10.3	---	---	---	---	---	---
	18.0	25	27.7	20.1	9.2	26.6	19.6	9.7	25.5	19.1	10.2	24.4	18.6	10.7	22.9	18.0	11.3	22.4	17.8	11.5
	19.5	27	29.1	20.4	9.4	27.9	19.9	9.9	26.8	19.4	10.4	25.6	18.9	10.9	24.1	18.3	11.6	23.6	18.1	11.8
	22.0	30	31.5	20.8	9.7	30.3	20.4	10.3	29.1	19.9	10.8	27.7	19.4	11.4	26.2	18.9	12.1	25.6	18.7	12.4
	24.0	32	33.6	21.2	10.0	32.2	20.7	10.6	30.9	20.2	11.1	29.6	19.8	11.7	27.9	19.2	12.5	---	---	---

[60Hz]

[FV16J + RU16JA]

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
102 (0.06)	16.0	23	39.1	27.6	15.0	37.5	26.9	15.8	36.0	26.1	16.6	34.4	25.4	17.4	---	---	---	---	---	---
	18.0	25	41.7	28.2	15.4	40.1	27.5	16.2	38.5	26.7	17.1	36.8	25.9	18.0	34.6	25.0	19.2	33.9	24.6	19.6
	19.5	27	43.8	28.6	15.7	42.2	27.9	16.6	40.4	27.1	17.5	38.6	26.3	18.5	36.4	25.3	19.7	35.6	25.0	20.1
	22.0	30	47.5	29.1	16.2	45.7	28.4	17.2	43.8	27.6	18.2	41.9	26.9	19.2	39.5	25.9	20.5	38.6	25.6	21.0
	24.0	32	50.5	29.5	16.7	48.7	28.8	17.7	46.6	28.0	18.7	44.6	27.3	19.8	42.1	26.3	21.2	---	---	---
120 (0.08)	16.0	23	40.4	29.6	15.2	38.8	28.8	16.0	37.2	28.0	16.9	35.6	27.3	17.7	---	---	---	---	---	---
	18.0	25	43.1	30.2	15.7	41.5	29.5	16.5	39.8	28.7	17.4	38.0	27.9	18.3	35.8	27.0	19.5	35.0	26.6	19.9
	19.5	27	45.3	30.6	16.0	43.6	29.9	16.9	41.8	29.2	17.8	39.9	28.4	18.8	37.6	27.4	20.0	36.8	27.1	20.4
	22.0	30	49.1	31.3	16.5	47.2	30.6	17.5	45.3	29.8	18.5	43.3	29.1	19.6	40.8	28.1	20.9	39.9	27.8	21.3
	24.0	32	52.2	31.7	17.0	50.3	31.0	18.0	48.2	30.3	19.1	46.1	29.5	20.2	43.5	28.6	21.6	---	---	---
138 (0.10)	16.0	23	41.4	31.3	15.4	39.7	30.6	16.2	38.1	29.8	17.1	36.5	29.1	18.0	---	---	---	---	---	---
	18.0	25	44.1	32.0	15.8	42.5	31.3	16.7	40.8	30.6	17.6	38.9	29.8	18.6	36.7	28.9	19.8	35.8	28.5	20.2
	19.5	27	46.4	32.6	16.2	44.6	31.8	17.1	42.8	31.1	18.0	40.9	30.3	19.0	38.5	29.4	20.3	37.7	29.0	20.7
	22.0	30	50.3	33.3	16.7	48.3	32.6	17.7	46.4	31.8	18.7	44.3	31.1	19.8	41.8	30.2	21.1	40.9	29.8	21.6
	24.0	32	53.5	33.8	17.2	51.5	33.1	18.2	49.4	32.4	19.3	47.2	31.6	20.4	44.5	30.7	21.8	---	---	---

[FV22J + RU22JA]

Evap. air			Entering air temp. to condenser (°C DB)																	
AFR (BF)	EWB	EDB	25			30			35			40			46			48		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
140 (0.07)	16.0	23	52.3	37.1	19.2	50.3	36.2	20.1	48.3	35.2	21.1	46.2	34.2	22.2	---	---	---	---	---	---
	18.0	25	55.8	37.9	19.8	53.6	36.9	20.8	51.5	35.9	21.9	49.3	34.9	23.0	46.5	33.7	24.3	45.5	33.2	24.8
	19.5	27	58.4	38.3	20.2	56.3	37.4	21.3	54.0	36.4	22.4	51.7	35.4	23.6	48.8	34.2	25.0	47.8	33.8	25.5
	22.0	30	63.0	39.0	21.0	60.7	38.0	22.2	58.4	37.1	23.4	55.9	36.1	24.6	52.9	35.0	26.1	51.8	34.6	26.6
	24.0	32	66.9	39.4	21.7	64.5	38.5	22.9	62.0	37.6	24.1	59.5	36.6	25.4	56.2	35.5	27.0	---	---	---
165 (0.09)	16.0	23	53.9	39.7	19.5	51.9	38.8	20.5	49.8	37.7	21.5	47.6	36.7	22.6	---	---	---	---	---	---
	18.0	25	57.5	40.6	20.1	55.3	39.6	21.2	53.1	38.6	22.2	50.8	37.6	23.4	47.9	36.3	24.8	46.9	35.9	25.2
	19.5	27	60.2	41.1	20.6	58.0	40.2	21.7	55.7	39.2	22.9	53.3	38.2	24.0	50.3	37.0	25.4	49.3	36.6	25.9
	22.0	30	65.0	41.9	21.4	62.6	40.9	22.6	60.2	40.0	23.8	57.6	39.0	25.0	54.5	37.9	26.6	53.4	37.5	27.1
	24.0	32	69.0	42.4	22.1	66.5	41.5	23.3	63.9	40.6	24.6	61.3	39.7	25.9	57.9	38.5	27.5	---	---	---
190 (0.11)	16.0	23	55.1	42.0	19.8	53.0	41.1	20.7	50.9	40.1	21.8	48.6	39.1	22.8	---	---	---	---	---	---
	18.0	25	58.8	43.0	20.4	56.5	42.0	21.4	54.3	41.1	22.5	51.9	40.1	23.6	48.9	38.9	25.1	47.9	38.4	25.5
	19.5	27	61.5	43.6	20.8	59.3	42.7	21.9	56.9	41.8	23.1	54.5	40.7	24.3	51.4	39.5	25.7	50.4	39.1	26.2
	22.0	30	66.4	44.5	21.7	64.0	43.6	22.8	61.5	42.7	24.1	58.9	41.8	25.3	55.7	40.6	26.9	54.6	40.2	27.4
	24.0	32	70.5	45.2	22.4	67.9	44.3	23.6	65.3	43.4	24.9	62.6	42.5	26.2	59.2	41.3	27.8	---	---	---

Symbols:

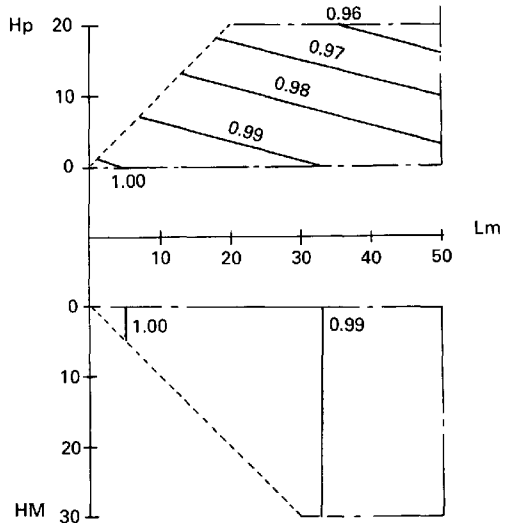
AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
EDB : Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (x1000 kcal/h)
SHC : Sensible heat capacity (x1000 kcal/h)
PI : Power input (kW)
(Comp. + Cond. fan motor)

Notes:

1. Rantings shown are goss capacities which do not include a deduction for evaporator fan motor heat.
2. ▒▒ shows nominal cooling capacity.
3. SHC is based on 27°C dry bulb temp. of air entering evaporator coil.
   Below 27°CDB, subtract ΔSCC from SHC.
   Above 27°CDB, add ΔSCC to SHC.
   ΔSCC = Capacity correction for SHC for other dry bulb temp. than 27°C.
   = 0.29 x 60 x AF (m^3/min.) x (1−BF) x (DB−27°C)
4. Operation limit:
   Maximum entering air temp. to condenser is 49°C (120°F).
5. Direct interpolation is permissible.
   Do not extrapolate.

8. Changing in capacity

[Cooling]



FVP05J
FVP08J
FVP10J

Numerics in the table show capacity changing ratio.

Symbols:

Hp : Difference in height between indoor unit and outdoor unit. (m)
(Indoor unit is installed lower than outdoor unit).

HM: Difference in height between indoor unit and outdoor unit. (m)
(Indoor unit is installed higher than outdoor unit).

Lm : Equivalent piping length (m)

4

9. Fan performance

(1) Performance data

Model	Air flow (m^3/min.)		External static pressure (mmH_2O)										
			0	5	10	15	20	25	30	35	40	45	50
FVP05J	36	r.p.m.	530	720	890	1050	1180	1300	1410	1510	–	–	–
		kW	0.07	0.12	0.18	0.26	0.33	0.41	0.49	0.58			
	42	r.p.m.	620	790	930	1080	1210	1330	1440	1540	–	–	–
		kW	0.11	0.17	0.24	0.31	0.40	0.49	0.58	0.67			
	48	r.p.m.	710	860	990	1110	1240	1360	1460	1560	–	–	–
		kW	0.17	0.24	0.31	0.38	0.48	0.57	0.67	0.78			
FVP08J	51	r.p.m.	520	660	780	890	1000	1100	1190	1260	1330	1400	1460
		kW	0.13	0.21	0.29	0.39	0.50	0.64	0.76	0.88	1.01	1.14	1.27
	60	r.p.m.	610	730	840	940	1030	1120	1220	1310	1370	1440	1500
		kW	0.21	0.30	0.39	0.50	0.61	0.74	0.89	1.06	1.19	1.34	1.48
	69	r.p.m.	700	810	910	990	1080	1160	1240	1320	1400	1480	1540
		kW	0.32	0.42	0.53	0.64	0.76	0.89	1.04	1.19	1.37	1.56	1.71
FVP10J	71	r.p.m.	550	670	780	880	980	1070	1150	1230	1310	1380	1440
		kW	0.23	0.31	0.41	0.52	0.66	0.79	0.93	1.09	1.25	1.41	1.59
	83	r.p.m.	640	740	840	930	1020	1110	1190	1260	1340	1400	1470
		kW	0.36	0.46	0.57	0.69	0.82	0.97	1.12	1.29	1.46	1.63	1.82
	95	r.p.m.	730	820	910	990	1070	1150	1230	1300	1370	1440	1500
		kW	0.55	0.65	0.77	0.90	1.05	1.20	1.36	1.53	1.71	1.90	2.09
FV16J	102	r.p.m.	570	680	780	880	960	1040	1110	1180	1240	1300	1360
		kW	0.41	0.56	0.73	0.92	1.12	1.32	1.53	1.75	1.97	2.19	2.42
	120	r.p.m.	670	760	850	940	1020	1090	1170	1230	1290	1350	1410
		kW	0.66	0.83	1.02	1.23	1.46	1.69	1.93	2.17	2.42	2.67	2.93
	138	r.p.m.	770	850	930	1010	1080	1150	1220	1280	1340	1400	1450
		kW	1.01	1.20	1.41	1.64	1.88	2.14	2.41	2.69	2.96	3.23	3.51
FV22J	140	r.p.m.	610	700	790	870	950	1020	1100	1170	1230	1300	1360
		kW	0.73	0.89	1.08	1.28	1.49	1.72	1.97	2.23	2.50	2.78	3.06
	165	r.p.m.	720	800	870	940	1010	1080	1150	1210	1270	1330	1390
		kW	1.19	1.38	1.59	1.82	2.05	2.30	2.56	2.84	3.13	3.43	3.74
	190	r.p.m.	830	900	960	1030	1090	1150	1210	1260	1320	1380	1430
		kW	1.82	2.04	2.27	2.52	2.78	3.05	3.33	3.62	3.92	4.24	4.57

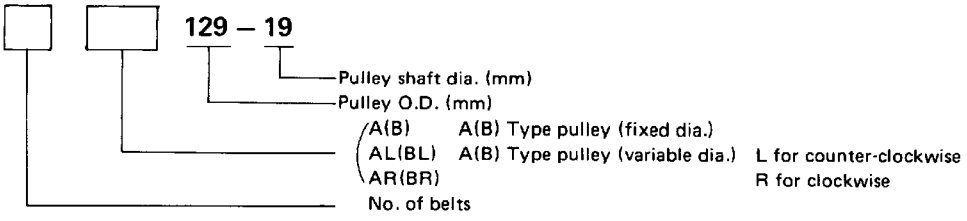
Notes:

1. ▨ shows the operating range of the fan motor based on factory setting.
   In case the fan motor is used out of the range, change motor size.
2. kW in the table shows motor output.

(2) Specifications (factory set)

Model		FVP05J	FVP08J	FVP10J	FV16J	FV22J
		3 phase, 4 pole				
Fan motor (50/60Hz)	(r.p.m.)	1,410/1,700	1,420/1,700	1,420/1,700	1,420/1,710	1,420/1,710
Rated output	kW	0.4	0.75	0.75	2.2	3.7
Pulley						
Fan side		A195-25 (fixed dia.)	A195-25 (fixed dia.)	A195-25 (fixed dia.)	B235	2B235
Motor side		AL 129-14	AL 129-19	AL 129-19	BR 151-28	BR 161-28
V belt						
Size x No.	Y1	A-42 x 1	A-45 x 1	A-45 x 1	B-40 x 1	B-41 x 1
	TH	A-41 x 1	A-44 x 1	A-44 x 1	B-40 x 1	B-41 x 1
	YH	A-41 x 1	A-44 x 1	A-44 x 1	B-40 x 1	B-41 x 1

(3) Nomenclature



(4) Adjusting range of fan motor pulley

Model	No. of turns		Gap	Pitch dia.		Fan speed 50/60Hz		
	TH•YH	Y1	mm	TH•YH	Y1	TH	Y1	YH
FVP05~10J	4	0	0	120	120*	916/1097	916/—	916/1097
	3	1	1.5	115	115	878/1051	878/—	878/1051
	2	2	3.0	110	110	840/1005	840/—	840/1005
	1	3	4.5	105	105	802/960	802/—	802/960
	0	4	6.0	100*	100	763/914	763/—	763/914
FV16J	4	0	0	140	140*	887/1069	887/—	887/1069
	3	1	1.5	135	135	856/1031	856/—	856/1031
	2	2	3.0	130	130	824/992	824/—	824/992
	1	3	4.5	125	125	792/954	792/—	792/954
	0	4	6.0	120*	120	761/916	761/—	761/916
FV22J	5	0	0	150	150*	951/1145	951/—	951/1145
	4	1	1.5	145	145	919/1107	919/—	919/1107
	3	2	3.0	140	140	887/1069	887/—	887/1069
	2	3	4.5	135	135	856/1031	856/—	856/1031
	1	4	6.0	130	130	824/992	824/—	824/992
	0	5	7.5	125*	125	792/954	792/—	792/954

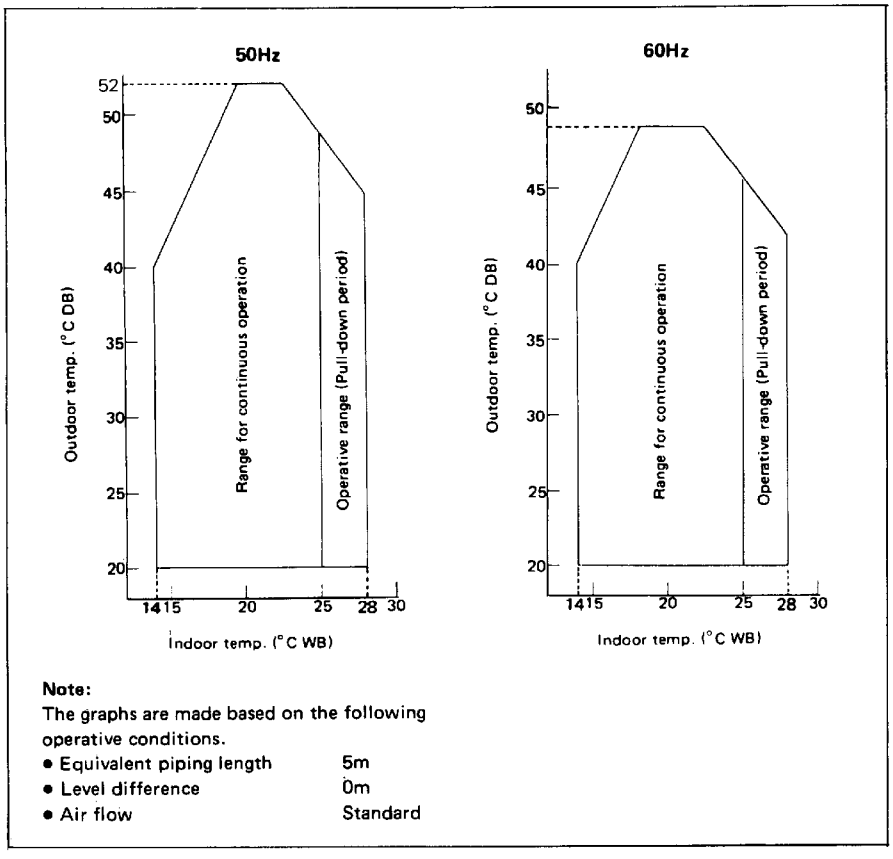
(* Factory set)

(5) Operating range

Model		FVP05J	FVP08J	FVP10J	FV16J	FV22J
Air flow	(m^3/min.)	36~48	51~69	71~95	102~138	140~190
Max. fan speed	(r.p.m.)	1,600	1,600	1,600	1,600	1,600
Max. replaceable motor	kW	1.5	2.2	2.2	3.7	5.5*

* In case of 5.5 kW motor, 2 pcs. of V belts are required. (1 additional).

10. Operation limit

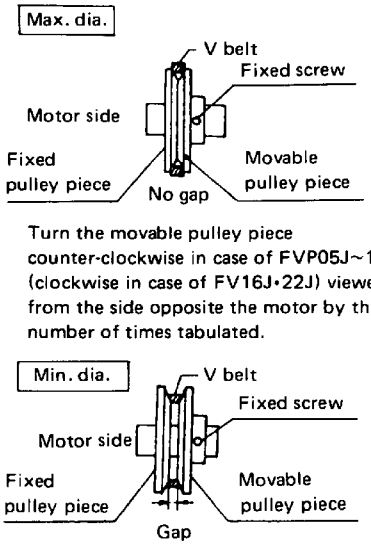


Note:
The graphs are made based on the following operative conditions.
- Equivalent piping length 5m
- Level difference 0m
- Air flow Standard

(6) How to adjust the variable pitch pulley:

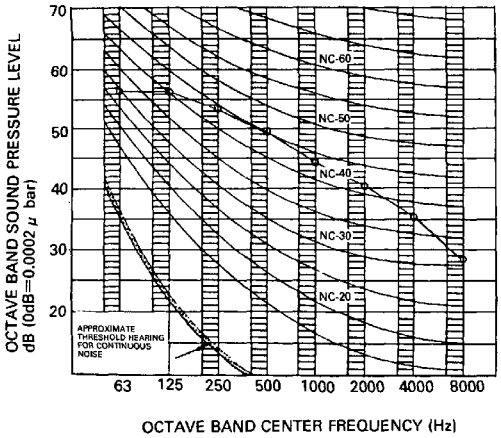
- After stopping, loosen the belt, remove the screw from the movable pulley piece and turn the movable piece in the direction shown the required number of times (tabulated in the Table.)
- Insert the screw into one of two holes, from which it can contact with the flat face of the fixed pulley piece when it is tightened up.
- Retighten up the screw.
- Align the pulleys of the fan and the motor and adjust the tension of V belts.

- **Pulley adjusting method**

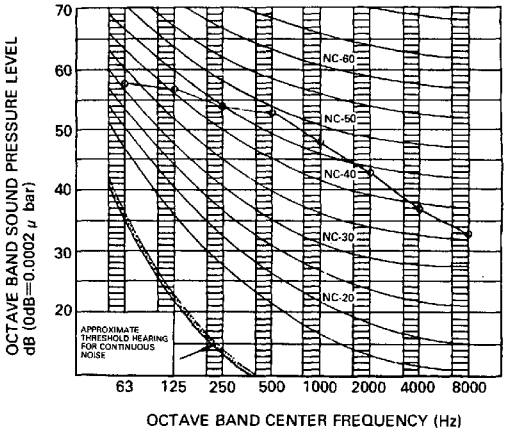


11. Operation noise

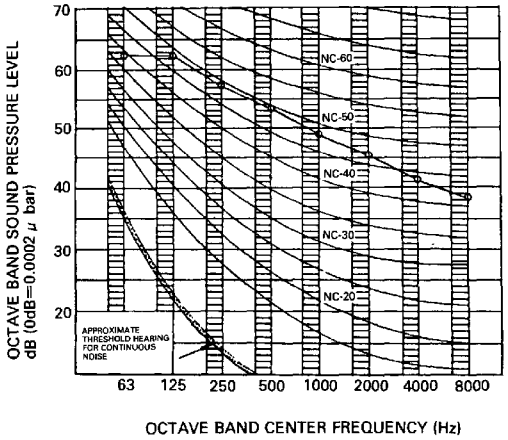
FVP05J



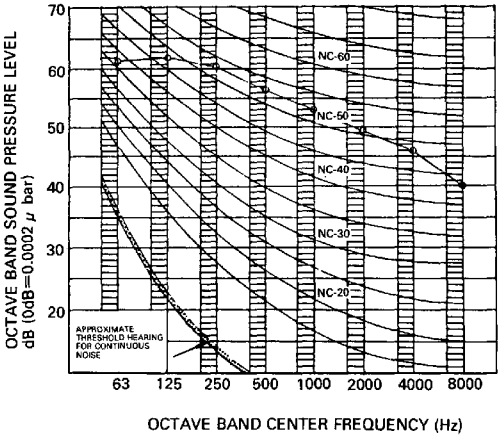
FVP08J



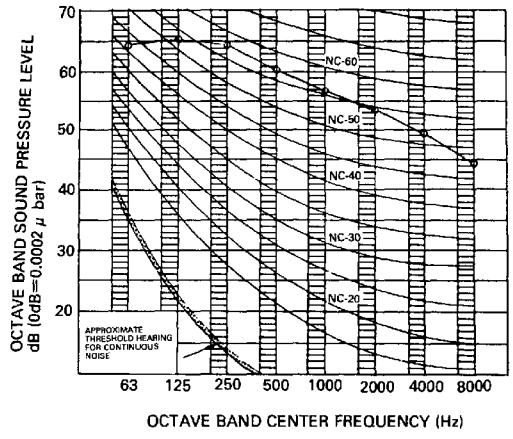
FVP10J



FV16J



FV22J



12. Electric characteristics

(1) Fan coil units

Unit				Power supply			EFM	
Model	Type	Hz–Voltage	Voltage range	MCA	MOCP	MFA	kW	FLA
FVP05J	Y1	50Hz 380V 400V 415V	Max. 456V Min. 342V	1.5	1.2	15	0.4	1.2
FVP08J				2.3	1.8	15	0.75	1.8
FVP10J				2.3	1.8	15	0.75	1.8
FV16J				5.7	4.6	15	2.2	4.5
FV22J				9.3	7.2	25	3.7	7.4
FVP05J	TH	50Hz 220V 60Hz 220/230V/ 240V	Max. 50Hz 242V 60Hz 264V Min. 50Hz 198V 60Hz 198V	2.5	2.0	15	0.4	2.0
FVP08J				4.1	3.2	15	0.75	3.3
FVP10J				4.1	3.2	15	0.75	3.3
FV16J				10.3	8.0	30	2.2	8.2
FV22J				17.5	14.0	50	3.7	14.0
FVP05J	YH	50Hz 346/380V 60Hz 380/400V	Max. 50Hz 418V 60Hz 440V Min. 50Hz 311V 60Hz 342V	1.8	1.4	15	0.4	1.4
FVP08J				2.8	2.1	15	0.75	2.2
FVP10J				2.8	2.1	15	0.75	2.2
FV16J				6.4	5.0	20	2.2	5.1
FV22J				10.5	8.0	30	3.7	8.4

Symbols:

MCA : Min. Ckt (Circuit) Amps
MOCP : Maximum Overcurrent Protection (Amps)
MFA : Max. Fuse Amps (See note 4)
EFM : Evaporator Fan Motor
FLA : Full Load Amps
kW : Rated motor output

Notes:

1. MOCP means the total value of each OC set.
2. Voltage range
   Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.
3. Maximum allowable voltage unbalance between phases is 2%.
4. MCA/MFA (FVP/FV)
   MCA = 1.25 x RLA
   MFA ≦ 4 x FLA (Min. 15A) (Next lower standard fuse rating)
5. Instead of fuse, use circuit breaker.

(2) Condensing units

Unit				Starting method	Power supply			Comp. (each)		CFM (each)	
Model	Type	Hz–Volts	Voltage range		MCA	MOCP	MFA	LRA	RLA	kW	FLA
RU05J	Y1	50–380 50–400 50–415	Max. 456V Min. 342V	Direct	10.8	13	15	52 54 56	8.0 7.7 7.5	0.12	0.8
RU08J		50–380 50–480 50–415			14.7	15	25	93 98 102	11.1 10.9 11.1	0.12	0.8
RU10J		50–380 50–400 50–415			18.4	18	30	121 127 132	14.1 14.0 14.1	0.21	0.8
RU05J	TH	50–220 60–220 60–230 60–240	Max. 50Hz 242V 60Hz 264V Min. 50Hz 198V 60Hz 198V		22.0	22	35	96 87 92 93	14.1 16.4 15.5 15.0	0.19	1.5
RU08J		50–220 60–220 60–230 60–240			29.0	30	50	176 152 159 166	19.7 22.0 21.2 20.6	0.19	1.5
RU10J		50–220 60–220 60–230 60–240			37.6	38	60	224 195 204 213	25.2 28.7 27.6 26.8	0.28	1.7
RU05J	YH	50–346 50–380 60–380 60–400	Max. 50Hz 418V 60Hz 440V Min. 50Hz 311V 60Hz 342V		12.8	13	20	52 57 52 54	8.8 8.2 9.4 8.9	0.19	1.0
RU08J		50–346 50–380 60–380 60–400			17.0	18	25	88 97 83 87	11.8 11.4 12.8 12.2	0.19	1.0
RU10J		50–346 50–380 60–380 60–400			21.5	22	35	121 133 115 121	14.9 14.4 16.4 15.6	0.28	1.0
RU16J	Y1	50–380 50–400 50–415	Max. 456V Min. 342V		31.9	36.6	45	93 98 102	11.7 11.5 11.7	1.0	2.8
RU22J		50–380 50–400 50–415			40.7	47.2	60	121 127 132	14.5 14.5 14.6	1.5	3.9
RU16JA	TH	50–220 60–220 60–230 60–240	Max. 50Hz 242V 60Hz 264V Min. 50Hz 198V 60Hz 198V	Sequence Direct	57	66	80	176 152 159 166	20.8 23.8 22.8 22.1	0.19	1.5
RU22JA		50–220 60–220 60–230 60–240			74	84	100	224 195 204 213	26.2 31.2 30.0 29.0	0.28	1.7
RU16JA	YH	50–346 50–380 60–380 60–400	Max. 50Hz 418V 60Hz 440V Min. 50Hz 311V 60Hz 342V		33	40	45	88 97 83 87	12.6 12.1 13.7 13.2	0.19	1.0
RU22JA		50–346 50–380 60–380 60–400			42	48	60	121 133 115 121	15.7 15.0 17.9 17.2	0.28	1.1

Symbols:

MCA : Min. Ckt (Circuit) Amps
MOCP : Maximum Over-current Protection (Amps)
MFA : Max. Fuse Amps (See note 5)
LRA : Locked Rotor Amps
RLA : Rated Load Amps
CFM : Condenser Fan Motor
FLA : Full Load Amps
kW : Rated motor output

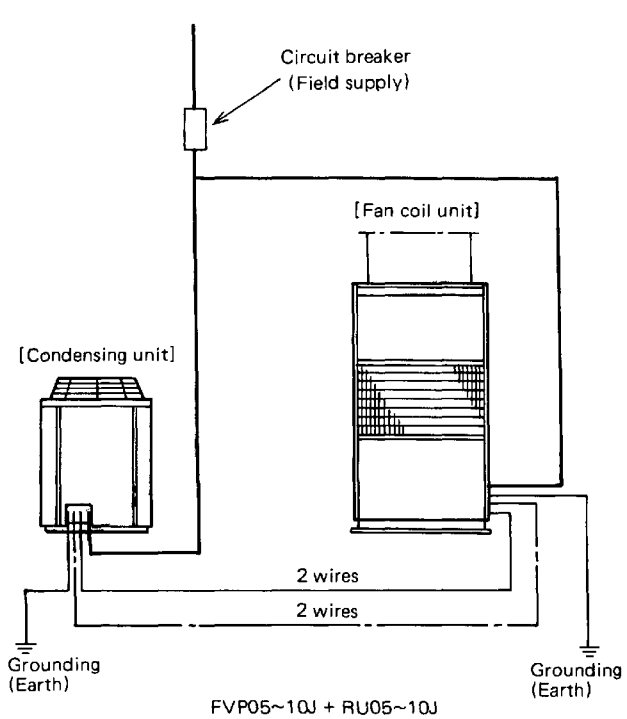
Notes:

1. RLA is based on the following conditions.
   Indoor temp. 27°CDB/19.5°CWB
   Outdoor temp 35°CDB
2. MOCP means the total value of each OC set.
3. Voltage range
   Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.
4. Maximum allowable voltate unbalance between phases is 2%.
5. MCA/MFA (RU)
   MCA = 1.25 x RLA + ea. FLA
   MFA ≦ 2.25 x RLA + ea. FLA
   (Nest lower standard fuse rating)
6. Select wire size based on the value of MCA.

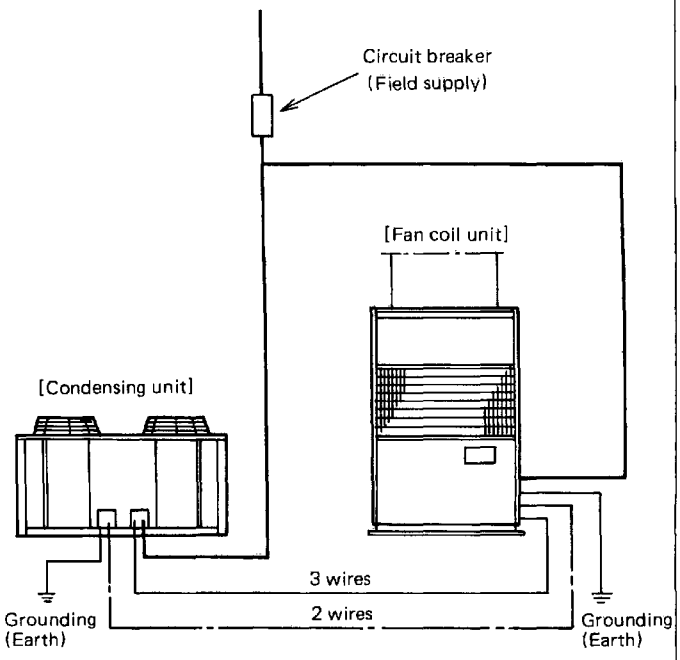
13. Wiring connection

- Wiring connection is made according to the wiring diagram which is stuck on the switch box cover of the fan coil unit.
- When the evaporator fan motor and the fan rotor rotate reversely, change the two wires out of three.
- Fan rotation should be in the direction pointed by the arrow mark stuck on the fan pulley.
- Accord with your local code, when wiring is provided on the spot.

Typical wiring diagram



FVP05~10J + RU05~10J



FV16J•22J + RU16J(A)•22J(A)

Line voltage
24 volt line
200~240 volt line

Notes:

1. All wiring must comply with the applicable local and national code.
2. Use copper conductors only.
3. See wiring diagram for detail component wiring.
4. Circuit breaker must be provided for safety.

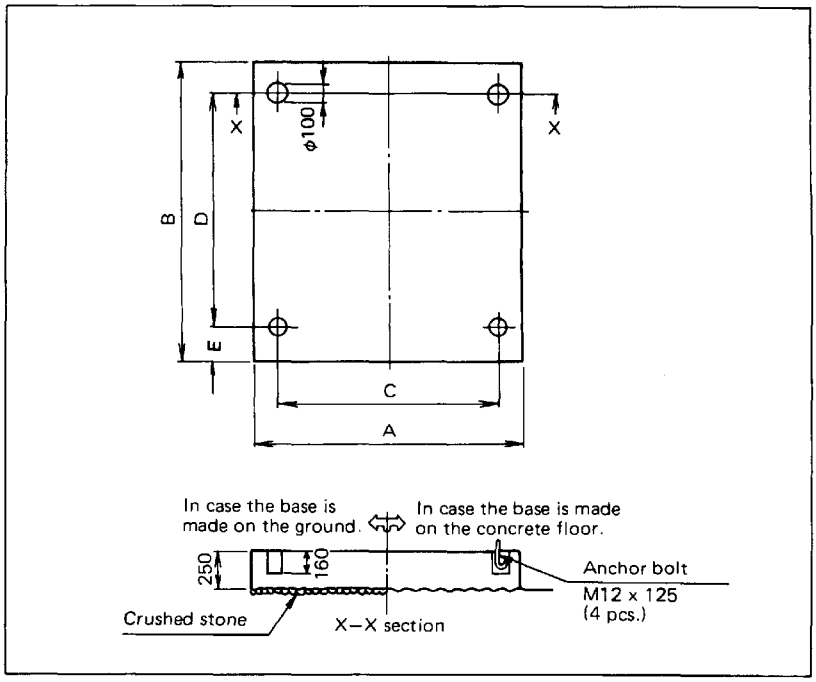
14. Foundation

(Unit: mm)

Model	A	B	C	D	E
RU05J	1000	900	810	405	210
RU08J RU10J	1200	1100	1020	520	230
RU16J	1960	1050	825	900	75
RU22J	2060	1160	825	1010	75
RU16JA	2160	1160	825	1010	75
RU22JA	2660	1260	1025	1110	75

Notes:

1. Provide a flat and level concrete base.
2. Provide a drainage around the unit.
3. In case of roof-top installation, check strength and water-proof of the roof.

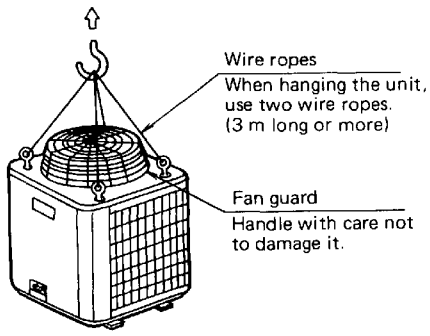


4

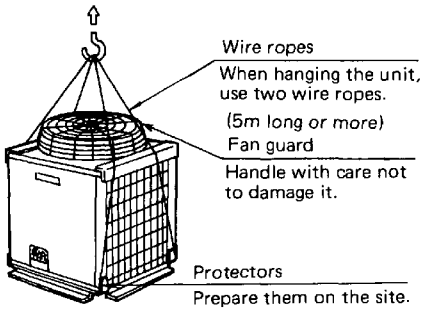
15. Bringing in

For safety's sake, bring in the unit as shown in the figures.
Then, fix the unit firmly with anchor bolts.

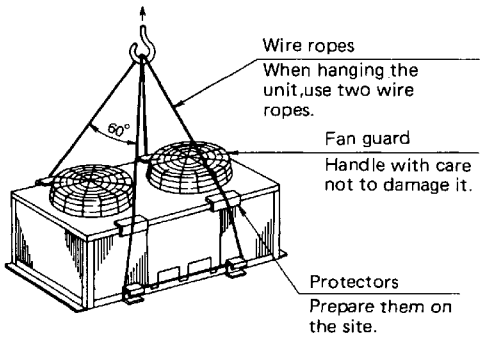
RU05J



RU08J·10J



RU16J(A)·22J(A)



16. Refrigerant piping

Refrigerant is not factory charged.
Charge it on the spot to the amount tabulated below.
Before charging the refrigerant, check the piping work as stated below.

Check the piping work:

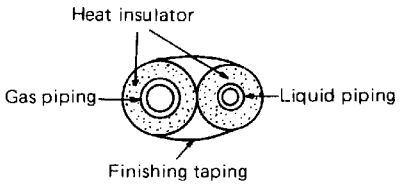
- After piping work, charge Nitrogen gas and Fluorocarbon refrigerant (R22) from the service ports of V_1 and V_2 valves and check the refrigeration circuit for gas tightness and gas leakage.
  [Valves state: V_1, V_2 . . . ①]
- Regarding test pressure and test method, follow the installation manual which is encased in the accessory pouch attached to the FV (P) unit.
- Then accomplish vacuum drying.
  [V_1, V_2 . . . ①]

Refrigerant charge:

- Liquid refrigerant is charged from V_1 port.
  As this stage, unit is not operated yet.
  [V_1 . . . ②, V_2 . . . ①]
- In case pre-designed amount of the refrigerant cannot be charged from V_1 port, charge the refrigerant in gas state from V_2 port up to pre-designed amount with the unit is in operation.
  [V_1 . . . ③, V_2 . . . ②]
- After completion of the work, fully open those valves. [V_1, V_2 . . . ③]

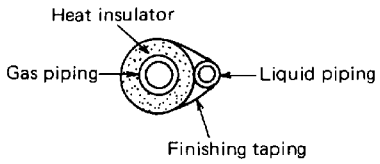
Heat insulation:

- Heat insulation is necessary both for the liquid pipe and gas pipe respectively since the capillary tube is attached to the condensing unit.

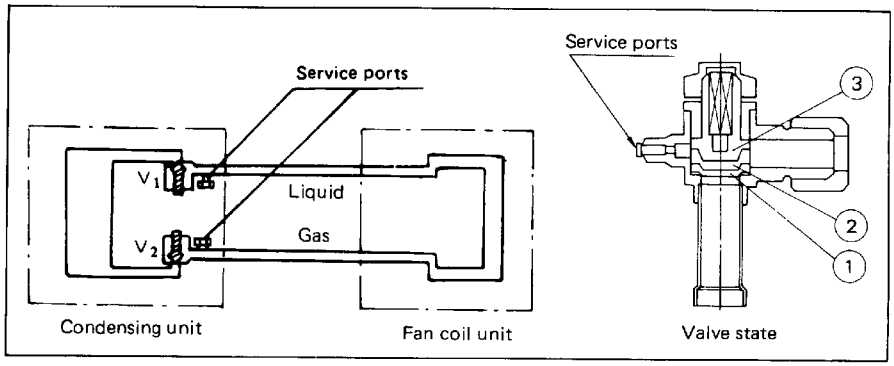


FVP05J~10J + RU05J~10J

- Heat insulation is necessary only for gas pipe, since that the expansion valve is attached to the fan coil units.



FV16J·22J + RU16J(A)·22J(A)



Condensing units	RU05J	RU08J	RU10J	RU16J	RU16JA	RU22J	RU22JA
*1 Refrigerant (R22) charge on the spot (kg)	4.3	6.9	8.2	2x(5.6)	2x(7.2)	2x(6.3)	2x(9.0)
Additional refrigerant charge (kg/m)	0.03	0.06	0.06	2x(0.17)		2x(0.17)	
Max. level difference	Condensing unit is higher than fan coil unit by					20m	
	Condensing unit is lower than fan coil unit by					30m	
Max. piping length	Actual piping length					35m	
	Equivalent piping length					50m	

Notes:

*1. If the piping length is longer than 5m in case of RU05J~10J and 10m in case of RU16J(A)~22J(A) additionally charge the refrigerant.

*2. How to calculate equivalent piping length:
Equivalent piping length means the total piping length of a pipe line in which L joints and traps provided in actual piping are converted to the length of straight pipe and added to actual piping length.
Equivalent piping length=Actual piping length + Numbers of L joints x an equivalent length of pipe per L joint + Numbers of trap bends x an equivalent length of pipe per trap bend.

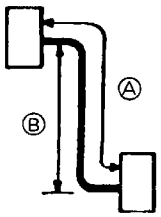
- Calculation of equivalent piping length on the gas piping alone is enough.
- Actual piping length Ⓐ is the total piping length of gas pipe line, including level difference Ⓑ

- In case two condensing units are connected, obtain equivalent piping length per condensing unit, and examine each equivalent piping length.
- 90° bend of piping is equivalent to L joint.

Equivalent length of pipe for various fittings (Unit: m)

Pipe dia. (mm)	L joint	Trap bend
9.5	0.18	1.3
12.7	0.20	1.5
15.9	0.25	2.0
19.1	0.35	2.4
22.2	0.40	3.0
25.4	0.45	3.4
31.8	0.55	4.0

Condensing unit or fan coil unit



Fan coil unit or condensing unit

17. Service space

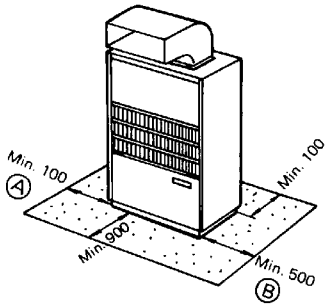
- Be certain that service spacing is sufficiently secured as shown in the figure. If any obstacles are placed around the unit, cooling capacity is reduced, and it is also difficult to do after-sales service smoothly.
- Be certain that the unit has been installed on such a place where the floor is flat and strong enough to support its weight. If the location is not suitable, it may cause noise and vibration.
- Be certain that the unit has been installed in such a place where there is no danger of fire due to leakage of inflammable gas.

(Unit: mm)

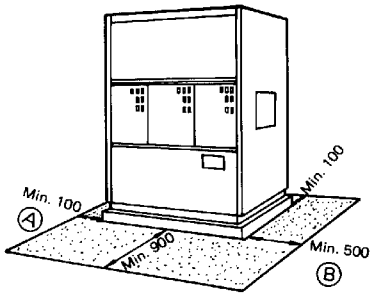
- **Fan coil unit**

Note:
The measurements shows the case when the piping is connected to the right side of the unit. When the piping is connected to the left side of the unit, Ⓐ and Ⓑ measurements should be reversed.

FVP05J·08J·10J

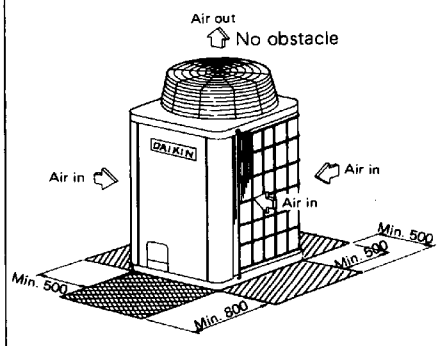


FV16J·22J

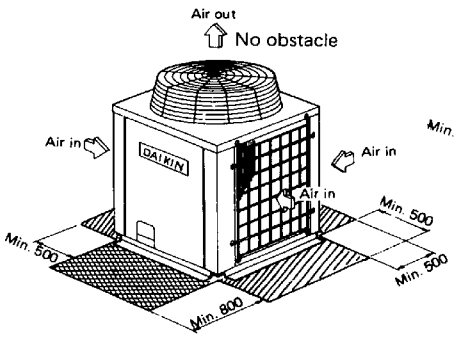


- **Condensing unit**

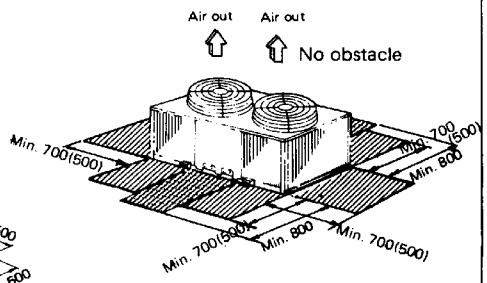
RU05J



RU08J·10J



RU16J(A)·22J(A)

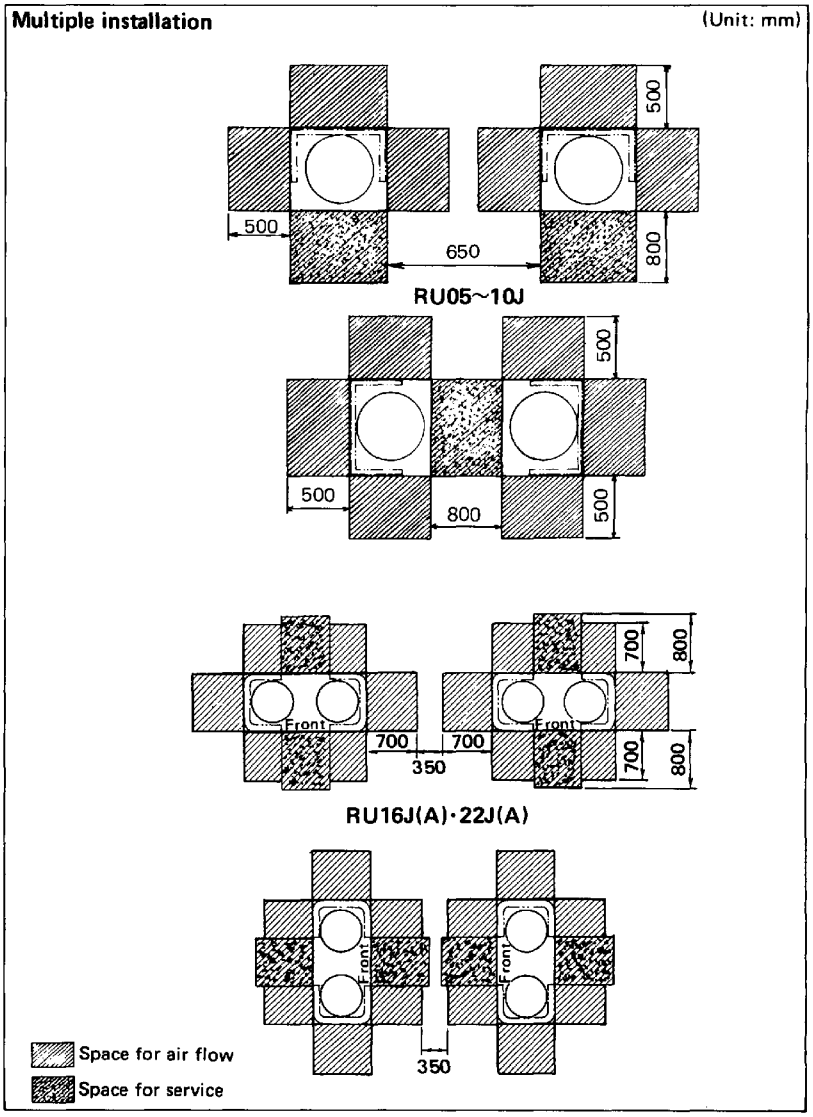


Note: 1. The figures inside ( ) show the case of JA type.

▨ Space for air flow
▩ Space for service

- In case multiple condensing units are installed with their air suction inlets faced one to the other, take spacing shown in the figure at least.

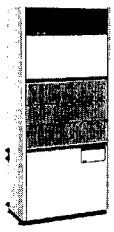
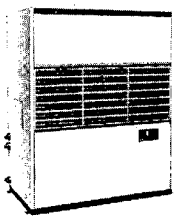
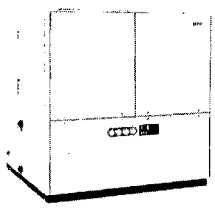
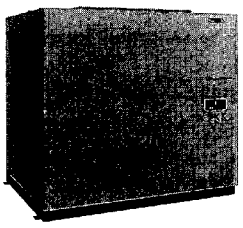
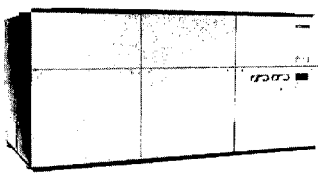
Multiple installation (Unit: mm)



5 Water Cooled Packaged Air Conditioners

UCP 3JA	UC 15J
5J	20J
8J	25J
10J	30J
	40J
	50J
	60J
	80EHS
	100EHS
	120EHS

CONTENTS

5 Water Cooled Packaged Air Conditioners UC(P) Series

1. Features

The Daikin Water Cooled Packaged Air Conditioners are available in 14 models from UCP3JA (8,200/9,200 kcal/h, 50/60Hz) to UC120EHS (327,000/371,000 kcal/h, 50/60Hz). The light and compact construction ensures easy installation in any building whether new or existing. They are ideally suited to cooling offices, banks, theaters, restaurants, etc. In case an optional heater (listed on page 5) is fitted, comfortabel heating is also possible. You can choose the model best suited to your requirements from the wide range availabel in this series.

UCP3JA~UC20J:

Designed for operation with ducting, but an optional plenum chamber (except UCP3JA) is mounted on a unit, it can be installed directly in a room without ducting.

UC25J~UC120EHS:

Designed for operation with ducting only.

Easy installation:

These self-contained units are assembled, internally wired and charged with refrigerant in the factory and are subjected to a stringent test run before delivery. All that is required on the spot are water piping, wiring to the main power supply and ducting. The weight of the models smaller than UC60J has been greatly reduced for easy handling.

Economical operation:

An electronic thermostat precisely controls compressor operation according to room temperature to save power.

UC15J~UC120EHS:

Cooling is controlled in 2 or 4 steps by an unloader mechanism or on/off operation of a compressor in the 2 or 3 refrigerant circuits according to cooling load.

Easy operation and maintenance:

Operation is very easy and controlled centrally from the control panel fitted on the front of the units. A red pilot lamp indicates normal operation, and white lamp indicates abnormal operation. In addition, various pressure gauges are connected to each refrigerant circuit for easy monitoring.

- **The switches, gauges, pilot lamps on the control panel** are as follows:

UCP3JA~UCP10J:

Master control knob, selector switch for COOL/HEAT, thermostat knob, red pilot lamp, high pressure reset button.

UC15J~UC60J:

Master control switch, selector switches for COOL/HEAT and LOCAL/REMOTE, thermostat knob, red pilot lamp, white pilot lamp, high pressure reset button, discharge pressure gauge (Except UC15J and 20J), suction pressure gauge (Except UC15J and 20J).

UC80EHS~UC120EHS:

Master control switch, selector switch for COOL/HEAT, thermostat knob, red pilot lamp, white pilot lamp, discharge pressure gauge, suction pressure gauge, oil pressure gauge.

- **A selector switch and terminal for remote control** are fitted to UC15J~UC60J for remote operation.
- **A washable air filter** is fitted on all models. It can be easily detached for cleaning.

Quiet:

Quiet multi-blade fans and hermetically sealed compressors mounted with vibration isolation rubber pads (Models smaller than UC60J) ensure quiet operation. In addition, the air passage inside the unit is designed to minimize air resistance for quiet operation.

Main components:

- Daikin developed highly efficient and compact compressors that are equipped with various safety devices for additional reliability and durability.

UCP3JA:

A hermetically sealed rotary compressor lubrication system with the eccentric hole is incorporated.

UCP5J~UC60J:

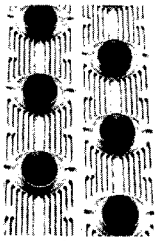
The hermetically sealed reciprocating type compressor is adopted. The lubrication method is of the eccentric hole system.

UC80EHS~UC120EHS:

A semi-hermetically sealed reciprocating type compressor of forced lubrication by the automatic reversible trochoid pump is incorporated. Oil pressure is regulated by an oil pressure control valve. An oil level gauge is included for easy monitoring.

- **The eveporator** is of the unique patented cross fin coil type. Waffle louver fins※1 or waffle fins and Hi-X tubes※2 (with internal surface modified by serration) are used to greatly improve the heat exchange coefficient.

U.S. PAT.
※1 No. 4,434,844
※2 No. 4,480,684



Waffle louver fins

Hi-X tube

- **The condenser** is also an usually efficient heat exchanger.

UCP3JA~UC40J:

The double tube type condenser with corrugated and wire or needle shaped fin inner tubes are used to increase heat transfer efficiency.

UC50J~UC120EHS:

The shell and cross fin tube type condenser is used. The refrigerant can be pumped down by using the stop valves at the condenser outlet and the compressor discharge side.

- **The evaporator fan** is of the dual suction multi-blade type and is V belt driven. Operative air flow range is widened for UCP3JA~UC60J. In particular, a variable pitch pulley is attached to UCP3JA~UC20J for ease of ducting.
- **The evaporator fan motor** is equipped with a thermal protector or an overcurrent relay for safe operation.

2. Specifications

Model			UCP3JA	UCP5J	UCP8J	UCP10J	UC15J
*1 Cooling capacity 50/60Hz		kcal/h	8,200/9,200	15,000/16,000	21,500/24,000	30,000/32,000	43,500/46,500
		Btu/h	32,600/36,500	59,500/64,000	85,000/95,000	119,000/127,000	172,500/185,000
		kW	9.5/10.7	17.4/18.6	25.0/27.9	34.9/37.2	50.6/54.1
Capacity steps		%	100—0	100—0	100—0	100—0	100—50—0
Casing/color			Cold rolled steel plate/Casing:ivory white, Air suction grille:Light camel				Cold rolled steel plate/Ivory white
Compressor	Type		Hermetically sealed rotary	Hermetically sealed reciprocating			
	No.×Model		1×RC112	1×2T55LF	1×3T55KF	1×3T55VF	2×2T55UF
	No.of cylinders		—	2	3	3	2×2
	Speed 50/60Hz	r.p.m.	2,850/3,400	2,900/3,450	2,900/3,450	2,900/3,450	2,900/3,450
Refrigeration oil	Model		SUNISO 3GSD				
	Charge	ℓ	0.9	2.1	2.7	2.7	2×2.1
Condenser	Type		Double tube				
	No.×Model		1×CDW-UC3J	1×CDW-UC5J	1×CDW-UC8J	1×CDW-UC10J	1×CDW-UC15J
	*1 Water flow rate 50/60Hz	ℓ/min.	30/35	55/61	80/92	112/123	160/175
Evaporator	Coil		Cross fin coil (Waffle louver fins and Hi-X tubes)				
	Row×stage		3×18	2×22	2×22	2×22	3×28
	Fin pitch	mm	2.5	2.0	2.0	2.0	2.0
	Face area	m^2	0.274	0.443	0.562	0.729	0.903
Evaporator fan	Type		Dual suction multi-blade				
	Model		D1 $^1/_2$D	2D 1$^{.5}/_8$A	2D1 $^3/_4$G2	2D 1 $^3/_4$G3	2D2E
	Drive		Belt with adjusting pulley				
	Air fllow rate 50/60Hz	m^3/min.	25	53	80	107	135
		cfm	880	1870	2820	3780	4770
	Motor output	kW	0.4	0.75	0.75	1.5	2.2
Refrigerant	Model		R22				
	Charge	kg	1.1	1.3	1.7	2.2	2×1.9
	Control		Capillary tube				
	No.of circuits		1	1	1	1	2
Air filter (Factory set)			Resin net				
Electronic thermostat			1 step				2 steps
Pipe connections	Condenser water inlet/outlet		FPT $^3/_4$B	FPT1B	FPT1 $^1/_4$B	FPT1 $^1/_4$B	FPT1 $^1/_2$B
	Drain-Upper/lower		FPS1B/FPS $^1/_2$B	FPS1B/FPS $^1/_2$B	FPS1B/FPS $^1/_2$B	FPS1B/FPS $^1/_2$B	FPS1B/FPS1B
Dimensions	H×W×D	mm	1,700×750×380	1,640×950×510	1,640×1,170×510	1,640×1,470×510	1,870×1,470×720
Weight (Operating weight)		kg	125(128)	205(209)	245(251)	290(298)	430(442)
Weight with optional plenum chamber (Operating weight)		kg	—	220(224)	261(267)	307(315)	457(469)

5

Model			UC20J	UC25J	UC30J	UC40J	UC50J
*1 Cooling capacity 50/60Hz		kcal/h	58,000/62,000	72,500/77,500	87,500/93,500	117,000/125,000	128,000/143,000
		Btu/h	230,000/246,000	288,000/308,000	347,000/371,000	465,000/496,000	508,000/568,000
		kW	67.4/72.1	84.3/90.1	101.7/108.7	136.0/145.3	148.8/166.3
Capacity steps		%	100—50—0	100—60—0	100—50—0	100—50—0	100—50—0
Casing/color			Cold rolled steel plate/Ivory White				
Compressor	Type		Hermetically sealed reciprocating				
	No.×Model		2×3T55RF	1×6T55FA 1×3T55RF	2×6T55JA	2×6T55TACS	2×6T55WACS
	No.of cylinders		2×3	1×6,1×3	2×6	2×6	2×6
	Speed 50/60Hz	r.p.m	2,900/3,450	2,900/3,450	2,900/3,450	2,900/3,450	2,900/3,450
Refrigeration oil	Model		SUNISO 3GSD	SUNIDO 4GSDID-K			
	Charge	ℓ	2×2.7	6.1+2.7	2×6.1	2×6.1	2×6.1
Condenser	Type		Double tube				Shell and cross fin tube
	No.×Model		1×CDW-U20J	1×CDN-UC25J	1×CDN-UC30J	1×CDN-UC40J	1×CXCD241B
	*1 Water flow rate 50/60Hz	ℓ/min.	214/236	266/293	324/354	430/472	478/548
Evaporator	Coil		Cross fin coil (Waffle louver fins and Hi-X tubes)				
	Row×stage		3×28	3×48	3×48	3×56	4×64
	Fin pitch	mm	2.0	2.0	2.0	2.0	2.0
	Face area	m^2	1.145	1.63	1.83	2.39	2.73
Evaporator fan	Type		Dual suction multi-blade				
	Model		2D2E	D3C	D3C	2D2$^1/_2$D	2D2$^1/_2$D
	Drive		Belt with adjusting Belt pulley				
	Air fllow rate 50/60Hz	m^3/min.	180	225	270	360	420
		cfm	6,360	7,940	9,530	12,700	14,800
	Motor output	kW	3.7	3.7	5.5	7.5	11
Refrigerant	Model		R22				
	Charge	kg	2×2.5	4.2+2.8	2×4.2	2×5.6	2×9.6
	Control		Capillary tube				Thermal expansion valve
	No.of circuits		2	2	2	2	2
Air filter (Factory set)			Resin net				
Electronic thermostat			2 steps				
Pipe connections	Condenser water inlet/outlet		FPT2B	FPT2B	FPT2$^1/_2$B	FTP2$^1/_2$B	FPT3B
	Drain-Upper/lower		FPS1B/FPS1B	FPS1$^1/_4$B/FPS1B	FPS1$^1/_4$B/FPS1B	FPS1$^1/_4$B/FPS1B	FPS1$^1/_2$B/FPS1B
Dimensions	H×W×D	mm	1,870×1,810×720	1,850×1,600×1,050	1,850×1,760×1,050	1,850×1,960×1,200	1,850×1,960×1,200
Weight (Operating weight)		kg	535(550)	700(722)	830(855)	1,030(1,058)	1,150(1,174)
Weight with optional plenum chamber (Operating weight)		kg	567(582)	—	—	—	—

Model			UC60J	UC80EHS	UC100EHS	UC120EHS
*1 Cooling capacity 50/60Hz		kcal/h	164,000/184,000	209,000/236,000	260,000/294,000	327,000/371,000
		Btu/h	651,000/731,000	830,000/937,000	1,032,000/1,167,000	1,298,000/1,473,000
		kW	190.7/214.0	243.0/274.4	302.3/341.9	380.2/431.4
Capacity steps		%	100—67—0	100—83—67—33—0	100—75—50—25—0	100—75—50—25—0
Casing/color			Cold rolled steel plate/Ivory white			
Compressor	Type		Hermetically sealed reciprocating	Semi-hermetically sealed reciprocating		
	No.×Model		3×6T55TACS	2×6HC752L	2×8HC752S	2×8HC752L
	No.of cylinders		3×6	2×6	2×8	2×8
	Speed 50/60Hz	r.p.m	2,900/3,450	1,450/1,720	1,450/1,720	1,450/1,720
Refrigeration oil	Model		SUNISO 4GS DID-K			
	Charge	ℓ	3×6.1	2×14	2×14	2×14
Condenser	Type		Shell and cross fin tube			
	No.×Model		1×CXCD2422	2×CXC1922	2×CXC2122	2×CXC2422
	*1 Water flow rate 50/60Hz	ℓ/min.	617/708	840/954	1,031/1,184	1,249/1,407
Evaporator	Coil		Cross fin coil (Waffle louver fins and Hi-X tubes)			
	Row×stage		4×64	3×64	3×64	4×64
	Fin pitch	mm	2.0	2.0	2.0	2.0
	Face area	m^2	3.38	4.35	5.44	6.04
Evaporator fan	Type		Dual suction multi-blade			
	Model		2D3C	2D3½C	3D3½C	3D3½C
	Drive		Belt			
	Air fllow rate 50/60Hz	m^3/min.	540	680	840	1,000
		cfm	19,100	24,000	29,700	35,300
	Motor output	kW	11	18.5	22	22
Refrigerant	Model		R22			
	Charge	kg	3×8.5	2×17	2×18	2×25
	Control		Thermal expansion valve			
	No.of circuits		3	2	2	2
Air filter (Factory set)			Resin net			
Electronic thermostat			2 steps	4 steps		
Pipe connections	Condenser water inlet/outlet		FPT3B	FPT3B×2	FPT3B×2	FPT4B×2
	Drain-Upper/lower		FPS1¼B/FPS1B	FPS2B/FPS1B	FPS2B/FPS1B	FPS2B/FPS1B
Dimensions H×W×D		mm	1,850×2,360×1,200	1,875×3,110×1,520	1,875×3,760×1,710	1,875×4,110×1,710
Weight (Operating weight)		kg	1,360(1,391)	3,000(3,036)	3,600(3,644)	3,900(3,956)

Notes:

*1. Nominal cooling capacity is based on the following conditions:
Indoor air temp. 27°C DB (80° F DB), 19.5°C WB (67° F WB)
Entering condenser water temp. 29.5°C (85° F)
Leaving condenser water temp. 35°C (95° F)

2. Capacities are gross capacities which do not include a deduction for evaporator fan motor heat.

Conversion formulae		
Btu/h	=	kcal/h x 3.97
kW	=	kcal/h x 0.001163
Inches	=	mm x 0.0394
Pounds	=	kg x 2.205
Psi	=	kg/cm² x 14.22
KPa	=	kg/cm² x 98.07
Cfm	=	m³/min x 35.3
US Gallons	=	Liter x 0.264
UK Gallons	=	Liter x 0.220

e.g. 15,000 kcal/h = 15,000 x 3.97
= 59,500 Btu/h

Safety devices

The following safety devices are standard.

Unit size	3	5	8	10	15	20	25	30	40	50	60	80	100	120
Compressor thermal protector	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Overcurrent relay (Comp.)	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Overcurrent relay (Fan motor)	—	○	○	○	○	○	○	○	○	○	○	○	○	○
High pressure switch	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Low pressure switch	—	—	—	—	—	—	—	—	—	—	—	○	○	○
Oil pressure control switch	—	—	—	—	—	—	—	—	—	—	—	○	○	○
Relief valve	—	—	—	—	—	—	—	—	—	—	—	○	○	○
Fusible plug	○	○	○	○	○	○	○	○	○	○	○	—	—	—
Crankcase heater	—	—	—	—	—	—	—	—	—	—	—	○	○	○
Reverse phase protector	○	—	—	—	—	—	—	—	—	—	—	—	—	—

■ Power supply

SYMBOL	Power supply	Available model
YE	3 ϕ, 380~415/400~440V, 50/60Hz (3 wires)	UCP3JAYE
		UCP5JYE
		UCP8JYE
		UCP10JYE
		UC15JYE
		UC20JYE
		UC25JYE
		UC30JYE
		UC40JYE
		UC50JYE
		UC60JYE
		UC80EHSYE
		UC100EHSYE
		UC120EHSYE

3. Standard accessories

1. **Operation manual**
2. **Installation manual**
3. **Bolts, nuts for duct flange (U(C)P5~60)**
4. **V-pulley for fan motor (UC25~60)**
5. **V-belt (UC25~60)**

4. Optional accessories

※ 1. **Electric heater (UCP3~20)**
2. **Hot water heater**
3. **Steam heater**
4. **Evaporating pan type humidifier (UCP3~50)**
5. **Steam spray type humidifier**
6. **Water spray type humidifier**

※ 7. **Fan motor pulley change [Evaporator fan]** ☆

※ 8. **Fan motor 1 size larger [Evaporator fan]** ☆ **(except UCP3)**

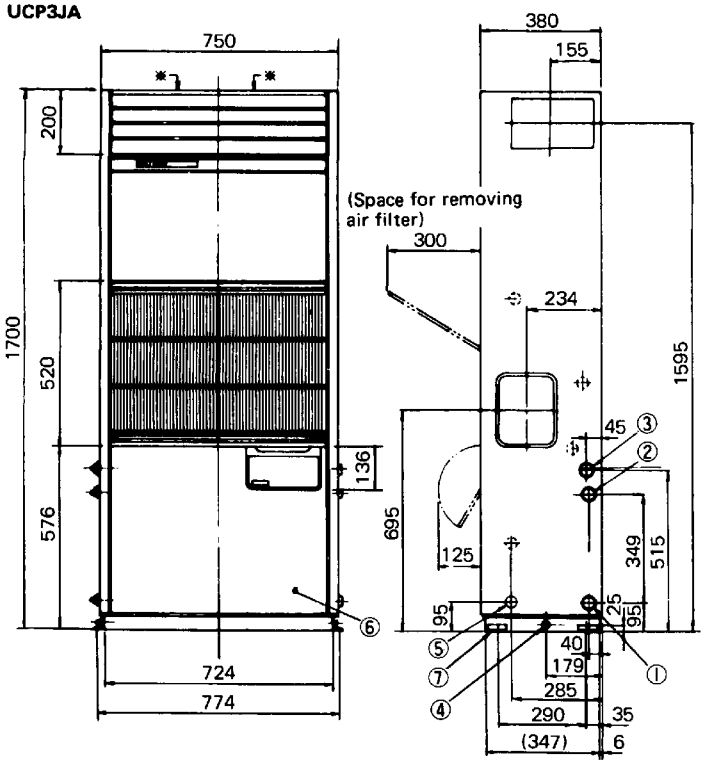
9. **Fresh air intake (UCP3~20)**
10. **Rear suction inlet (UCP3~20)**
11. **Plenum chamber (UCP5~20)**
12. **Side discharge grille for plenum chamber (UCP3~20)**
13. **Pressure gauge (UCP3~20)**
14. **Condenser water interruption relay**

Note: ※ These options should be attached in DAIKIN factory.
Field modification are not available.
☆ In case ordering these modifications, inform "Air flow rate (m^3/min)" & "External static pressure (mmH_2O)".

5. Dimensions

(Unit: mm)

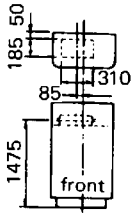
UCP3JA



① Condenser water inlet FPT3/4B
② Condenser water outlet FPT3/4B
③ Upper drain FPS1B
④ Lower drain FPS1B
⑤ Power supply intake ϕ45 hole
⑥ Grounding terminal M5 bolt
⑦ Anchor bolt set plate (detachable) 4-ϕ15 hole

Note: ① ~ ⑤ can be provided either on the left or the right side of the unit.

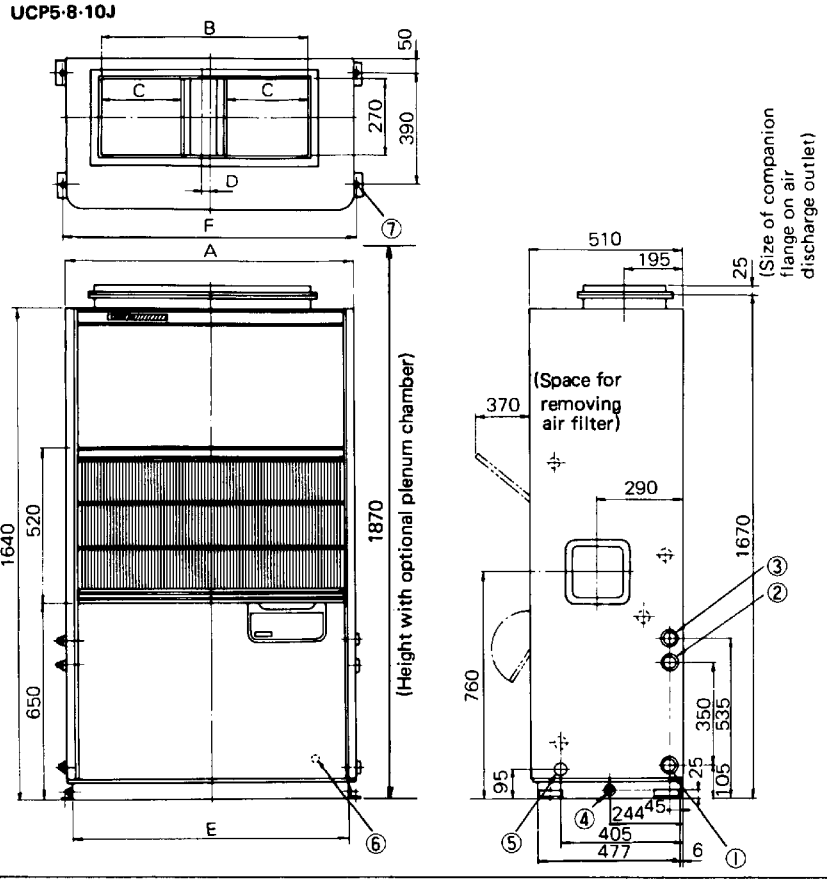
Location of duct connection



In case ducting is to be connected, provide a square hole (310 x 185) on the top plate ※ of the unit or remove the top plate (marked with ※)

(Unit: mm)

UCP5·8·10J



① Condenser water inlet
UCP5J : FPT1B
UCP8J : FPT1¼B
UCP10J: FPT1¼B
② Condenser water outlet
UCP5J : FPT1B
UCP8J : FPT1¼B
UCP10J: FPT1¼B
③ Upper drain FPS1B
④ Lower drain FPS½B
⑤ Power supply intake ϕ45 hole
⑥ Grounding terminal in switch box M6 bolt
⑦ Anchor bolt set plate (detachable) 4-ϕ15 hole

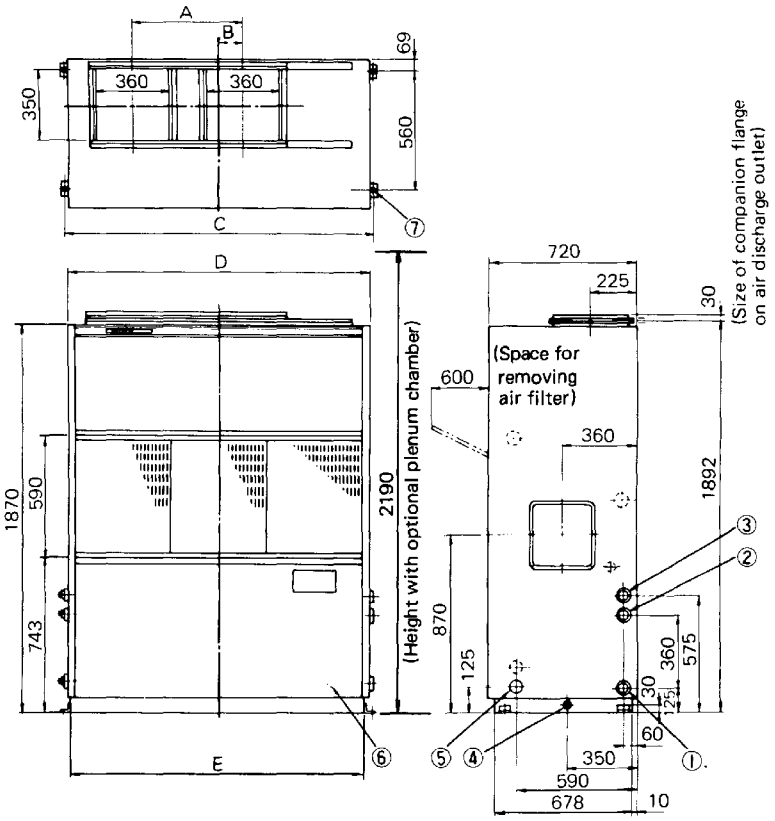
Note: ① ~ ⑤ can be provided either on the left or the right side of the unit.

Model	A	B	C	D	E	F
UCP5J	950	695	280	27.5	924	974
UCP8J	1170	870	330	35	1144	1194
UCP10J	1470	1140	430	20	1444	1494

5

(Unit: mm)

UC15·20J



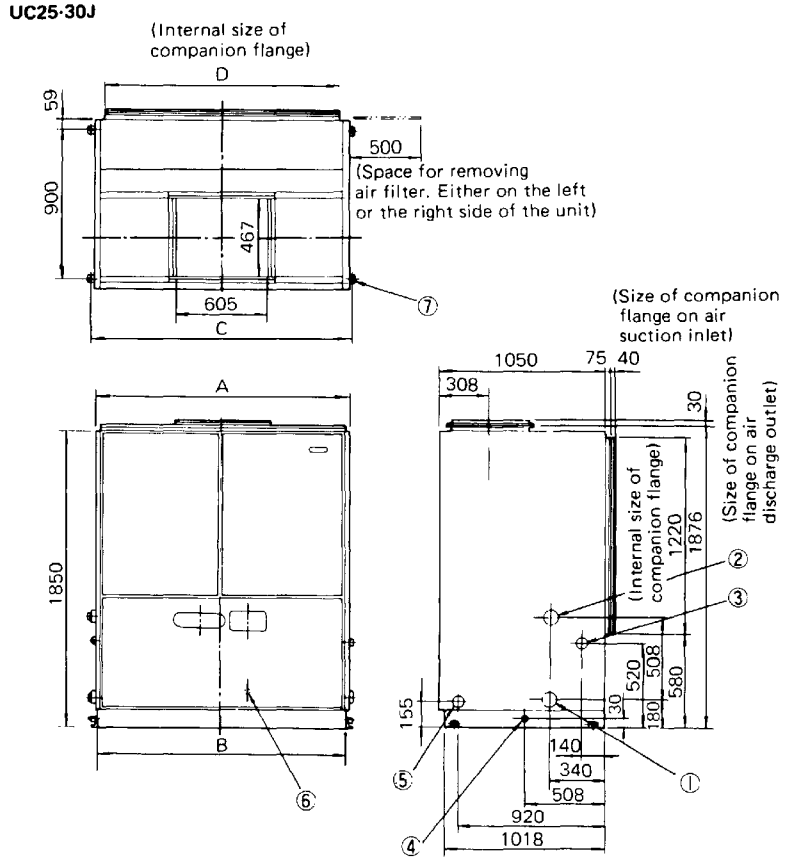
①Condenser water inlet	
UC15J:	FPT1½B
UC20J:	FPT2B
②Condenser water outlet	
UC15J:	FPT1½B
UC20J:	FPT2B
③Upper drain	FPS1B
④Lower drain	FPS1B
⑤Power supply intake	ϕ58 hole
⑥Grounding terminal in switch box	M6 bolt
⑦Anchor bolt set plate (detachable)	4-ϕ17 hole

Note: ① ~ ⑤ can be provided either on the left or the right side of the unit.

Model	A	B	C	D	E
UC15J	540	115	1495	1470	1445
UC20J	680	180	1835	1810	1785

(Unit: mm)

UC25·30J



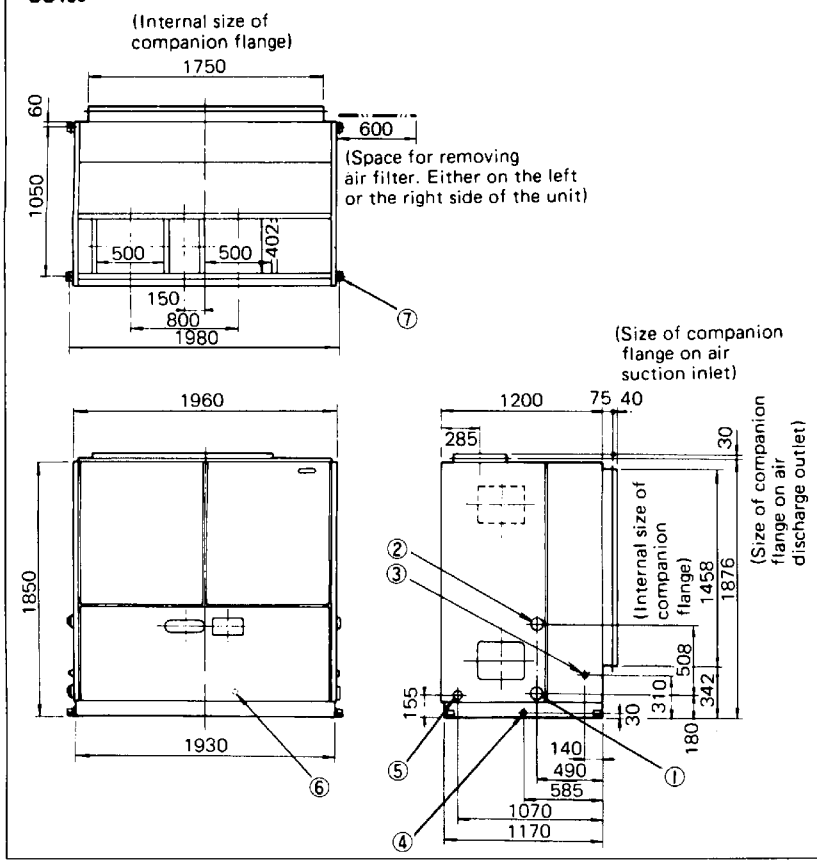
①Condenser water inlet	
UC25J:	FPT2B
UC30J:	FPT2½
②Condenser water outlet	
UC25J:	FPT2B
UC30J:	FPT2½B
③Upper drain	FPS1¼B
④Lower drain	FPS1B
⑤Power supply intake	ϕ58 hole
⑥Grounding terminal in switch box	M6 bolt
⑦Anchor bolt set plate (detachable)	4-ϕ17 hole

Note: ① ~ ⑤ can be provided either on the left or the right side of the unit.

Model	A	B	C	D
UC25J	1600	1570	1620	1400
UC30J	1760	1730	1780	1560

(Unit: mm)

UC40J

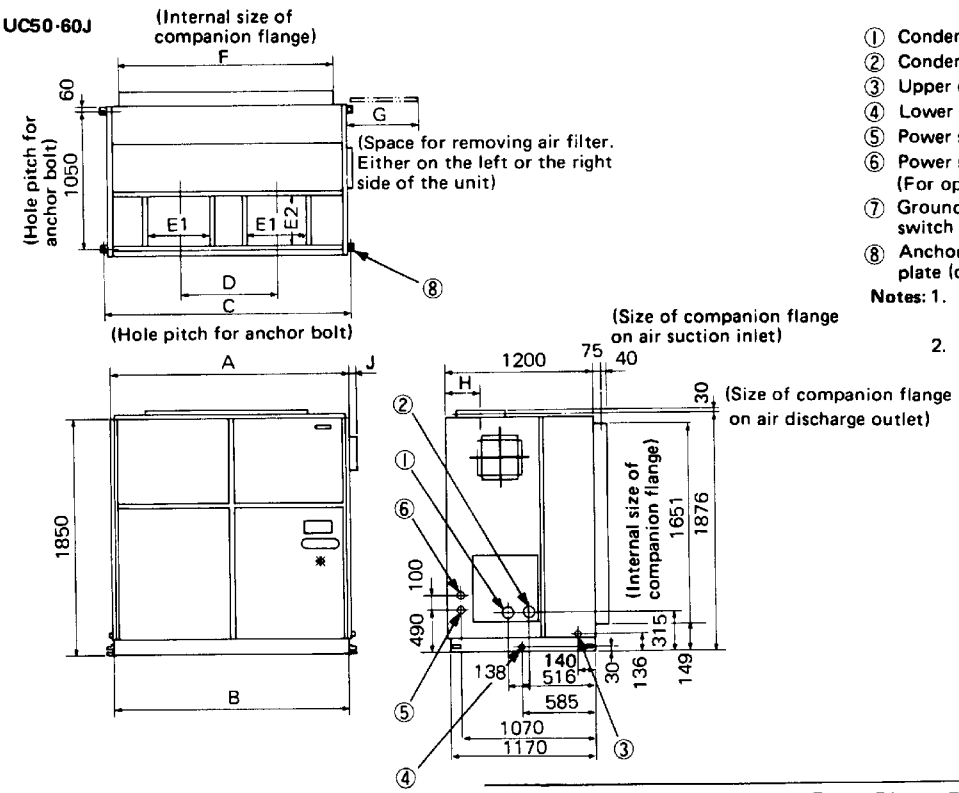


①	Condenser water inlet	FPT2½B
②	Condenser water outlet	FPT2½B
③	Upper drain	FPS1¼B
④	Lower drain	FPS1B
⑤	Power supply intake	φ58 hole
⑥	Grounding terminal in switch box	M6 bolt
⑦	Anchor bolt set plate (detachable)	4-φ17 hole

Note: ① ~ ⑤ can be provided either on the left or the right side of the unit.

(Unit: mm)

UC50·60J



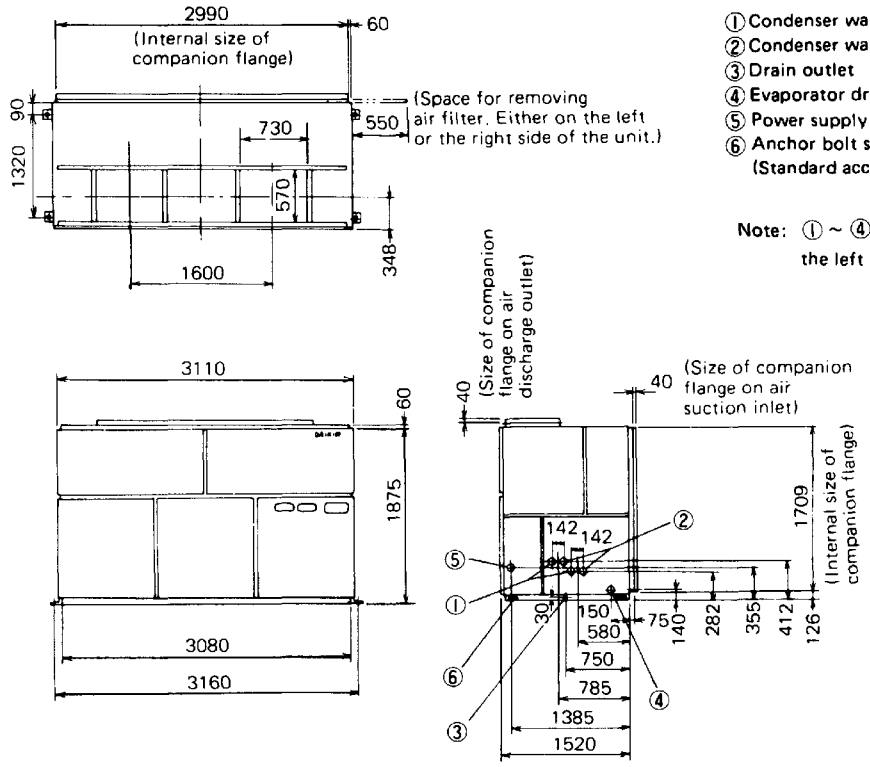
①	Condenser water inlet	FPT3B
②	Condenser water outlet	FPT3B
③	Upper drain	FPS1¼B
④	Lower drain	FPS1B
⑤	Power supply intake	φ58 hole
⑥	Power supply intake (For optional accessories)	φ58 hole
⑦	Grounding terminal in switch box.	M6 bolt
⑧	Anchor bolts set plate (detachable)	4-φ17 hole

Notes: 1. ① ~ ⑥ can be provided either on the left or the right side of the unit.
2. UC50J has one gauge window ※ and UC60J has three.

Model	A	B	C	D	E1	E2	F	G	H	J
UC50J	1960	1930	1980	800	500	402	1750	600	285	0
UC60J	2360	2330	2380	1200	605	467	2150	750	308	20

(Unit: mm)

UC80EHS



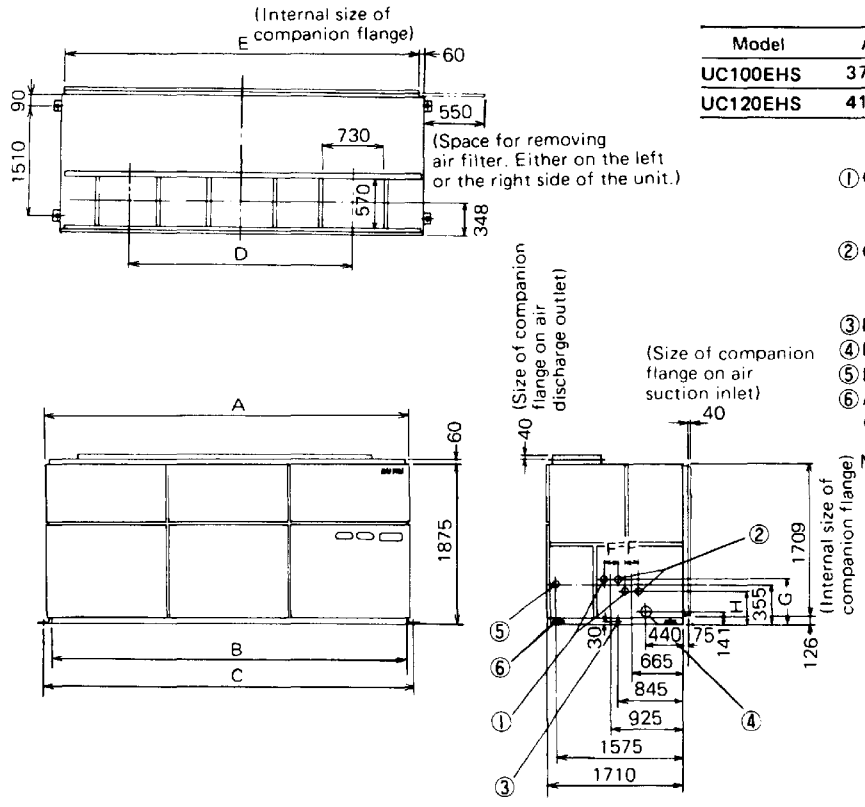
① Condenser water inlet	FPT3B
② Condenser water outlet	FPT3B
③ Drain outlet	FPS1B
④ Evaporator drain outlet	FPS2B
⑤ Power supply intake	ϕ90 hole
⑥ Anchor bolt set plate	4-ϕ25 hole

(Standard accessory and detachable)

Note: ① ~ ④ can be provided either on the right or the left side of the unit.

(Unit: mm)

UC100·120EHS



Model	A	B	C	D	E	F	G	H
UC100EHS	3760	3730	3810	2250	3640	138	418	298
UC120EHS	4110	4080	4160	2550	3990	164	462	322

① Condenser water inlet	
UC100EHS:	FPT3B
UC120EHS:	FPT4B
② Condenser water outlet	
UC100EHS:	FPT3B
UC120EHS:	FPT4B
③ Drain outlet	FPS1B
④ Evaporator drain outlet	FPS2B
⑤ Power supply intake	ϕ90 hole
⑥ Anchor bolt set plate	4-ϕ25 hole

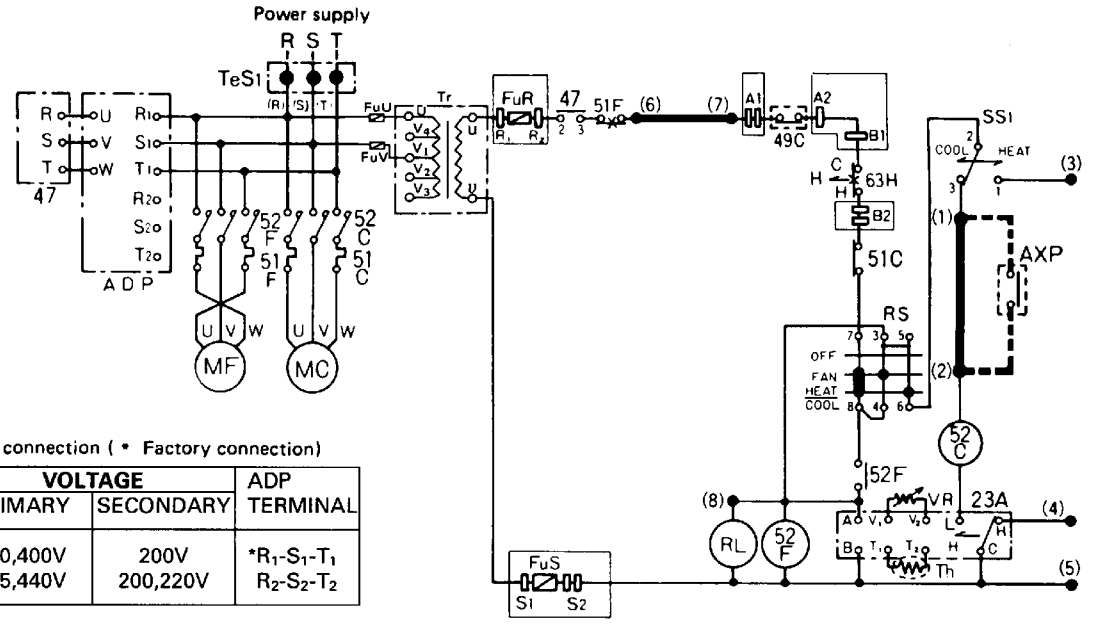
(Standard accessory and detachable)

Notes: 1. ① ~ ④ can be provided either on the right or the left side of the unit.

6. Wiring diagrams

(1) Main and control circuits

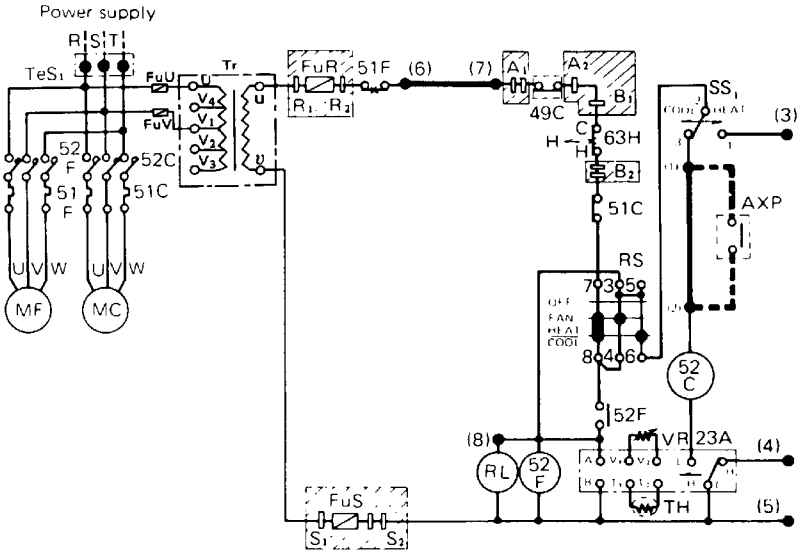
UCP3JA



ADP connection (* Factory connection)

	VOLTAGE		ADP
	PRIMARY	SECONDARY	TERMINAL
YE	380,400V 415,440V	200V 200,220V	*R_1-S_1-T_1 R_2-S_2-T_2

UCP5 · 8 · 10J



Symbols:

23A	Thermostat
47	Reverse phase protector
49C	Compressor, thermal protector
51C	Overcurrent relay (MC)
51F	Overcurrent relay (MF)
52C	Magnetic switch (MC)
52F	Magnetic switch (MF)
63H	High pressure switch
ADP	Adaptor (47)
VR	Variable resistor
FuU, V	Fuse (600V, 3A)
FuR,S	Fuse (250V, 3A for UCP10J, 1A for UCP3JA, 5.8J)
MC	Motor (Compressor)
MF	Motor (Fan)
RL	pilot lamp (Operation-Red)
RS	Rotary switch
SS	Selector switch
TeS	Terminal strip
TH	Thermistor
Tr	Transformer (50/75VA for UCP3JA, 5.8J/UCP10J respectively.)
Field supply:	
AXP	Auxiliary contact (Interlock)

Notes:

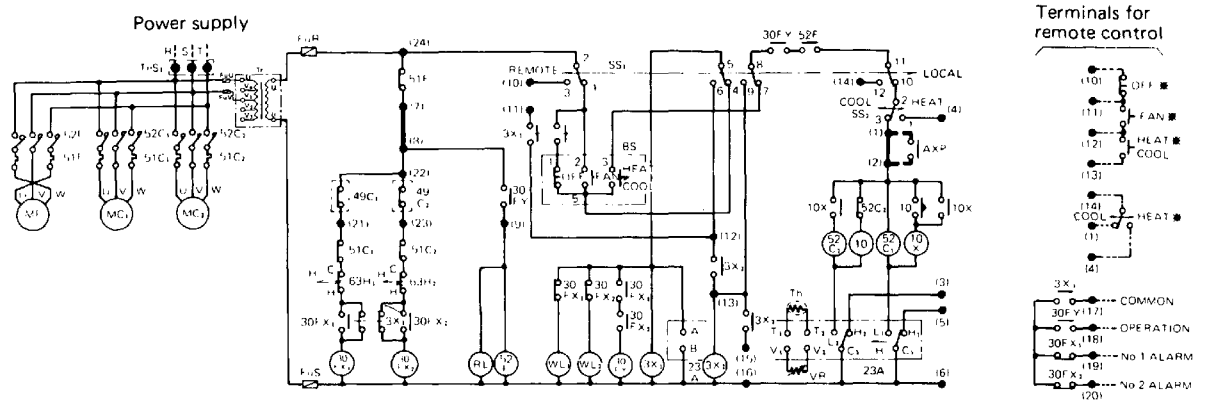
1. —●— : Terminal of TeS
   —— : Jumper
   —⊓— : Tab
   ▭ : Printed circuit board (P.B)
2. ----- : The wiring to interlock with condenser water pump. Remove the jumper wire between (1) and (2) on TeS and connect "AXP". "AXP" should be supplied separately
3. The devices shown in[ ] are attached outside of the switch box.
4. Connection of transformer and adaptor are as follows.

   Transformer

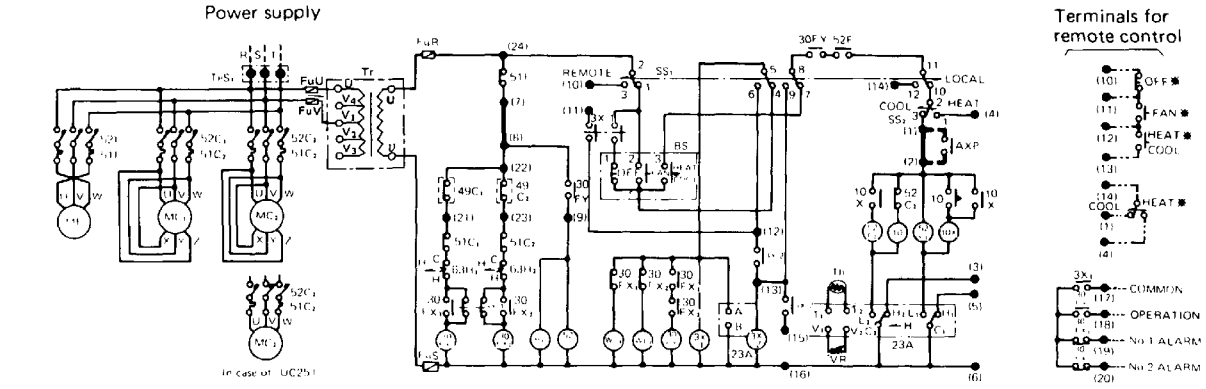
Terminals	Primary/Secondary 「YE」 Model	Remarks
U-V_1	380V/200V	Factory connection
U-V_2	400V/200V 440V/220V	Change connection on the spot.
U-V_3	415V/200V	

5. If the wiring is connected reversely, the unit (UCP3JA-YE, YH, TH) will not operate. In this case, reverse two connections of the three.

UC15·20J



UC25·30J



Symbols:

3X	Magnetic relay
10	Timing relay
10X	Magnetic relay
23A	Thermostat
30FX	Magnetic relay
30FY	Magnetic relay
49C	Compressor thermal protector
51C	Overcurrent relay (MC)
51F	Overcurrent relay (MF)
52C	Magnetic switch (MC)
52F	Magnetic switch (MF)
63H	High pressure switch

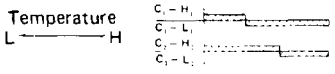
BS	Push button switch
FuR,S	Fuse 250V,5A
FuU,V	Fuse 600V,3A for YE and YH,5A for TH
MC	Motor (Compressor)
MF	Motor (Fan)
RL	Pilot lamp (Operation-Red)
SS	Selector switch
TeS	Terminal strip
TH	Thermistor
Tr	Transformer (150VA)
VR	Variable resistor
WL	Pilot lamp (Alarm-White)
Field supply	
AXP	Auxiliary contact (Interlock)
*	Component for remote control

Notes:

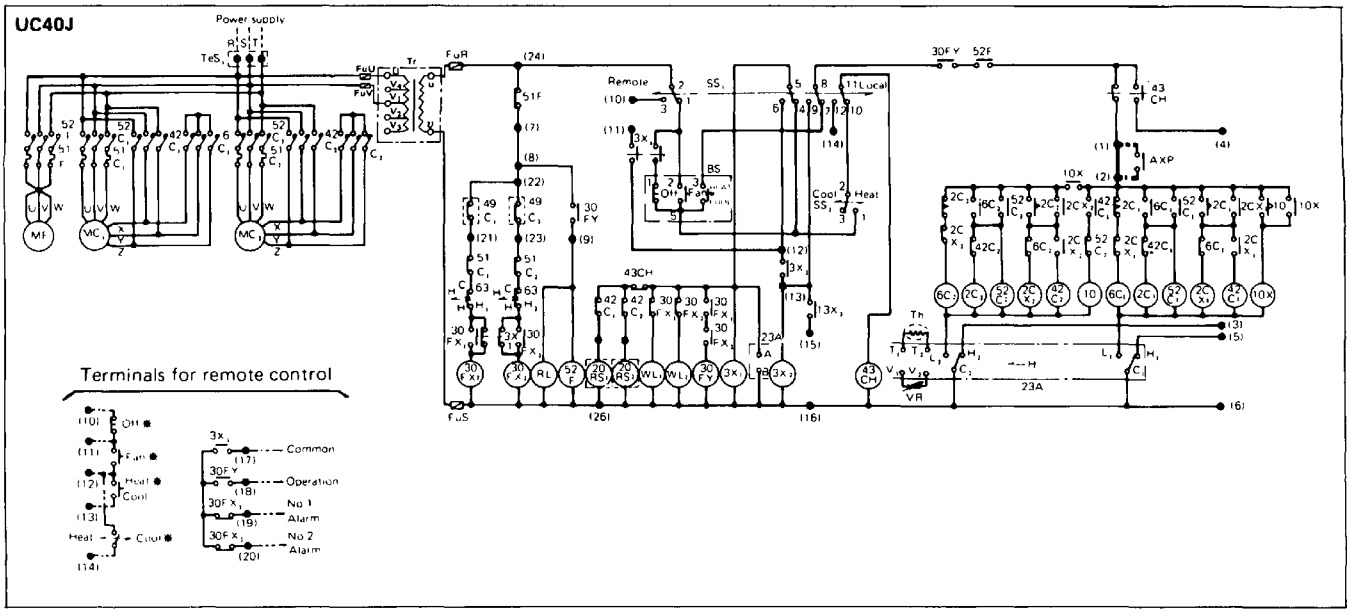
1. —●— : Terminal of TeS
   ——— : Jumper
   ----- : Additional wiring for remote control.
2. ▬▬: The wiring to interlock with condenser water pump. Remove the jumper wire between (1) and (2) on TeS and connect "AXP". "AXP" should be supplied separately.
3. The devices shown in [ ] are attached outside of the switch box.
4. Connection to transformer is as follows.

Terminals	Primary/Secondary "YE" Model	Remarks
U-V_1	380V/200V	Factory connection
U-V_2	400V/200V 440V/220V	Change connection on the spot.
U-V_3	415V/200V	

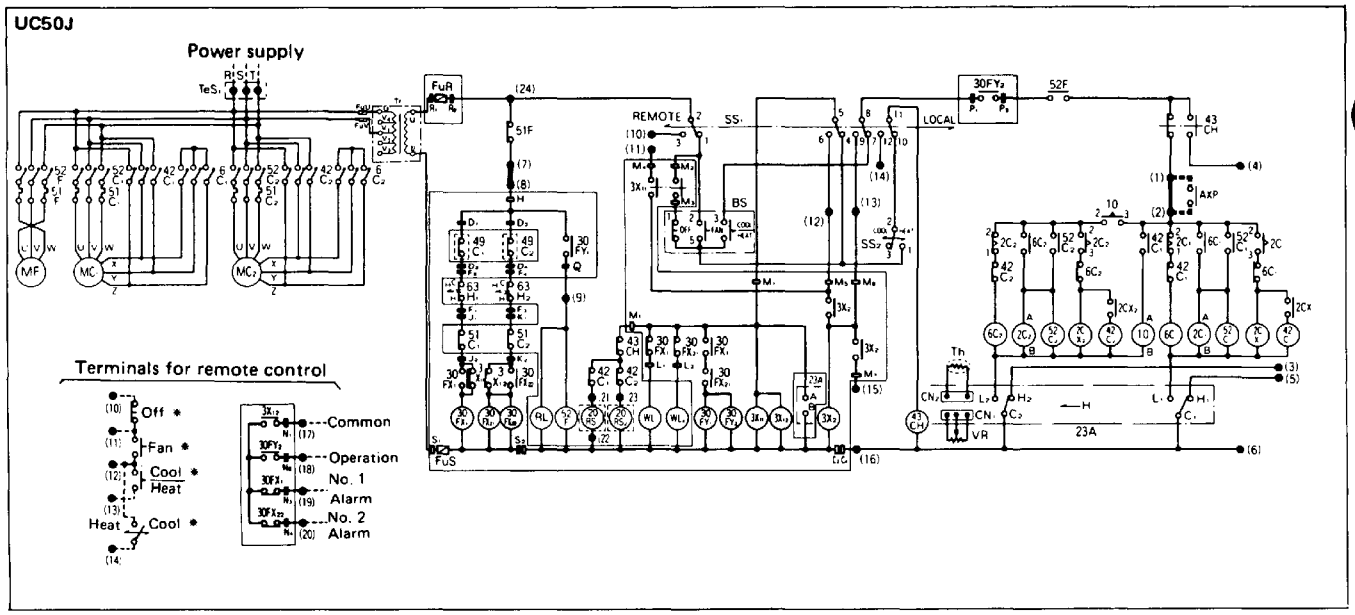
5. Function of 23A : ▨ Part shows "ON".



UC40J



UC50J



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Symbols:

2C,	Timing relay (Y-Δ Change)
2CX,	Magnetic relay
3X	Magnetic relay
6C	Magnetic contactor (MC)
10	Timing relay (5 sec)
10X	Magnetic relay
20RS	Solenoid valve (start)
23A	Thermostat
30FX	Magnetic relay
30FY	Magnetic relay
42C	Magnetic contactor (MC)
43CH	Magnetic relay
49C	Compressor thermal protector
51C	Overcurrent relay (MC)
51F	Overcurrent relay (MF)
52C	Magnetic switch (MC)
52F	Magnetic switch (MF)
63H	High pressure switch
BS	Push button switch

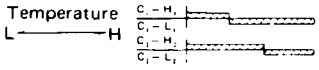
FuR, S	Fuse 250V, 5A
FuU, V	Fuse : 600V, 3A for UC40J-YE,YH, 5A for UC40JTH and UC50J.
MC	Motor (Compressor)
MF	Motor (Fan)
RL	Pilot lamp (Operation-Red)
SS	Selector switch
TeS	Terminal strip
Th	Thermistor (23A)
Tr	Trasformer (200VA)
VR	Variable resistor
WL	Pilot lamp (Alarm or emergency-White)
Field supply :	
AXP	Auxiliary contact (Interlock)
*	Component for remote control

Notes:

1. —●— : Terminal of TeS
   —— : Jumper
   ▭ : Relay board
   ---- : Additional wiring for remote control.
2. - - - - : The wiring to interlock with condenser water pump. (Remove the jumper wire between (1) and (2) on TeS and connect "AXP")
   "AXP" should be supplied separately.
3. The devices shown in [ ] are attached outside of the switch box.
4. Connection to transformer is as follows.

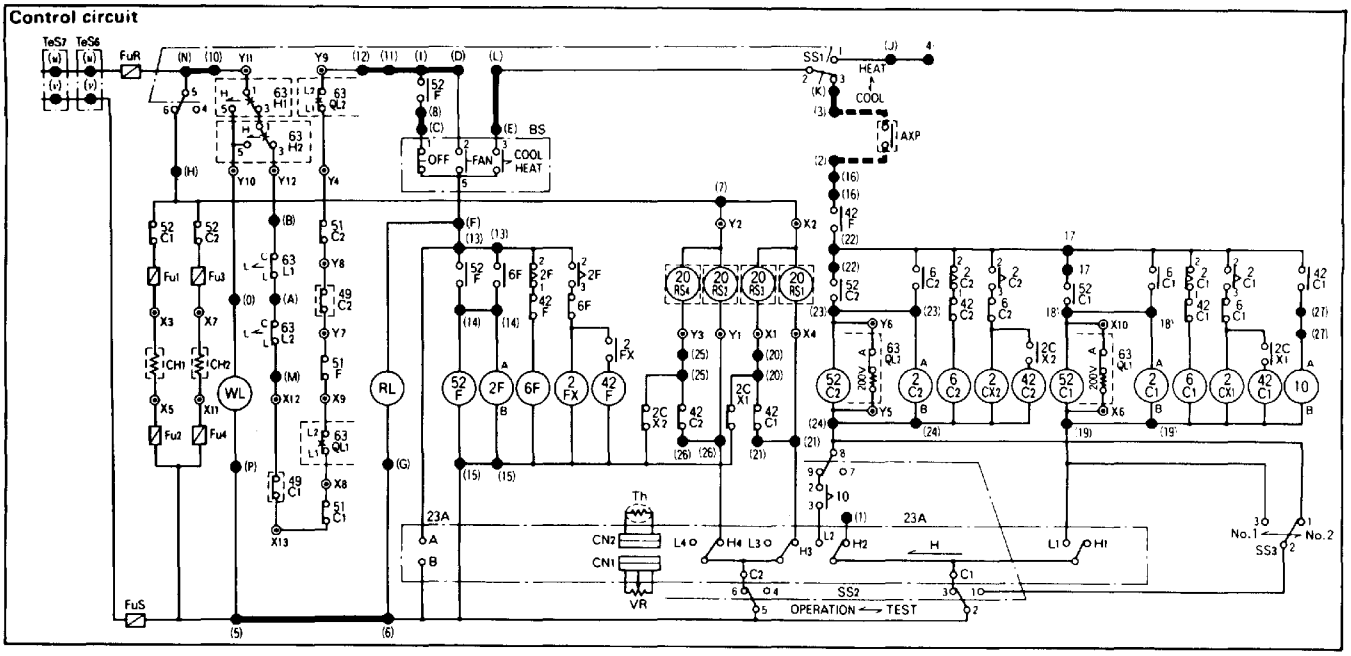
Terminals	Primary/Secondary 「YE」 Model	Remarks
U-V_1	380V/200V	Factory connection
U-V_2	400V/200V 440V/220V	Change connection on the spot.
U-V_3	415V/200V	

5. Function of 23A : ▨ part shows "ON"

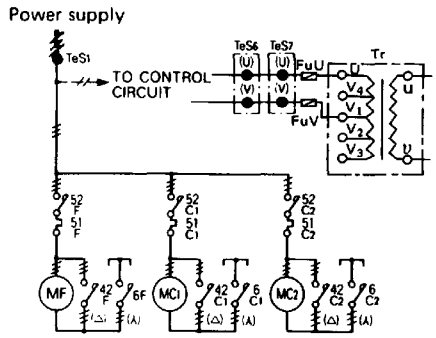


UC80·100·120EHS

Control circuit



Main circuit

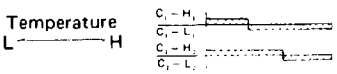


Notes:

1. —●— : Terminal of TeS
   ——— : Jumper
2. - - - : The wiring to interlock with condenser water pump. Remove the jumper wire between (1) and (2) on TeS and connect "AXP". "AXP" should be supplied separately.
3. The devices shown in [ ] are attached outside of the switch box.
4. Connection to transformer is as follows.

Terminals	Primary/Secondary 「YE」 Model	Remarks
U-V_1	380V/200V	Factory connection
U-V_2	400V/200V 440V/220V	Change connection on the spot.
U-V_3	415V/200V	
U-V_4	-	

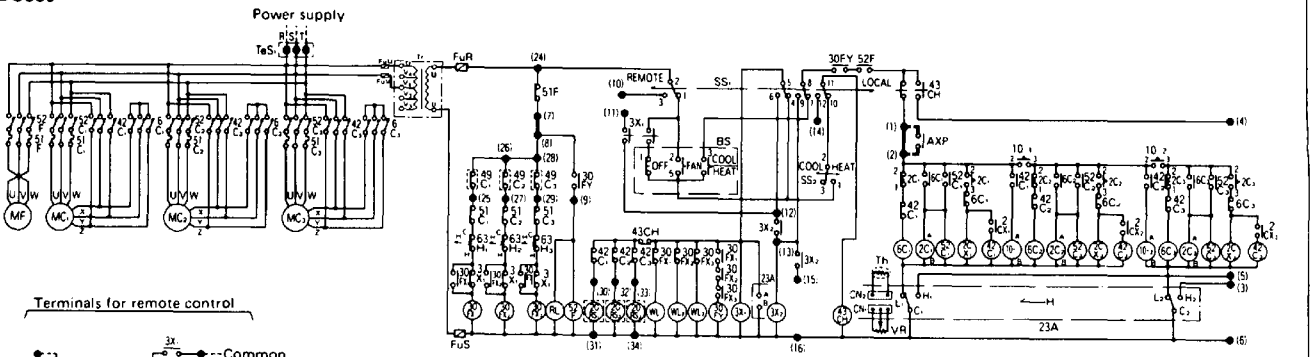
5. Function of 23A : ▨ Part shows "ON".



Symbols:

2C	Timing relay (5 sec.)
2F	Timing relay (5 sec.)
2CX	Magnetic relay
2FX	Magnetic relay
6C	Magnetic contactor (MC—λ)
6F	Magnetic contactor (MF—λ)
10	Timing relay (5 sec.)
20RS	Solenoid valve (Unload)
23A	Thermostat
42C	Magnetic contactor (MC—Δ)
42F	Magnetic contactor (MF—Δ)
49C	Compressor thermal protector (MC)
51C	Overcurrent relay (MC)
51F	Overcurrent relay (MF)
52C	Magnetic contactor (MC)
52F	Magnetic contactor (MF)
63H	Pressure switch (High)
63L	Pressure switch (Low)
63QL	Pressure switch (Oil)
BS	Push button switch
CH	Crankcase heater
CN	Connector (23A)
CN—X·Y	Connector
Fu	Fuse (250V, 1A)
FuR·S	Fuse (250V, 10A)
FuU	Fuse (600V, 10A)
MC	Motor (Compressor)
MF	Motor (Fan)
RL	Pilot lamp (Operation—Red)
SS	Selector switch
TeS	Terminal strip
Th	Thermistor (23A)
Tr	Transformer (750VA for TH, 500VA for YE·YH)
VR	Variable resistor (23A)
WL	Pilot lamp (Alarm—White)
Field supply:	
AXP	Auxiliary contact (Interlock)

UC60J



Symbols:

2C	Timing relay (5 sec.)
2CX	Magnetic relay
3X	Magnetic relay
6C	Magnetic contactor (MC-人)
10	Timing relay (5 sec.)
20RS	Solenoid valve (Start)
23A	Thermostat
30FX	Magnetic relay
30FY	Magnetic relay
42C	Magnetic contactor (MC-Δ)
43CH	Magnetic relay
49C	Compressor, thermal protector (MC)
51C	Overcurrent relay (MC)
51F	Overcurrent relay (MF)
52C	Magnetic switch (MC)
52F	Magnetic switch (MF)

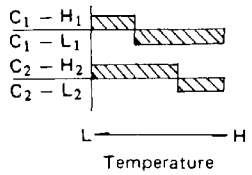
63H	High pressure switch
BS	Push button switch
FuR, S	Fuse (200V 5A)
FuU	Fuse (600V 5A)
MC	Motor (Compressor)
MF	Motor (Fan)
RL	Pilot lamp (Operation–Red)
SS	Selector switch
TeS	Terminal strip
Th	Thermistor (23A)
Tr	Transformer (300VA)
VR	Variable resistor (23A)
WL	Pilot lamp (Alarm–White)
Field supply:	
AXP	Auxiliary contact (Interlock)

Notes:

1. —●— : Terminal of TeS
   ——— : Jumper
   –·–·– : Additional wiring for remote control.
2. ▪▪▪▪ : The wiring to interlock with the condenser water pump. (Remove the jumper between (1) and (2) on TeS2 and connect "AXP".)
3. Connection to transformer is as follows.

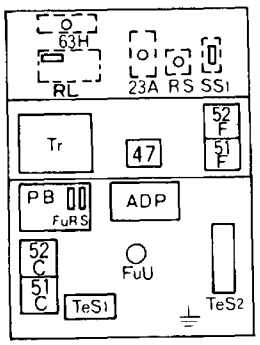
Terminals	Primary/Secondary [YE] Model	Remarks
U-V_1	380V/200V	Factory connection
U-V_2	400V/200V 440V/220V	Change connection on the spot.
U-V_3	415V/200V	

4. Function of 23A : ▨ part shows "ON".

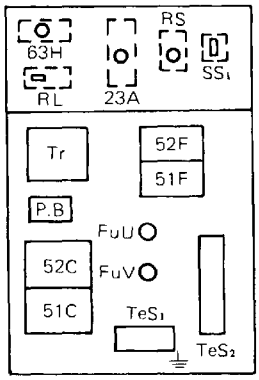


(2) Switch box and control panel

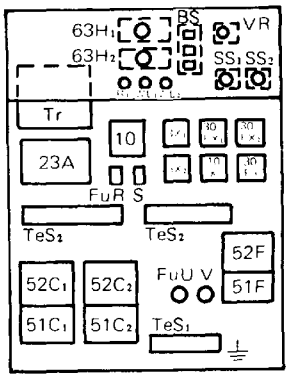
UCP3JA



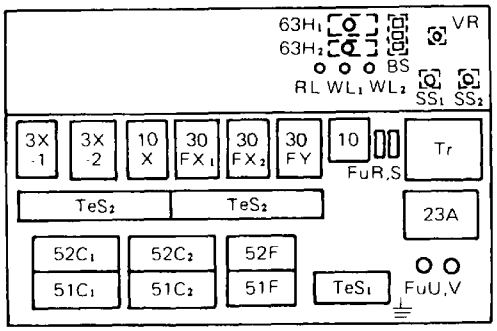
UCP5·8·10J



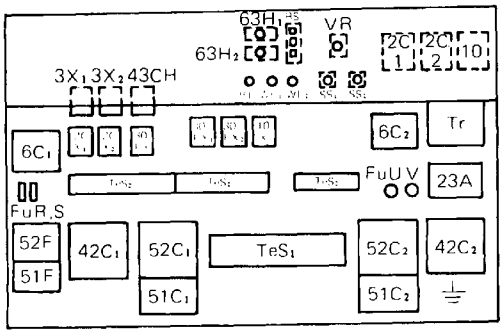
UC15·20J



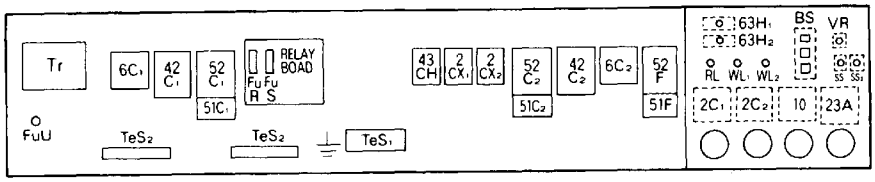
UC25·30J



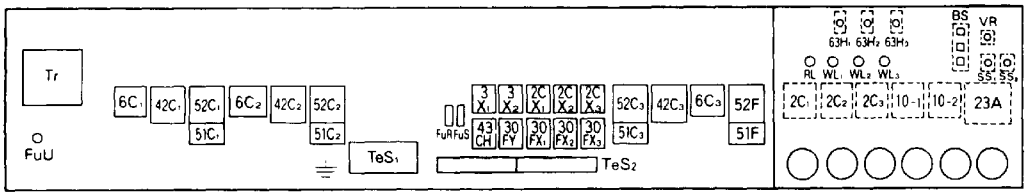
UC40J



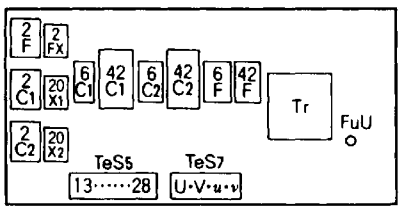
UC50J

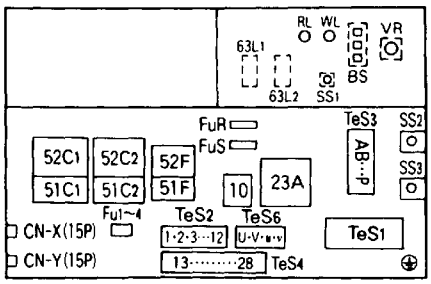


UC60J



UC80·100·120EHS





7. Capacity tables

UCP3JA [50Hz]

Evap.air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
20 (0.06)	16.0	7200	6600	26	1.8	1.7	7000	6400	26	1.7	1.9	6700	6300	25	1.6	2.0	6400	6200	25	1.6	2.2
	18.0	7800	5900	28	2.0	1.8	7500	5800	28	1.9	1.9	7200	5700	27	1.9	2.1	6900	5500	27	1.8	2.2
	19.5	8200	5500	29	2.2	1.8	7900	5300	29	2.2	2.0	7600	5200	28	2.1	2.1	7300	5100	28	2.0	2.2
	22.0	9100	4700	32	2.7	1.9	8800	4600	32	2.6	2.0	8500	4400	31	2.5	2.2	8100	4300	31	2.4	2.3
	24.0	10000	4100	36	3.2	2.1	9700	4000	35	3.1	2.1	9300	3900	34	2.9	2.2	9000	3700	33	2.8	2.3
25 (0.07)	16.0	7800	7600	28	2.0	1.7	7500	7400	28	2.0	1.9	7200	7200	27	1.9	2.0	6900	6900	27	1.8	2.2
	18.0	8300	6800	30	2.3	1.8	8100	6600	29	2.2	1.9	7700	6500	29	2.1	2.1	7400	6400	28	2.0	2.2
	19.5	8800	6200	31	2.5	1.8	8500	6000	31	2.5	2.0	8200	5900	30	2.3	2.1	7900	5800	30	2.2	2.2
	22.0	9800	5200	35	3.1	1.9	9500	5100	34	2.9	2.0	9100	5000	33	2.8	2.2	8800	4800	33	2.7	2.3
	24.0	10700	4500	38	3.7	2.1	10400	4400	37	3.5	2.1	10000	4200	36	3.3	2.2	9700	4100	35	3.2	2.3
33 (0.08)	16.0	8200	8200	29	2.2	1.8	7900	7900	29	2.1	2.0	7600	7600	28	2.0	2.1	7200	7200	28	2.0	2.3
	18.0	8800	7900	31	2.5	1.9	8500	7800	31	2.4	2.0	8100	7700	30	2.3	2.2	7800	7500	30	2.2	2.3
	19.5	9300	7100	33	2.8	1.9	8900	7000	32	2.7	2.1	8600	6900	32	2.6	2.2	8300	6800	31	2.4	2.3
	22.0	10300	5900	36	3.4	2.0	9900	5800	35	3.2	2.1	9600	5600	35	3.1	2.3	9200	5500	34	3.0	2.4
	24.0	11300	4900	40	4.0	2.2	10900	4800	39	3.8	2.2	10500	4600	38	3.6	2.3	10100	4500	37	3.5	2.4

UCP5J

Evap.air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
36 (0.12)	16.0	11700	10800	43	2.2	2.9	11700	10800	44	2.3	3.2	11500	10700	44	2.3	3.4	11300	10600	44	2.3	3.7
	18.0	12700	9800	46	2.6	3.0	12600	9700	47	2.6	3.2	12500	9700	47	2.6	3.5	12200	9600	47	2.6	3.7
	19.5	13600	9000	49	2.9	3.0	13500	9000	49	2.9	3.2	13300	8900	49	2.9	3.5	13000	8800	49	2.9	3.8
	22.0	15200	7800	54	3.5	3.0	15100	7700	54	3.6	3.3	14900	7700	55	3.6	3.6	14600	7500	54	3.6	3.9
	24.0	16800	6800	59	4.2	3.0	16700	6800	59	4.2	3.3	16500	6700	59	4.2	3.6	16100	6600	59	4.2	3.9
53 (0.15)	16.0	13200	13200	48	2.8	3.0	13200	13200	48	2.8	3.3	13000	13000	48	2.8	3.5	12700	12700	48	2.8	3.8
	18.0	14400	12300	52	3.2	3.1	14300	12300	52	3.2	3.3	14100	12200	52	3.2	3.6	13800	12100	52	3.2	3.8
	19.5	15300	11200	54	3.6	3.1	15200	11100	55	3.6	3.3	15000	11100	54	3.6	3.6	14700	10900	55	3.6	3.9
	22.0	17200	9400	60	4.3	3.1	17100	9300	61	4.4	3.4	16800	9200	61	4.4	3.7	16500	9100	60	4.4	4.0
	24.0	19000	7900	66	5.2	3.1	18900	7900	66	5.2	3.4	18600	7800	66	5.2	3.7	18200	7700	66	5.2	4.0
64 (0.16)	16.0	13600	13600	49	2.9	3.0	13500	13500	50	3.0	3.3	13400	13400	50	3.0	3.5	13100	13100	50	3.0	3.8
	18.0	14800	13700	53	3.4	3.1	14700	13700	53	3.4	3.3	14500	13600	53	3.4	3.6	14200	13500	53	3.4	3.8
	19.5	15700	12400	56	3.7	3.1	15600	12300	56	3.8	3.3	15400	12300	56	3.8	3.6	15100	12100	56	3.8	3.9
	22.0	17700	10200	62	4.6	3.1	17600	10100	62	4.6	3.4	17300	10000	62	4.6	3.7	16900	9900	62	4.6	4.0
	24.0	19500	8400	67	5.4	3.1	19400	8400	68	5.5	3.4	19200	8300	68	5.5	3.7	18700	8200	67	5.4	4.0

UCP8J

Evap.air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
54.5 (0.12)	16.0	17200	16100	64	2.3	4.5	17100	16100	65	2.4	4.9	16800	16000	65	2.4	5.2	16500	15800	65	2.4	5.6
	18.0	18600	14500	68	2.7	4.6	18500	14500	69	2.7	4.9	18200	14400	69	2.7	5.3	17900	14200	69	2.7	5.7
	19.5	19800	13400	72	3.0	4.6	19700	13300	73	3.0	5.0	19500	13200	73	3.0	5.4	19000	13000	73	3.0	5.8
	22.0	22300	11500	80	3.6	4.7	22100	11400	80	3.7	5.1	21900	11300	81	3.7	5.5	21400	11100	80	3.7	5.9
	24.0	24700	10000	87	4.3	4.7	24500	10000	88	4.4	5.1	24200	9900	88	4.4	5.6	23600	9700	87	4.3	6.0
80 (0.16)	16.0	19000	19000	70	2.8	4.7	18900	18900	70	2.8	5.1	18600	18600	70	2.8	5.4	18300	18300	70	2.8	5.8
	18.0	20500	18000	75	3.2	4.8	20400	17900	75	3.2	5.1	20200	17800	75	3.2	5.5	19800	17700	75	3.2	5.9
	19.5	21900	16300	79	3.6	4.8	21800	16300	80	3.6	5.2	21500	16200	80	3.6	5.6	21100	16000	79	3.6	6.0
	22.0	24600	13600	87	4.4	4.9	24500	13500	88	4.4	5.3	24200	13400	88	4.4	5.7	23700	13300	88	4.4	6.1
	24.0	27300	11500	95	5.2	4.9	27100	11400	96	5.3	5.3	26800	11300	96	5.3	5.8	26200	11100	95	5.2	6.2
96 (0.17)	16.0	19300	19300	71	2.9	4.8	19200	19200	72	2.9	5.2	19000	19000	72	2.9	5.5	18600	18600	72	2.9	6.0
	18.0	20900	20000	76	3.3	4.9	20800	19900	77	3.4	5.2	20600	19800	77	3.4	5.6	20100	19600	77	3.4	6.1
	19.5	22400	18000	81	3.7	4.9	22200	17900	81	3.8	5.3	21900	17800	81	3.8	5.7	21500	17600	81	3.8	6.2
	22.0	25100	14700	89	4.5	5.0	25000	14600	90	4.6	5.4	24600	14500	90	4.6	5.9	24100	14300	89	4.6	6.3
	24.0	27800	12100	97	5.4	5.0	27700	12100	98	5.5	5.4	27300	11900	98	5.5	6.0	26700	11700	97	5.4	6.4

Symbols:

AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (°CWB)
TC : Total cooling capacity (kcal/h)
SHC: Sensible heat capacity (kcal/h)
WFC: Condenser water flow rate (ℓ/min.)
PD : Pressure drop (Condenser water) (mH_2O)
PI : Power input (compressor) (kW)

Notes:

(1) Figures in ▭ show nominal cooling capacities.
(2) Capacity and condenser water flow rate are based on 5.5°C (10°F) temperature rise. There is no need to correct capacity, if the temperature rise is within 5 ~ 9°C, but compute condenser water flow rate (WFC') using the following formula.

$$WFC' = WFC \times \frac{5.5}{\text{Temp. rise}}$$

However, limit condenser water flow rate to the range of figures for "Pressure drop through condenser" shown on page 26.
(3) Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
(4) SHC is based on 27°C dry bulb temp. of entering evaporator air.
Below 27°C DB, subtract ΔSCC from SHC.
Above 27°C DB, add ΔSCC to SHC.
ΔSCC = Capacity correction for SHC for other dry bulb temp. than 27°C.
= 0.29 X 60 X AF(m^3/min.) X (1−BF) X (DB−27°C)
(5) Direct interpolation is permissible. Do not extrapolate.

UCP10J [50Hz]

Evap.air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
72 (0.12)	16.0	24200	22000	90	2.8	6.3	24000	21900	91	2.9	6.9	23700	21800	92	3.0	7.5	23200	21500	92	3.0	8.1
	18.0	26200	19900	96	3.3	6.4	26100	19800	97	3.4	7.1	25700	19700	98	3.4	7.7	25200	19400	98	3.4	8.3
	19.5	28000	18400	102	3.7	6.6	27800	18300	103	3.8	7.1	27400	18200	104	3.8	7.8	26800	17900	103	3.8	8.4
	22.0	31400	15900	113	4.5	6.8	31200	15900	114	4.6	7.4	30800	15700	115	4.7	8.1	30100	15400	114	4.6	8.7
	24.0	34800	14000	123	5.4	6.9	34600	14000	125	5.5	7.6	34100	13800	125	5.6	8.3	33400	13500	125	5.5	9.0
107 (0.16)	16.0	26400	26400	97	3.3	6.4	26300	26300	98	3.4	7.1	26000	26000	99	3.5	7.8	25400	25400	99	3.5	8.4
	18.0	28700	24500	104	3.8	6.6	28500	24500	105	3.9	7.3	28200	24300	106	4.0	8.0	27500	24100	106	4.0	8.6
	19.5	30600	22300	110	4.3	6.8	30500	22300	111	4.4	7.4	30000	22100	112	4.5	8.1	29400	21800	112	4.4	8.7
	22.0	34400	18700	122	5.3	7.0	34200	18600	124	5.4	7.7	33700	18400	124	5.5	8.4	33000	18200	123	5.4	9.0
	24.0	38100	15900	134	6.4	7.1	37900	15800	135	6.5	7.9	37400	15600	136	6.5	8.6	36500	15300	135	6.5	9.3
128 (0.18)	16.0	27500	27500	101	3.6	6.6	27300	27300	102	3.7	7.3	27000	27000	103	3.7	8.0	26400	26400	102	3.7	8.6
	18.0	29800	27100	108	4.1	6.7	29600	27100	109	4.2	7.5	29200	26900	110	4.3	8.2	28600	26700	110	4.3	8.8
	19.5	31800	24500	114	4.6	7.0	31600	24500	116	4.7	7.6	31200	24300	116	4.8	8.3	30500	24000	116	4.8	8.9
	22.0	35700	20200	127	5.7	7.2	35500	20200	128	5.8	7.9	35000	20000	129	5.9	8.6	34300	19700	128	5.8	9.3
	24.0	39600	16900	139	6.8	7.3	39300	16800	140	7.0	8.1	38800	16600	141	7.0	8.8	37900	16400	140	7.0	9.6

UC15J

Evap.air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
90 (0.06)	16.0	35300	31000	129	2.6	8.5	35100	30900	131	2.7	9.3	34700	30700	132	2.7	10.2	33900	30300	131	2.7	10.9
	18.0	38200	28200	138	3.0	8.5	38000	28100	139	3.0	9.3	37500	27900	140	3.1	10.2	36700	27500	140	3.1	11.1
	19.5	40800	26200	146	3.3	8.5	40500	26100	147	3.4	9.4	40000	25900	148	3.4	10.3	39200	25500	148	3.4	11.2
	22.0	45800	23000	161	4.0	8.4	45600	22900	163	4.1	9.3	45000	22700	163	4.2	10.4	44100	22300	163	4.1	11.3
	24.0	51000	20700	176	4.8	8.4	50700	20600	178	4.9	9.3	50000	20300	179	5.0	10.4	48900	19900	178	4.9	11.4
135 (0.08)	16.0	38400	38400	140	3.0	8.9	38200	38200	141	3.1	9.7	37700	37700	142	3.1	10.6	36900	36900	142	3.1	11.4
	18.0	41500	34800	149	3.5	8.9	41300	34700	150	3.5	9.7	40800	34500	151	3.6	10.6	39900	34200	151	3.6	11.6
	19.5	44300	31800	157	3.9	8.9	44000	31700	159	3.9	9.8	43500	31500	160	4.0	10.7	42600	31100	160	4.0	11.7
	22.0	49800	26800	174	4.7	8.8	49600	26800	176	4.8	9.7	48900	26500	176	4.8	10.8	47900	26100	176	4.8	11.8
	24.0	55400	23100	191	5.6	8.7	55100	23000	192	5.7	9.7	54400	22700	193	5.8	10.8	53200	22300	192	5.7	11.9
165 (0.10)	16.0	39900	39900	145	3.3	9.2	39700	39700	146	3.3	10.0	39200	39200	147	3.4	10.9	38400	38400	147	3.4	11.7
	18.0	43200	38900	155	3.7	9.2	43000	38900	156	3.8	10.0	42400	38600	157	3.8	10.9	41500	38200	157	3.8	11.9
	19.5	46100	35200	164	4.2	9.2	45800	35100	165	4.2	10.1	45200	34300	166	4.3	11.0	44300	34600	166	4.3	12.1
	22.0	51800	29200	181	5.1	9.1	51600	29100	182	5.2	10.0	50900	28900	183	5.2	11.1	49800	28500	183	5.2	12.2
	24.0	57600	24600	198	6.1	9.0	57300	24500	200	6.2	10.0	56600	24300	200	6.2	11.1	55300	23800	200	6.2	12.3

UC20J

Evap.air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
120 (0.05)	16.0	46100	41000	172	2.7	12.3	45800	40900	173	2.8	13.1	45300	40600	173	2.8	13.9	44300	40100	172	2.8	14.7
	18.0	49900	37300	184	3.1	12.4	49600	37200	185	3.2	13.3	49000	36900	185	3.2	14.1	47900	36400	184	3.1	15.0
	19.5	53200	34600	194	3.5	12.6	52900	34500	195	3.5	13.4	52200	34100	195	3.5	14.3	51000	33600	194	3.5	15.2
	22.0	59800	30300	214	4.2	12.7	59400	30100	216	4.3	13.7	58600	29800	216	4.3	14.6	57300	29200	214	4.2	15.5
	24.0	66200	27000	234	5.1	12.9	65900	26800	236	5.1	13.8	65000	26500	235	5.1	14.8	63500	25900	234	5.1	15.8
180 (0.07)	16.0	51200	51200	188	3.3	12.6	50900	50900	189	3.3	13.4	50300	50300	189	3.3	14.2	49200	49200	188	3.3	15.0
	18.0	55400	46700	201	3.7	12.7	55100	46600	202	3.8	13.6	54400	46300	202	3.8	14.4	53200	45800	201	3.7	15.3
	19.5	59100	42600	213	4.2	12.9	58800	42500	214	4.2	13.7	58000	42200	214	4.2	14.6	56700	41700	212	4.2	15.5
	22.0	66400	35900	235	5.1	13.0	66000	35800	236	5.2	14.0	65100	35400	236	5.2	14.9	63700	34900	234	5.1	15.8
	24.0	73600	30700	257	6.1	13.2	73200	30600	259	6.2	14.1	72200	30300	258	6.2	15.1	70600	29700	256	6.1	16.1
220 (0.09)	16.0	54300	54300	198	3.6	12.7	54000	54000	199	3.7	13.5	53300	53300	199	3.7	14.3	52200	52200	198	3.6	15.2
	18.0	58700	52700	211	4.1	12.8	58400	52600	213	4.2	13.7	57700	52300	213	4.2	14.5	56400	51800	211	4.1	15.5
	19.5	62600	47800	224	4.6	13.0	62300	47600	225	4.7	13.8	61500	47300	225	4.7	14.7	60100	46700	223	4.6	15.7
	22.0	70400	39600	248	5.7	13.1	70000	39500	249	5.7	14.1	69000	39100	248	5.7	15.0	67500	38600	246	5.6	16.0
	24.0	78000	33300	271	6.8	13.3	77600	33200	272	6.9	14.2	76500	32800	272	6.8	15.3	74800	32300	269	6.7	16.3

Symbols:

AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (°CWB)
TC : Total cooling capacity (kcal/h)
SHC: Sensible heat capacity (kcal/h)
WFC: Condenser water flow rate (ℓ/min.)
PD : Pressure drop (Condenser water) (mH_2O)
PI : Power input (compressor) (kW)

Notes:

(1) Figures in ▨ show nominal cooling capacities.
(2) Capacity and condenser water flow rate are based on 5.5°C (10°F) temperature rise. There is no need to correct capacity, if the temperature rise is within 5 ~ 9°C, but compute condenser water flow rate (WFC') using the following formula.

$$WFC' = WFC \times \frac{5.5}{\text{Temp. rise}}$$

However, limit condenser water flow rate to the range of figures for "Pressure drop through condenser" shown on page 26.
(3) Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
(4) SHC is based on 27°C dry bulb temp. of entering evaporator air.
Below 27°C DB, subtract ΔSCC from SHC.
Above 27°C DB, add ΔSCC to SHC.
ΔSCC = Capacity correction for SHC for other dry bulb temp. than 27°C.
= 0.29 X 60 X AF(m^3/min.) X (1−BF) X (DB−27°C)
(5) Direct interpolation is permissible. Do not extrapolate.

UC25J

[50Hz]

Evap.air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
150 (0.04)	16.0	57500	51500	213	2.8	15.0	57000	51500	215	2.9	16.1	56500	51000	216	2.9	17.2	55000	50500	215	2.9	18.3
	18.0	62500	47000	228	3.2	15.2	62000	46500	230	3.3	16.3	61000	46000	231	3.3	17.4	60000	45500	230	3.3	18.6
	19.5	66500	43500	242	3.6	15.3	66000	43000	243	3.6	16.4	65500	43000	244	3.7	17.6	64000	42000	242	3.6	18.8
	22.0	75000	38000	268	4.4	15.4	74500	38000	269	4.5	16.6	73500	37500	270	4.5	17.9	72000	37000	268	4.4	19.2
	24.0	83500	34000	294	5.3	15.5	83000	34000	295	5.4	16.7	82000	33500	296	5.4	18.1	80000	33000	294	5.3	19.5
225 (0.06)	16.0	64000	64000	233	3.3	15.2	63500	63500	235	3.4	16.3	62500	62500	235	3.4	17.4	61500	61500	234	3.4	18.5
	18.0	69000	58500	250	3.9	15.4	69000	58500	251	3.9	16.5	68000	58000	252	3.9	17.6	66500	57500	250	3.9	18.8
	19.5	74000	53500	264	4.3	15.5	73500	53500	266	4.4	16.6	72500	53000	266	4.4	17.8	71000	52500	264	4.3	19.0
	22.0	83500	45500	293	5.3	15.6	83000	45000	295	5.4	16.8	82000	44500	295	5.4	18.1	80000	44000	293	5.3	19.4
	24.0	93000	39000	322	6.4	15.7	92500	38500	324	6.5	16.9	91000	38500	324	6.5	18.3	89000	37500	321	6.4	19.7
300 (0.08)	16.0	68500	68500	247	3.8	15.4	68000	68000	248	3.8	16.5	67000	67000	249	3.8	17.6	65500	65500	247	3.8	18.7
	18.0	74000	70000	265	4.3	15.6	73500	69500	267	4.4	16.7	72500	69500	266	4.4	17.8	71000	68500	265	4.3	19.0
	19.5	79000	63000	280	4.9	15.7	78500	63000	282	4.9	16.8	77500	62500	282	4.9	18.0	76000	62000	280	4.8	19.2
	22.0	89000	52000	311	6.0	15.8	88500	51500	313	6.0	17.0	87500	51500	313	6.0	18.3	85500	50500	310	5.9	19.6
	24.0	99500	43000	347	7.2	15.9	99000	43000	344	7.3	17.1	97500	42500	344	7.3	18.5	95500	42000	341	7.2	19.9

UC30J

Evap.air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
180 (0.04)	16.0	68500	61500	254	2.4	18.1	68000	61500	256	2.4	19.4	67000	61000	257	2.4	20.8	65500	60000	257	2.4	22.3
	18.0	74000	56000	273	2.7	18.4	74000	55500	275	2.8	19.8	73000	55500	276	2.8	21.3	71500	54500	276	2.8	22.9
	19.5	79500	52000	289	3.1	18.7	79000	51500	292	3.1	20.2	78000	51000	293	3.1	21.7	76000	50500	292	3.1	23.4
	22.0	89500	45500	322	3.8	19.2	89000	45500	324	3.9	20.8	88000	45000	325	3.9	22.5	86000	44000	324	3.9	24.3
	24.0	100000	41000	354	4.6	19.6	99500	40500	357	4.7	21.3	98000	40000	357	4.7	23.2	96000	39000	356	4.7	25.2
270 (0.07)	16.0	77000	77000	281	2.9	18.7	76500	76500	283	2.9	20.0	75500	75500	284	3.0	21.4	74000	74000	284	3.0	23.0
	18.0	83500	70000	302	3.4	19.0	83000	70000	304	3.4	20.4	82000	69500	305	3.4	22.0	80000	69000	304	3.4	23.6
	19.5	89000	64000	321	3.8	19.3	88500	64000	323	3.8	20.8	87500	63500	324	3.8	22.4	85500	62500	322	3.8	24.1
	22.0	101000	54500	357	4.7	19.8	100000	54000	359	4.7	21.4	99000	53500	360	4.8	23.2	96500	53000	358	4.7	25.1
	24.0	112500	47000	393	5.7	20.2	111500	46500	396	5.7	22.0	110000	46000	396	5.8	23.9	107500	45000	394	5.7	26.0
360 (0.09)	16.0	83500	83500	303	3.4	19.1	83000	83000	305	3.4	20.4	82000	82000	306	3.4	21.8	80500	80500	305	3.4	23.5
	18.0	91000	84000	326	3.9	19.4	90500	84000	328	4.0	20.8	89000	83500	329	4.0	22.4	87500	82500	327	3.9	24.1
	19.5	97000	76000	346	4.4	19.7	96500	76000	348	4.4	21.2	95500	75500	349	4.5	22.8	93500	74500	347	4.4	24.6
	22.0	110000	63000	386	5.5	20.2	109000	62500	388	5.5	21.8	107500	62000	388	5.5	23.7	105500	61500	386	5.5	25.6
	24.0	122500	52500	425	6.6	20.6	121500	52500	427	6.7	22.4	120000	52000	427	6.7	24.4	117500	51000	425	6.6	26.5

UC40J

Evap.air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
240 (0.05)	16.0	103000	88000	376	2.8	23.9	99000	85000	365	2.6	25.5	94000	83000	355	2.5	27.2	89000	80000	346	2.4	29.2
	18.0	111000	80000	398	3.1	24.3	106000	77000	388	3.0	26.0	101000	75000	378	2.8	27.9	96000	73000	368	2.7	29.9
	19.5	117000	74000	418	3.4	24.7	112000	71000	407	3.3	26.5	106000	69000	397	3.1	28.4	101000	67000	387	3.0	30.6
	22.0	128000	64000	454	4.1	25.3	123000	62000	444	3.9	27.2	118000	60000	434	3.7	29.4	113000	58000	425	3.6	31.8
	24.0	139000	57000	489	4.7	25.9	134000	54000	479	4.5	28.0	129000	52000	469	4.4	30.4	124000	51000	461	4.2	32.9
360 (0.07)	16.0	114000	110000	408	3.3	24.4	108000	108000	396	3.1	26.0	103000	103000	385	2.9	27.8	98000	98000	374	2.8	29.8
	18.0	122000	98000	433	3.7	24.8	116000	96000	421	3.5	26.5	111000	93000	409	3.3	28.5	105000	91000	398	3.1	30.5
	19.5	128000	89000	454	4.1	25.2	123000	87000	442	3.9	27.0	117000	85000	430	3.7	29.0	112000	83000	419	3.5	31.2
	22.0	141000	75000	494	4.8	25.8	135000	73000	482	4.6	27.8	130000	71000	471	4.4	30.0	124000	69000	460	4.2	32.4
	24.0	153000	63000	532	5.6	26.4	147000	61000	520	5.3	28.6	142000	60000	510	5.1	31.0	136000	58000	500	4.9	33.6
480 (0.09)	16.0	122000	122000	434	3.7	24.9	116000	116000	421	3.5	26.5	110000	110000	408	3.3	28.4	105000	105000	396	3.1	30.4
	18.0	130000	116000	460	4.2	25.3	124000	113000	447	3.9	27.0	118000	111000	434	3.7	29.1	113000	109000	422	3.5	31.1
	19.5	137000	104000	482	4.6	25.7	131000	102000	469	4.4	27.5	125000	100000	456	4.1	29.6	119000	98000	444	3.9	31.8
	22.0	151000	85000	525	5.4	26.3	145000	83000	512	5.2	28.4	139000	81000	500	4.9	30.6	133000	79000	488	4.7	33.0
	24.0	163000	70000	565	6.3	26.9	157000	68000	553	6.0	29.2	151000	66000	541	5.8	31.6	146000	65000	530	5.6	34.3

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
TC : Total cooling capacity (kcal/h)
SHC : Sensible heat capacity (kcal/h)
WFC : Condenser water flow rate (ℓ/min.)
PD : Pressure drop (Condenser water) (mH_2O)
PI : Power input (compressor) (kW)

Notes:

(1) Figures in ▭ show nominal cooling capacities.

(2) Capacity and condenser water flow rate are based on 5.5°C (10°F) temperature rise. There is no need to correct capacity, if the temperature rise is within 5 ~ 9°C, but compute condenser water flow rate (WFC') using the following formula.

$$WFC' = WFC \times \frac{5.5}{\text{Temp. rise}}$$

However, limit condenser water flow rate to the range of figures for "Pressure drop through condenser" shown on page 26.

(3) Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.

(4) SHC is based on 27°C dry bulb temp. of entering evaporator air.
Below 27°C DB, subtract ΔSCC from SHC.
Above 27°C DB, add ΔSCC to SHC.
ΔSCC = Capacity correction for SHC for other dry bulb temp. than 27°C.
= 0.29 X 60 X AF(m^3/min.) X (1−BF) X (DB−27°C)

(5) Direct interpolation is permissible. Do not extrapolate.

UC50J

[50Hz]

Evap.air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
280 (0.03)	16.0	113000	99000	413	1.5	26.9	109000	97000	404	1.5	28.9	104000	95000	396	1.4	31.0	99000	92000	387	1.3	33.2
	18.0	121000	90000	440	1.7	27.7	117000	88000	431	1.7	29.9	112000	86000	423	1.6	32.1	107000	83000	414	1.5	34.5
	19.5	128000	83000	463	1.9	28.4	124000	81000	455	1.8	30.6	119000	79000	447	1.8	33.0	114000	77000	438	1.7	35.5
	22.0	143000	72000	510	2.3	29.7	138000	71000	503	2.2	32.2	133000	69000	495	2.2	34.8	129000	67000	487	2.1	37.5
	24.0	157000	65000	557	2.8	30.9	153000	63000	551	2.7	33.7	148000	61000	544	2.6	36.5	143000	59000	537	2.6	39.4
420 (0.03)	16.0	122000	122000	441	1.7	28.0	117000	117000	432	1.7	30.1	112000	112000	423	1.6	32.3	107000	107000	414	1.5	34.6
	18.0	130000	112000	470	2.0	28.9	126000	110000	461	1.9	31.1	120000	107000	452	1.8	33.4	115000	105000	443	1.7	35.9
	19.5	138000	101000	496	2.2	29.6	133000	99000	486	2.1	31.9	128000	97000	478	2.0	34.4	123000	95000	468	1.9	37.0
	22.0	154000	85000	546	2.6	30.9	149000	83000	538	2.6	33.5	144000	81000	529	2.5	36.2	138000	79000	521	2.4	39.1
	24.0	169000	72000	596	3.2	32.2	164000	70000	590	3.1	35.1	159000	69000	582	3.0	38.0	154000	67000	574	2.9	41.0
540 (0.04)	16.0	128000	128000	463	1.9	29.1	123000	123000	453	1.8	31.3	117000	117000	443	1.7	33.6	112000	112000	433	1.7	36.0
	18.0	137000	130000	493	2.2	30.1	132000	128000	484	2.1	32.3	126000	126000	474	2.0	34.7	121000	121000	464	1.9	37.3
	19.5	145000	117000	520	2.4	30.8	140000	115000	510	2.3	33.2	134000	113000	501	2.2	35.8	129000	111000	491	2.1	38.5
	22.0	161000	95000	572	2.9	32.1	156000	93000	564	2.8	34.8	151000	92000	555	2.7	37.6	145000	90000	546	2.6	40.7
	24.0	178000	79000	625	3.5	33.5	173000	77000	618	3.4	36.5	167000	75000	610	3.3	39.5	162000	74000	602	3.2	42.6

UC60J

Evap.air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
360 (0.02)	16.0	146000	129000	540	2.7	37.2	139000	125000	525	2.6	39.6	132000	121000	510	2.4	42.1	125000	118000	496	2.3	44.8
	18.0	157000	116000	574	3.1	38.1	149000	113000	559	2.9	40.7	142000	110000	544	2.8	43.4	135000	107000	531	2.6	46.3
	19.5	165000	108000	603	3.4	39.0	158000	104000	588	3.2	41.7	151000	101000	573	3.1	44.5	144000	98000	560	2.9	47.5
	22.0	183000	93000	660	4.1	40.6	175000	90000	645	3.9	43.6	168000	87000	631	3.7	46.8	161000	84000	619	3.6	50.1
	24.0	200000	82000	715	4.8	42.2	192000	79000	702	4.6	45.5	185000	76000	690	4.5	49.0	179000	74000	679	4.3	52.6
540 (0.03)	16.0	159000	159000	582	3.2	38.3	151000	151000	565	3.0	40.8	144000	144000	548	2.8	43.4	136000	136000	533	2.7	46.2
	18.0	170000	145000	618	3.6	39.3	162000	141000	601	3.4	42.0	155000	138000	585	3.2	44.7	147000	135000	570	3.0	47.7
	19.5	180000	131000	650	4.0	40.2	172000	128000	633	3.8	43.0	164000	125000	617	3.6	45.9	157000	122000	602	3.4	49.0
	22.0	199000	109000	711	4.7	41.9	191000	106000	695	4.5	44.9	183000	103000	680	4.3	48.2	175000	101000	666	4.2	51.6
	24.0	217000	92000	772	5.6	43.5	209000	90000	756	5.4	46.9	202000	87000	743	5.2	50.5	194000	84000	730	5.0	54.2
660 (0.04)	16.0	165000	165000	603	3.4	39.1	157000	157000	585	3.2	41.6	149000	149000	568	3.0	44.3	142000	142000	552	2.9	47.1
	18.0	177000	163000	641	3.9	40.1	169000	159000	623	3.6	42.8	161000	156000	606	3.4	45.6	153000	153000	590	3.3	48.7
	19.5	187000	146000	674	4.3	41.0	179000	143000	656	4.0	43.9	171000	140000	639	3.8	46.8	163000	137000	623	3.6	50.0
	22.0	207000	120000	738	5.1	42.7	198000	117000	720	4.9	45.8	190000	114000	704	4.6	49.2	182000	111000	690	4.5	52.6
	24.0	226000	99000	800	6.0	44.4	218000	96000	784	5.8	47.8	210000	94000	770	5.6	51.5	202000	91000	756	5.4	55.3

Symbols:

AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (°CWB)
TC : Total cooling capacity (kcal/h)
SHC: Sensible heat capacity (kcal/h)
WFC: Condenser water flow rate (ℓ/min.)
PD : Pressure drop (Condenser water) (mH_2O)
PI : Power input (compressor) (kW)

Notes:

(1) Figures in ▒ show nominal cooling capacities.

(2) Capacity and condenser water flow rate are based on 5.5°C (10°F) temperature rise. There is no need to correct capacity, if the temperature rise is within 5 ~ 9°C, but compute condenser water flow rate (WFC') using the following formula.

$$WFC' = WFC \times \frac{5.5}{\text{Temp. rise}}$$

However, limit condenser water flow rate to the range of figures for "Pressure drop through condenser" shown on page 26.

(3) Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.

(4) SHC is based on 27°C dry bulb temp. of entering evaporator air.
Below 27°C DB, subtract ΔSCC from SHC.
Above 27°C DB, add ΔSCC to SHC.
ΔSCC = Capacity correction for SHC for other dry bulb temp. than 27°C.
= 0.29 X 60 X AF(m^3/min.) X (1−BF) X (DB−27°C)

(5) Direct interpolation is permissible. Do not extrapolate.

UC80EHS

[50Hz]

Evap. air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
612 (0.14)	16.0	189000	139000	697	2.0	47.5	184000	136000	688	1.9	50.6	178000	134000	679	1.9	53.9	172000	131000	671	1.8	57.6
	18.0	203000	143000	741	2.3	48.4	197000	140000	733	2.2	51.7	192000	137000	724	2.2	55.3	185000	135000	716	2.1	59.2
	19.5	215000	145000	778	2.5	49.0	209000	143000	770	2.4	52.5	203000	140000	761	2.4	56.3	197000	138000	753	2.3	60.4
	22.0	237000	150000	847	2.9	49.8	231000	148000	840	2.9	53.7	225000	145000	832	2.8	57.9	219000	143000	825	2.8	62.5
	24.0	258000	154000	911	3.4	50.3	252000	152000	905	3.4	54.5	246000	150000	898	3.3	59.1	239000	147000	892	3.3	64.0
680 (0.16)	16.0	195000	146000	715	2.1	47.9	189000	144000	705	2.0	51.0	183000	141000	696	2.0	54.3	177000	138000	688	1.9	58.0
	18.0	209000	150000	760	2.4	48.7	203000	147000	751	2.3	52.1	197000	145000	742	2.3	55.7	191000	142000	734	2.2	59.6
	19.5	221000	153000	798	2.6	49.3	215000	150000	789	2.6	52.9	209000	148000	781	2.5	56.7	203000	145000	772	2.4	60.9
	22.0	244000	158000	869	3.1	50.1	238000	156000	861	3.0	54.1	232000	153000	853	3.0	58.3	225000	151000	845	2.9	62.9
	24.0	265000	162000	935	3.6	50.6	259000	160000	928	3.5	54.9	253000	158000	921	3.5	59.5	246000	156000	914	3.4	64.5
864 (0.20)	16.0	210000	165000	763	2.4	48.7	204000	162000	753	2.3	51.9	198000	159000	742	2.3	55.3	191000	156000	732	2.2	59.0
	18.0	226000	169000	812	2.7	49.6	219000	167000	802	2.6	53.0	213000	164000	792	2.6	56.7	206000	161000	782	2.5	60.7
	19.5	238000	173000	853	3.0	50.2	232000	170000	843	2.9	53.8	225000	168000	833	2.8	57.7	218000	165000	823	2.8	61.9
	22.0	263000	179000	929	3.5	51.0	257000	176000	920	3.5	55.0	250000	174000	911	3.4	59.3	243000	171000	902	3.3	64.0
	24.0	286000	184000	1000	4.1	51.5	279000	182000	992	4.0	55.9	273000	179000	984	4.0	60.6	266000	177000	976	3.9	65.6

UC100EHS

Evap. air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
765 (0.15)	16.0	245000	178000	893	2.1	58.0	233000	172000	870	2.0	62.7	223000	167000	852	1.9	67.4	215000	163000	838	1.9	72.1
	18.0	262000	182000	947	2.4	59.6	250000	176000	925	2.3	64.6	240000	172000	908	2.2	69.7	231000	168000	893	2.1	74.8
	19.5	275000	185000	992	2.6	60.8	264000	180000	971	2.5	66.1	253000	175000	954	2.4	71.6	244000	171000	940	2.3	76.9
	22.0	301000	189000	1076	3.1	62.8	290000	185000	1057	3.0	68.8	279000	181000	1041	2.9	74.8	270000	177000	1027	2.8	80.6
	24.0	325000	194000	1153	3.5	64.6	314000	189000	1136	3.4	71.1	304000	186000	1122	3.3	77.7	294000	182000	1108	3.2	84.0
840 (0.16)	16.0	251000	186000	913	2.2	58.6	239000	180000	890	2.1	63.3	229000	175000	871	2.0	68.1	220000	171000	856	1.9	72.9
	18.0	268000	190000	969	2.5	60.2	256000	184000	947	2.4	65.3	246000	180000	928	2.3	70.5	237000	176000	913	2.2	75.5
	19.5	282000	193000	1015	2.7	61.4	271000	188000	994	2.6	66.8	260000	183000	976	2.5	72.3	250000	179000	961	2.4	77.6
	22.0	309000	198000	1101	3.2	63.5	297000	194000	1082	3.1	69.5	287000	190000	1065	3.0	75.6	277000	186000	1050	2.9	81.5
	24.0	333000	202000	1180	3.7	65.2	322000	198000	1162	3.6	71.9	311000	195000	1147	3.5	78.4	301000	191000	1133	3.4	84.8
1080 (0.20)	16.0	271000	210000	979	2.5	60.4	259000	204000	953	2.4	65.3	247000	199000	932	2.3	70.2	238000	195000	916	2.2	75.1
	18.0	290000	215000	1039	2.9	62.0	277000	209000	1014	2.7	67.3	266000	205000	994	2.6	72.6	256000	200000	977	2.5	77.9
	19.5	305000	219000	1089	3.1	63.3	292000	214000	1064	3.0	68.9	281000	209000	1045	2.9	74.5	270000	205000	1028	2.8	80.1
	22.0	334000	225000	1181	3.7	65.4	321000	220000	1159	3.5	71.7	310000	216000	1141	3.4	77.9	299000	212000	1124	3.3	84.0
	24.0	360000	230000	1266	4.2	67.3	348000	226000	1246	4.1	74.1	336000	222000	1229	4.0	80.9	325000	218000	1213	3.9	87.4

UC120EHS

Evap. air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
850 (0.07)	16.0	293000	213000	1083	2.2	75.5	284000	209000	1068	2.1	80.0	274000	204000	1052	2.1	85.0	264000	199000	1036	2.0	90.7
	18.0	315000	219000	1155	2.5	77.4	305000	214000	1139	2.4	82.3	295000	210000	1123	2.3	87.7	284000	205000	1106	2.3	93.9
	19.5	333000	223000	1215	2.7	78.9	324000	219000	1199	2.7	84.1	313000	214000	1182	2.6	89.9	302000	209000	1165	2.5	96.4
	22.0	369000	231000	1330	3.3	81.6	359000	227000	1314	3.2	87.3	348000	222000	1298	3.1	93.7	336000	218000	1280	3.0	100.9
	24.0	403000	237000	1438	3.8	83.9	392000	234000	1423	3.8	90.0	381000	229000	1407	3.7	97.0	368000	225000	1389	3.6	104.8
1000 (0.09)	16.0	306000	231000	1126	2.3	76.6	297000	226000	1110	2.3	81.2	287000	222000	1093	2.2	86.4	276000	217000	1076	2.1	92.1
	18.0	329000	237000	1200	2.7	78.6	319000	233000	1184	2.6	83.5	308000	228000	1166	2.5	89.1	297000	223000	1148	2.4	95.3
	19.5	348000	242000	1263	3.0	80.2	338000	238000	1246	2.9	85.4	327000	233000	1228	2.8	91.3	315000	228000	1210	2.7	97.9
	22.0	385000	250000	1384	3.5	82.9	375000	246000	1367	3.5	88.7	363000	242000	1348	3.4	95.2	351000	237000	1329	3.3	102.5
	24.0	421000	258000	1496	4.1	85.2	410000	254000	1480	4.1	91.4	398000	250000	1462	4.0	98.5	385000	245000	1443	3.9	106.4
1200 (0.11)	16.0	322000	253000	1178	2.6	78.0	312000	249000	1161	2.5	82.6	302000	244000	1142	2.4	87.9	290000	239000	1124	2.3	93.8
	18.0	346000	261000	1256	2.9	80.0	336000	256000	1238	2.8	85.0	324000	251000	1219	2.8	90.7	312000	247000	1199	2.7	97.0
	19.5	366000	266000	1322	3.2	81.6	356000	262000	1304	3.1	86.9	344000	257000	1284	3.1	92.9	332000	252000	1264	3.0	99.6
	22.0	406000	276000	1448	3.9	84.3	394000	272000	1430	3.8	90.2	382000	267000	1410	3.7	96.9	369000	262000	1389	3.6	104.3
	24.0	443000	284000	1567	4.5	86.7	431000	280000	1549	4.4	93.1	419000	276000	1529	4.3	100.3	405000	271000	1508	4.2	108.3

Symbols:

AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (°CWB)
TC : Total cooling capacity (kcal/h)
SHC: Sensible heat capacity (kcal/h)
WFC: Condenser water flow rate (ℓ/min.)
PD : Pressure drop (Condenser water) (mH_2O)
PI : Power input (compressor) (kW)

Notes:

(1) Figures in ▒ show nominal cooling capacities.

(2) Capacity and condenser water flow rate are based on 5.5°C (10°F) temperature rise. There is no need to correct capacity, if the temperature rise is within 5 ~ 9°C, but compute condenser water flow rate (WFC') using the following formula.

$$WFC' = WFC \times \frac{5.5}{\text{Temp. rise}}$$

However, limit condenser water flow rate to the range of figures for "Pressure drop through condenser" shown on page 26.

(3) Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.

(4) SHC is based on 27°C dry bulb temp. of entering evaporator air.
Below 27°C DB, subtract ΔSCC from SHC.
Above 27°C DB, add ΔSCC to SHC.
ΔSCC = Capacity correction for SHC for other dry bulb temp. than 27°C.
= 0.29 X 60 X AF(m^3/min.) X (1−BF) X (DB−27°C)

(5) Direct interpolation is permissible. Do not extrapolate.

UCP3JA

[60Hz]

Evap.air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
20 (0.06)	16.0	8000	6900	29	2.1	1.8	7700	6800	29	2.1	2.1	7500	6700	29	2.1	2.4	7200	6500	29	2.2	2.8
	18.0	8500	6300	31	2.4	1.8	8300	6200	31	2.4	2.1	8000	6000	31	2.4	2.5	7700	5900	31	2.4	2.8
	19.5	9000	5800	32	2.7	1.9	8800	5700	32	2.7	2.2	8500	5600	32	2.7	2.5	8200	5400	32	2.6	2.8
	22.0	10000	5100	35	3.2	1.9	9700	4900	35	3.2	2.2	9400	4800	35	3.1	2.5	9100	4700	35	3.1	2.9
	24.0	10900	4500	38	3.7	2.0	10600	4400	38	3.7	2.3	10300	4200	38	3.7	2.6	9900	4100	38	3.6	2.9
25 (0.07)	16.0	8700	8000	31	2.5	1.9	8400	7800	31	2.5	2.2	8100	7700	31	2.5	2.5	7800	7600	31	2.5	2.9
	18.0	9300	7200	33	2.8	1.9	9000	7100	33	2.8	2.2	8700	6900	33	2.8	2.6	8400	6800	33	2.8	2.9
	19.5	9800	6600	35	3.1	2.0	9500	6500	35	3.1	2.3	9200	6300	35	3.1	2.6	8900	6200	34	3.0	2.9
	22.0	10800	5600	38	3.7	2.0	10500	5500	38	3.7	2.3	10200	5400	38	3.6	2.6	9800	5200	38	3.6	3.0
	24.0	11800	4900	41	4.4	2.1	11500	4800	41	4.3	2.4	11200	4600	41	4.3	2.7	10800	4500	41	4.2	3.0
33 (0.08)	16.0	9100	9100	33	2.7	2.0	8800	8800	33	2.7	2.3	8500	8500	33	2.7	2.6	8200	8200	33	2.7	3.0
	18.0	9800	8300	35	3.1	2.0	9500	8200	35	3.1	2.3	9100	8100	35	3.1	2.7	8800	7900	34	3.0	3.0
	19.5	10300	7600	37	3.4	2.1	10000	7400	37	3.4	2.4	9700	7300	36	3.4	2.7	9300	7200	36	3.3	3.0
	22.0	11400	6300	40	4.1	2.1	11100	6200	40	4.0	2.4	10700	6000	40	4.0	2.7	10300	5900	39	4.0	3.1
	24.0	12400	5300	43	4.8	2.2	12100	5200	43	4.8	2.5	11700	5000	43	4.7	2.8	11300	4900	42	4.6	3.1

UCP5J

Evap.air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
36 (0.12)	16.0	12500	11200	48	2.8	4.0	12400	11100	49	2.8	4.2	12300	11100	49	2.9	4.5	12000	11000	49	2.9	4.8
	18.0	13500	10100	51	3.2	4.0	13400	10100	52	3.2	4.3	13300	10000	52	3.2	4.5	13000	9900	52	3.3	4.9
	19.5	14400	9400	54	3.5	4.0	14300	9300	55	3.6	4.3	14200	9300	55	3.6	4.6	13900	9100	55	3.6	4.9
	22.0	16200	8100	60	4.3	4.1	16100	8100	60	4.3	4.4	15900	8000	60	4.4	4.7	15500	7900	60	4.4	5.1
	24.0	17800	7200	65	5.0	4.1	17700	7100	65	5.1	4.4	17500	7100	66	5.2	4.8	17100	6900	65	5.1	5.2
53 (0.15)	16.0	14100	14100	53	3.4	4.1	14000	14000	54	3.4	4.3	13800	13800	54	3.5	4.6	13600	13600	54	3.5	4.9
	18.0	15300	12700	57	3.9	4.1	15200	12600	57	4.0	4.4	15000	12600	57	4.0	4.6	14700	12400	58	4.0	5.0
	19.5	16300	11600	60	4.3	4.1	16200	11500	61	4.4	4.4	16000	11500	61	4.4	4.7	15700	11300	61	4.4	5.0
	22.0	18200	9700	66	5.3	4.2	18100	9700	67	5.3	4.5	17900	9600	67	5.4	4.8	17600	9500	67	5.3	5.2
	24.0	20100	8300	72	6.2	4.2	20000	8300	72	6.3	4.5	19800	8200	73	6.3	4.9	19300	8000	72	6.3	5.3
64 (0.16)	16.0	14500	14500	55	3.6	4.1	14400	14400	55	3.6	4.3	14200	14200	55	3.7	4.6	14000	14000	55	3.7	4.9
	18.0	15700	14100	58	4.1	4.1	15600	14100	59	4.2	4.4	15400	14000	59	4.2	4.6	15100	13900	59	4.2	5.0
	19.5	16700	12700	61	4.5	4.1	16700	12700	62	4.6	4.4	16500	12600	62	4.7	4.7	16100	12500	62	4.6	5.0
	22.0	18800	10500	68	5.5	4.2	18700	10500	68	5.6	4.5	18400	10400	69	5.6	4.8	18100	10300	68	5.6	5.3
	24.0	20700	8800	74	6.5	4.2	20600	8800	74	6.6	4.5	20300	8700	75	6.7	4.9	19900	8500	74	6.6	5.4

UCP8J

Evap.air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
54.5 (0.12)	16.0	19100	17000	74	3.1	6.1	19000	17000	74	3.1	6.4	18800	16900	74	3.2	6.7	18400	16700	74	3.1	7.1
	18.0	20700	15400	79	3.5	6.2	20600	15400	79	3.6	6.5	20400	15300	80	3.6	6.9	19900	15100	79	3.6	7.3
	19.5	22000	14300	83	3.9	6.3	22000	14300	84	4.0	6.6	21700	14200	84	4.0	7.0	21200	14000	84	4.0	7.4
	22.0	24700	12400	92	4.8	6.4	24600	12400	92	4.9	6.8	24300	12300	92	4.9	7.2	23800	12100	92	4.8	7.7
	24.0	27300	11000	99	5.6	6.4	27200	10900	100	5.7	6.9	26800	10800	101	5.8	7.4	26300	10600	100	5.7	7.9
80 (0.16)	16.0	21100	21100	80	3.7	6.3	21000	21000	81	3.7	6.6	20800	20800	81	3.7	6.9	20400	20400	81	3.7	7.3
	18.0	22900	18900	86	4.2	6.4	22800	18900	86	4.3	6.7	22500	18800	87	4.3	7.1	22100	18600	86	4.2	7.5
	19.5	24400	17300	91	4.7	6.5	24300	17200	91	4.7	6.8	24000	17100	92	4.8	7.2	23500	16900	91	4.7	7.6
	22.0	27400	14600	100	5.7	6.6	27300	14500	101	5.8	7.0	26900	14400	101	5.8	7.4	26400	14200	100	5.8	7.9
	24.0	30200	12500	109	6.7	6.6	30100	12400	110	6.8	7.1	29700	12300	110	6.9	7.6	29100	12100	109	6.8	8.1
96 (0.17)	16.0	21500	21500	82	3.8	6.4	21400	21400	83	3.9	6.8	21200	21200	83	3.9	7.1	20800	20800	83	3.9	7.5
	18.0	23300	20900	88	4.4	6.6	23200	20900	88	4.4	6.9	23000	20800	89	4.5	7.3	22500	20600	88	4.4	7.7
	19.5	24900	18900	93	4.9	6.7	24800	18900	93	5.0	7.0	24500	18800	93	5.0	7.4	24000	18600	93	4.9	7.8
	22.0	27900	15600	102	5.9	6.8	27800	15600	103	6.0	7.2	27500	15500	103	6.0	7.6	26900	15300	103	6.0	8.1
	24.0	30800	13100	111	7.0	6.8	30600	13000	112	7.1	7.3	30300	12900	112	7.2	7.8	29600	12700	112	7.1	8.3

Symbols:

AFR: Air flow rate (m³/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (°CWB)
TC : Total cooling capacity (kcal/h)
SHC: Sensible heat capacity (kcal/h)
WFC: Condenser water flow rate (ℓ/min.)
PD : Pressure drop (Condenser water) (mH_2O)
PI : Power input (compressor) (kW)

Notes:

(1) Figures in [ ] show nominal cooling capacities.

(2) Capacity and condenser water flow rate are based on 5.5°C (10°F) temperature rise. There is no need to correct capacity, if the temperature rise is within 5 ~ 9°C, but compute condenser water flow rate (WFC') using the following formula.

$$WFC' = WFC \times \frac{5.5}{\text{Temp. rise}}$$

However, limit condenser water flow rate to the range of figures for "Pressure drop through condenser" shown on page 26.

(3) Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.

(4) SHC is based on 27°C dry bulb temp. of entering evaporator air.
Below 27°C DB, subtract ΔSCC from SHC.
Above 27°C DB, add ΔSCC to SHC.
ΔSCC = Capacity correction for SHC for other dry bulb temp. than 27°C.
= 0.29 X 60 X AF(m³/min.) X (1−BF) X (DB−27°C)

(5) Direct interpolation is permissible. Do not extrapolate.

UCP10J

[60Hz]

Evap.air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
72 (0.12)	16.0	26000	22900	100	3.5	8.1	25800	22800	101	3.6	8.6	25600	22700	102	3.7	9.2	25100	22400	102	3.7	9.8
	18.0	28000	20700	106	4.0	8.2	27900	20700	108	4.1	8.9	27600	20500	108	4.2	9.5	27000	20300	108	4.2	10.1
	19.5	29700	19100	112	4.5	8.4	29600	19100	113	4.5	9.0	29300	18900	114	4.6	9.7	28600	18700	114	4.6	10.4
	22.0	33100	16600	123	5.3	8.6	32900	16500	124	5.4	9.3	32500	16300	125	5.5	10.1	31800	16100	125	5.5	10.8
	24.0	36200	14600	133	6.2	8.8	36000	14500	134	6.4	9.6	35600	14300	135	6.5	10.4	34800	14100	135	6.4	11.2
107 (0.16)	16.0	28400	28400	108	4.1	8.3	28300	28300	109	4.2	8.9	28000	28000	110	4.3	9.5	27500	27500	109	4.3	10.1
	18.0	30700	25400	115	4.7	8.4	30500	25300	116	4.8	9.2	30200	25200	117	4.9	9.8	29600	24900	117	4.8	10.4
	19.5	32600	23100	121	5.2	8.7	32400	23000	122	5.3	9.3	32000	22900	123	5.4	10.0	31400	22600	123	5.4	10.7
	22.0	36200	19300	133	6.3	8.9	36000	19200	134	6.4	9.6	35600	19100	135	6.5	10.4	34800	18800	135	6.4	11.1
	24.0	39600	16400	144	7.3	9.1	39400	16300	145	7.5	9.9	38900	16100	146	7.6	10.7	38100	15900	145	7.5	11.5
128 (0.18)	16.0	29500	29500	112	4.4	8.6	29400	29400	113	4.5	9.1	29100	29100	114	4.6	9.7	28500	28500	113	4.6	10.4
	18.0	31900	28000	119	5.0	8.7	31700	27900	121	5.2	9.4	31400	27800	121	5.2	10.1	30700	27500	121	5.2	10.7
	19.5	33800	25300	126	5.6	8.9	33600	25200	127	5.7	9.5	33300	25100	128	5.8	10.3	32600	24800	127	5.8	11.0
	22.0	37600	20900	138	6.7	9.1	37400	20800	139	6.9	9.9	36900	20700	140	6.9	10.7	36200	20400	139	6.9	11.4
	24.0	41100	17400	149	7.9	9.3	40900	17300	151	8.0	10.2	40400	17200	151	8.1	11.0	39600	16900	151	8.1	11.8

UC15J

Evap.air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
90 (0.06)	16.0	37700	32200	141	3.1	10.1	37400	32000	142	3.2	11.1	37100	31900	144	3.2	12.2	36300	31500	144	3.2	13.2
	18.0	40800	29400	150	3.5	10.2	40600	29300	152	3.6	11.3	40100	29100	154	3.7	12.4	39400	28800	154	3.7	13.3
	19.5	43400	27400	158	3.9	10.3	43200	27400	161	4.0	11.4	42800	27100	162	4.1	12.5	42000	26800	162	4.1	13.5
	22.0	48800	24300	175	4.8	10.4	48500	24200	177	4.9	11.5	48000	24000	179	5.0	12.7	47000	23500	178	4.9	13.7
	24.0	54000	21900	190	5.6	10.3	53700	21800	193	5.8	11.5	53200	21600	194	5.9	12.8	52100	21100	194	5.9	13.9
135 (0.08)	16.0	41000	40200	152	3.6	10.5	40700	40100	154	3.7	11.6	40300	40300	155	3.7	12.7	39500	39500	155	3.8	13.7
	18.0	44300	36000	162	4.1	10.6	44100	35900	164	4.2	11.8	43600	35700	166	4.3	12.9	42800	35400	166	4.3	13.9
	19.5	47200	33000	171	4.5	10.7	47000	32900	173	4.7	11.9	46500	32700	175	4.8	13.0	45600	32300	175	4.8	14.1
	22.0	53000	28000	189	5.5	10.8	52700	27900	191	5.7	12.0	52200	27700	193	5.8	13.2	51100	27300	192	5.7	14.3
	24.0	58700	24200	206	6.6	10.7	58400	24100	208	6.7	12.0	57800	23900	210	6.8	13.3	56600	23500	209	6.8	14.5
165 (0.10)	16.0	42600	42600	157	3.9	10.8	42300	42300	159	4.0	11.9	41900	41900	161	4.0	13.1	41100	41100	161	4.0	14.1
	18.0	46100	40100	168	4.4	10.9	45900	40000	171	4.5	12.2	45300	39800	172	4.6	13.3	44500	39500	172	4.6	14.3
	19.5	49100	36400	177	4.9	11.0	48900	36400	180	5.0	12.3	48400	36100	181	5.1	13.4	47400	35800	182	5.1	14.5
	22.0	55100	30400	196	6.0	11.1	54800	30300	198	6.1	12.4	54300	30100	200	6.2	13.6	53100	29700	199	6.2	14.7
	24.0	61000	25700	214	7.1	11.0	60700	25700	216	7.3	12.4	60100	25400	218	7.4	13.7	58900	25000	217	7.3	14.9

UC20J

Evap.air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
120 (0.05)	16.0	49600	42800	190	3.3	15.1	49400	42700	192	3.4	16.1	48900	42400	193	3.4	17.2	47900	41900	192	3.4	18.1
	18.0	53500	39000	202	3.8	15.4	53200	38900	204	3.9	16.5	52600	38600	205	3.9	17.6	51600	38100	205	3.9	18.6
	19.5	56700	36200	213	4.2	15.6	56400	36000	214	4.3	16.7	55800	35800	216	4.3	17.8	54600	35200	215	4.3	19.0
	22.0	63000	31600	232	5.0	15.9	62700	31500	235	5.1	17.1	62000	31200	236	5.1	18.3	60800	30700	235	5.1	19.7
	24.0	69100	28100	251	5.8	16.1	68800	28000	254	5.9	17.4	68000	27700	255	6.0	18.7	66600	27100	254	6.0	20.2
180 (0.07)	16.0	55100	54100	208	4.0	15.6	54900	54000	210	4.1	16.6	54300	54300	211	4.1	17.7	53200	53200	210	4.1	18.7
	18.0	59400	48500	221	4.5	15.9	59100	48300	223	4.6	17.0	58400	48000	224	4.6	18.1	57300	47500	224	4.6	19.2
	19.5	63000	44200	233	5.0	16.1	62700	44100	235	5.1	17.2	62000	43800	236	5.1	18.4	60700	43300	235	5.1	19.6
	22.0	70000	37300	255	6.0	16.4	69700	37200	257	6.1	17.6	68900	36900	258	6.2	18.9	67500	36300	257	6.1	20.3
	24.0	76800	31900	276	7.0	16.6	76400	31800	278	7.2	17.9	75600	31500	279	7.2	19.3	74000	30900	278	7.2	20.8
220 (0.09)	16.0	58400	58400	218	4.4	15.8	58200	58200	220	4.5	16.8	57600	57600	221	4.5	17.9	56400	56400	220	4.5	18.9
	18.0	63000	54500	233	5.0	16.1	62600	54300	235	5.1	17.2	61900	54000	235	5.1	18.3	60700	53500	235	5.1	19.4
	19.5	66800	49400	245	5.5	16.3	66500	49200	247	5.6	17.4	65700	48900	248	5.7	18.6	64300	48400	247	5.6	19.8
	22.0	74200	41000	268	6.6	16.6	73900	40900	270	6.8	17.8	73000	40500	271	6.8	19.1	71600	40000	270	6.8	20.5
	24.0	81400	34400	290	7.8	16.8	81000	34300	293	7.9	18.1	80100	34000	294	8.0	19.5	78400	33400	292	7.9	21.0

Symbols:

AFR : Air flow rate (m^3/min.)
BF : Bypass factor
EWB : Entering wet bulb temp. (°CWB)
TC : Total cooling capacity (kcal/h)
SHC : Sensible heat capacity (kcal/h)
WFC : Condenser water flow rate (ℓ/min.)
PD : Pressure drop (Condenser water) (mH_2O)
PI : Power input (compressor) (kW)

Notes:

(1) Figures in ▒ show nominal cooling capacities.

(2) Capacity and condenser water flow rate are based on 5.5°C (10°F) temperature rise. There is no need to correct capacity, if the temperature rise is within 5 ~ 9°C, but compute condenser water flow rate (WFC') using the following formula.

$$WFC' = WFC \times \frac{5.5}{\text{Temp. rise}}$$

However, limit condenser water flow rate to the range of figures for "Pressure drop through condenser" shown on page 26.

(3) Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.

(4) SHC is based on 27°C dry bulb temp. of entering evaporator air.
Below 27°C DB, subtract ΔSCC from SHC.
Above 27°C DB, add ΔSCC to SHC.
ΔSCC = Capacity correction for SHC for other dry bulb temp. than 27°C.
= 0.29 X 60 X AF(m^3/min.) X (1−BF) X (DB−27°C)

(5) Direct interpolation is permissible. Do not extrapolate.

UC25J

[60Hz]

Evap.air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
150 (0.04)	16.0	61500	53500	235	3.4	18.2	61500	53500	237	3.5	19.6	61000	53000	240	3.5	21.2	59500	52500	240	3.5	22.7
	18.0	66500	49000	250	3.9	18.4	66500	48500	253	4.0	20.0	65500	48500	255	4.0	21.6	64500	47500	255	4.0	23.2
	19.5	71000	45500	263	4.3	18.6	70500	45000	266	4.4	20.3	70000	45000	269	4.5	22.0	68500	44000	269	4.5	23.7
	22.0	79000	40000	289	5.2	18.9	79000	39500	293	5.3	20.7	78000	39000	295	5.4	22.5	76000	38500	295	5.4	24.4
	24.0	87500	35500	314	6.1	19.1	87000	35500	318	6.2	21.0	86000	35000	320	6.3	23.0	84000	34500	320	6.3	25.0
225 (0.06)	16.0	68500	68500	256	4.1	18.6	68500	68500	259	4.1	20.0	67500	67500	261	4.2	21.6	66000	66000	261	4.2	23.2
	18.0	74000	61000	274	4.6	18.8	73500	60500	276	4.7	20.4	73000	60500	278	4.8	22.0	71500	59500	278	4.8	23.7
	19.5	78500	55500	288	5.1	19.0	78500	55500	291	5.2	20.7	77500	55000	293	5.0	22.4	76000	54500	293	5.3	24.2
	22.0	88000	47000	317	6.2	19.3	87500	47000	320	6.3	21.1	86500	46500	322	6.4	23.0	84500	46000	322	6.4	24.9
	24.0	97000	40500	345	7.3	19.5	96500	40000	348	7.5	21.4	95500	40000	350	7.6	23.5	93500	39000	349	7.5	25.5
300 (0.08)	16.0	73500	73500	271	4.5	18.8	73000	73000	274	4.6	20.2	72500	72500	276	4.7	21.8	71000	71000	276	4.7	23.4
	18.0	79500	72000	290	5.2	19.0	79000	72000	293	5.3	20.6	78000	71500	294	5.3	22.2	76500	71000	294	5.3	23.9
	19.5	84000	65000	305	5.7	19.2	84000	65000	308	5.9	20.9	83000	64500	310	5.9	22.6	81000	64000	310	5.9	24.4
	22.0	94000	53500	336	7.0	19.5	93500	53500	339	7.1	21.3	92500	53000	341	7.2	23.2	90500	52500	340	7.1	25.1
	24.0	104000	44500	366	8.3	19.7	103000	44500	369	8.4	21.6	102000	44000	371	8.5	23.7	100000	43500	370	8.4	25.8

UC30J

Evap.air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
180 (0.04)	16.0	74000	64500	283	2.9	22.4	73500	64000	285	3.0	23.8	73000	63500	287	3.0	25.3	71500	63000	286	3.0	27.0
	18.0	79500	58500	301	3.3	22.9	79500	58500	304	3.4	24.3	78500	58000	305	3.4	26.0	77000	57000	305	3.4	27.6
	19.5	84500	54500	317	3.7	23.3	84000	54000	320	3.8	24.8	83000	53500	321	3.8	26.5	81500	53000	320	3.8	28.2
	22.0	94000	47500	347	4.4	24.0	93500	47000	350	4.5	25.6	92500	46500	351	4.5	27.5	90500	46000	351	4.5	29.4
	24.0	103000	42000	376	5.2	24.6	102500	41500	379	5.3	26.4	101000	41000	380	5.3	28.3	99000	40500	379	5.3	30.4
270 (0.07)	16.0	83000	81500	312	3.6	23.1	82500	81000	314	3.6	24.5	82000	81000	316	3.7	26.1	80000	80000	315	3.6	27.8
	18.0	89500	73000	333	4.1	23.6	89000	72500	335	4.1	25.1	88000	72000	337	4.2	26.8	86500	71500	336	4.1	28.5
	19.5	95000	66500	350	4.5	24.0	94500	66500	353	4.6	25.6	93500	66000	354	4.6	27.3	91500	65000	353	4.6	29.1
	22.0	105500	56000	384	5.4	24.7	105000	56000	387	5.5	26.4	104000	55500	388	5.5	28.3	101500	54500	387	5.5	30.3
	24.0	115500	48000	416	6.4	25.4	115000	47500	419	6.5	27.2	113500	47500	420	6.5	29.2	111000	46500	419	6.4	31.3
360 (0.09)	16.0	89500	89500	333	4.1	23.6	89500	89500	336	4.1	25.0	88500	88500	337	4.2	26.6	86500	86500	336	4.1	28.4
	18.0	97000	86500	356	4.7	24.1	96000	86500	358	4.7	25.6	95000	86000	360	4.7	27.3	93000	85000	358	4.7	29.1
	19.5	102500	78000	375	5.2	24.5	102000	78000	377	5.2	26.1	101000	77500	379	5.3	27.8	99000	76500	377	5.2	29.7
	22.0	114000	64500	411	6.2	25.2	113500	64000	414	6.3	26.9	112000	63500	415	6.3	28.9	109500	63000	413	6.3	30.9
	24.0	125000	53500	446	7.3	25.9	124000	53500	448	7.4	27.7	122500	53000	449	7.4	29.8	120000	52000	447	7.3	31.9

UC40J

Evap.air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
240 (0.05)	16.0	105000	89000	394	3.1	28.7	102000	87000	390	3.0	30.7	99000	85000	386	2.9	33.0	95000	84000	380	2.9	35.3
	18.0	113000	81000	419	3.5	29.2	110000	79000	415	3.4	31.4	106000	78000	410	3.3	33.9	102000	76000	405	3.2	36.4
	19.5	120000	75000	440	3.8	29.7	116000	74000	436	3.8	32.0	113000	72000	431	3.7	34.5	108000	70000	426	3.6	37.2
	22.0	132000	66000	480	4.6	30.6	129000	64000	476	4.5	33.2	125000	63000	472	4.4	36.0	120000	61000	466	4.3	38.9
	24.0	144000	59000	518	5.3	31.5	140000	57000	514	5.2	34.2	136000	55000	510	5.1	37.3	132000	54000	505	5.0	40.5
360 (0.07)	16.0	117000	111000	432	3.7	29.6	114000	110000	427	3.6	31.7	110000	108000	422	3.5	34.0	106000	106000	415	3.4	36.4
	18.0	126000	100000	459	4.2	30.1	122000	98000	454	4.1	32.4	118000	97000	449	4.0	34.9	114000	95000	442	3.9	37.5
	19.5	133000	91000	482	4.6	30.6	129000	90000	478	4.5	33.0	125000	88000	472	4.4	35.6	121000	86000	465	4.3	38.4
	22.0	147000	77000	527	5.5	31.5	143000	76000	522	5.4	34.2	139000	74000	516	5.3	37.1	134000	72000	510	5.1	40.1
	24.0	160000	66000	569	6.4	32.5	156000	65000	564	6.3	35.3	151000	63000	559	6.2	38.5	147000	61000	553	6.0	41.8
480 (0.09)	16.0	126000	126000	462	4.2	30.2	123000	123000	456	4.1	32.3	119000	119000	450	4.0	34.7	114000	114000	443	3.9	37.1
	18.0	136000	118000	491	4.8	30.7	132000	117000	486	4.7	33.0	128000	115000	479	4.5	35.6	123000	113000	472	4.4	38.3
	19.5	144000	107000	516	5.3	31.2	140000	105000	511	5.1	33.7	135000	104000	504	5.0	36.3	130000	102000	496	4.9	39.2
	22.0	159000	88000	564	6.3	32.1	154000	87000	558	6.2	34.9	150000	85000	552	6.0	37.8	145000	83000	544	5.9	40.9
	24.0	173000	74000	610	7.3	33.1	168000	72000	604	7.2	36.0	163000	70000	598	7.1	39.3	158000	69000	591	6.9	42.6

Symbols:

AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (°CWB)
TC : Total cooling capacity (kcal/h)
SHC: Sensible heat capacity (kcal/h)
WFC: Condenser water flow rate (ℓ/min.)
PD : Pressure drop (Condenser water) (mH_2O)
PI : Power input (compressor) (kW)

Notes:

(1) Figures in ▨ show nominal cooling capacities.

(2) Capacity and condenser water flow rate are based on 5.5°C (10°F) temperature rise. There is no need to correct capacity, if the temperature rise is within 5 ~ 9°C, but compute condenser water flow rate (WFC') using the following formula.

$$WFC' = WFC \times \frac{5.5}{\text{Temp. rise}}$$

However, limit condenser water flow rate to the range of figures for "Pressure drop through condenser" shown on page 26.

(3) Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.

(4) SHC is based on 27°C dry bulb temp. of entering evaporator air.
Below 27°C DB, subtract ΔSCC from SHC.
Above 27°C DB, add ΔSCC to SHC.
ΔSCC = Capacity correction for SHC for other dry bulb temp. than 27°C.
= 0.29 X 60 X AF(m^3/min.) X (1−BF) X (DB−27°C)

(5) Direct interpolation is permissible. Do not extrapolate.

UC50J **[60Hz]**

Evap.air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
280 (0.03)	16.0	124000	105000	467	1.9	34.8	120000	103000	461	1.9	37.2	116000	101000	455	1.8	39.6	112000	98000	448	1.8	42.0
	18.0	134000	96000	499	2.2	35.8	129000	94000	493	2.2	38.5	125000	92000	486	2.1	41.1	120000	90000	479	2.0	43.6
	19.5	142000	90000	526	2.5	36.7	138000	88000	520	2.4	39.6	133000	85000	513	2.3	42.2	128000	83000	505	2.3	44.8
	22.0	159000	79000	581	3.0	38.4	154000	77000	575	2.9	41.5	149000	75000	568	2.9	44.4	144000	73000	560	2.8	47.1
	24.0	176000	72000	636	3.6	39.9	171000	70000	630	3.5	43.2	166000	68000	623	3.4	46.3	160000	66000	614	3.4	49.2
420 (0.03)	16.0	134000	131000	499	2.2	36.2	129000	129000	493	2.2	38.8	125000	125000	486	2.1	41.3	120000	120000	478	2.0	43.8
	18.0	144000	117000	533	2.5	37.3	139000	115000	526	2.5	40.1	134000	113000	519	2.4	42.8	130000	111000	511	2.3	45.4
	19.5	153000	107000	563	2.8	38.2	148000	105000	556	2.7	41.2	143000	103000	548	2.7	44.0	138000	101000	540	2.6	46.7
	22.0	171000	91000	622	3.4	40.0	166000	89000	615	3.4	43.2	160000	87000	606	3.3	46.2	155000	85000	598	3.2	49.1
	24.0	189000	79000	681	4.1	41.6	184000	77000	674	4.0	45.0	178000	75000	665	3.9	48.2	172000	73000	656	3.8	51.2
540 (0.04)	16.0	143000	143000	532	2.5	37.6	138000	138000	524	2.4	40.4	133000	133000	516	2.4	43.0	128000	128000	508	2.3	45.6
	18.0	154000	137000	568	2.9	38.8	149000	135000	560	2.8	41.7	144000	133000	552	2.7	44.5	139000	131000	543	2.6	47.2
	19.5	163000	124000	599	3.2	39.7	158000	122000	592	3.1	42.8	153000	120000	583	3.0	45.8	148000	118000	574	2.9	48.6
	22.0	183000	103000	662	3.9	41.6	177000	101000	654	3.8	44.9	172000	99000	645	3.7	48.0	166000	97000	636	3.6	51.1
	24.0	202000	87000	725	4.7	43.3	196000	85000	717	4.6	46.8	191000	83000	708	4.5	50.1	184000	81000	698	4.3	53.2

UC60J

Evap.air		Leaving condenser water temperature (°C)																			
AFR (BF)	EWB	25					30					35					40				
		TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI	TC	SHC	WFC	PD	PI
360 (0.02)	16.0	159000	135000	602	3.4	45.9	153000	132000	592	3.3	49.0	147000	129000	581	3.2	52.1	140000	125000	570	3.0	55.6
	18.0	171000	123000	640	3.8	47.1	165000	120000	630	3.7	50.5	158000	117000	619	3.6	54.0	151000	114000	608	3.5	57.7
	19.5	180000	114000	673	4.2	48.4	174000	112000	663	4.1	51.8	167000	108000	652	4.0	55.6	160000	105000	641	3.9	59.5
	22.0	200000	100000	738	5.1	50.7	193000	98000	728	5.0	54.6	186000	95000	718	4.8	58.8	179000	92000	708	4.7	63.2
	24.0	219000	90000	801	6.0	53.2	212000	87000	792	5.9	57.5	205000	84000	783	5.8	62.1	198000	81000	774	5.6	66.9
540 (0.03)	16.0	175000	170000	655	4.0	47.8	168000	167000	643	3.9	51.0	161000	161000	631	3.7	54.3	154000	154000	618	3.6	57.9
	18.0	188000	152000	696	4.5	49.1	181000	149000	685	4.4	52.6	174000	146000	672	4.2	56.2	166000	143000	659	4.1	60.1
	19.5	198000	139000	732	5.0	50.4	191000	136000	721	4.9	54.0	184000	133000	708	4.7	57.9	176000	130000	696	4.5	62.0
	22.0	220000	117000	803	6.0	52.8	212000	114000	792	5.9	56.9	205000	112000	780	5.7	61.3	197000	109000	768	5.5	65.8
	24.0	240000	101000	873	7.1	55.4	233000	98000	862	7.0	59.9	225000	95000	852	6.8	64.7	218000	92000	841	6.6	69.7
660 (0.04)	16.0	184000	184000	684	4.4	48.8	177000	177000	671	4.2	52.0	169000	169000	658	4.1	55.4	162000	162000	644	3.9	59.1
	18.0	197000	171000	727	5.0	50.1	190000	168000	715	4.8	53.7	182000	165000	701	4.6	57.3	174000	162000	688	4.4	61.3
	19.5	208000	155000	765	5.5	51.4	201000	152000	753	5.3	55.1	193000	149000	739	5.1	59.1	185000	146000	725	4.9	63.2
	22.0	231000	129000	839	6.6	53.9	223000	126000	827	6.4	58.0	215000	123000	815	6.2	62.5	207000	120000	801	6.0	67.1
	24.0	252000	108000	–	–	56.5	245000	105000	–	–	61.1	237000	103000	889	7.4	66.0	228000	100000	877	7.2	71.1

Symbols:

AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (°CWB)
TC : Total cooling capacity (kcal/h)
SHC : Sensible heat capacity (kcal/h)
WFC: Condenser water flow rate (ℓ/min.)
PD : Pressure drop (Condenser water) (mH_2O)
PI : Power input (compressor) (kW)

Notes:

(1) Figures in [shaded] show nominal cooling capacities.
(2) Capacity and condenser water flow rate are based on 5.5°C (10°F) temperature rise. There is no need to correct capacity, if the temperature rise is within 5 ~ 9°C, but compute condenser water flow rate (WFC') using the following formula.

$$WFC' = WFC \times \frac{5.5}{\text{Temp. rise}}$$

However, limit condenser water flow rate to the range of figures for "Pressure drop through condenser" shown on page 26.
(3) Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.
(4) SHC is based on 27°C dry bulb temp. of entering evaporator air.
Below 27°C DB, subtract ΔSCC from SHC.
Above 27°C DB, add ΔSCC to SHC.
ΔSCC = Capacity correction for SHC for other dry bulb temp. than 27°C.
= 0.29 X 60 X AF(m^3/min.) X (1−BF) X (DB−27°C)
(5) Direct interpolation is permissible. Do not extrapolate.
(6) – means that WFC exceeds the limit.

5

UC80EHS

[60Hz]

Evap. air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
612 (0.14)	16.0	218000	153000	812	2.7	58.5	210000	149000	795	2.6	61.8	201000	145000	780	2.5	65.5	193000	141000	766	2.4	69.5
	18.0	234000	157000	863	3.1	59.2	225000	153000	846	2.9	62.7	217000	149000	830	2.8	66.6	208000	145000	815	2.7	71.0
	19.5	248000	160000	906	3.4	59.6	239000	156000	888	3.2	63.4	230000	152000	871	3.1	67.5	221000	148000	856	3.0	72.1
	22.0	274000	165000	987	4.0	60.3	265000	161000	969	3.9	64.3	255000	157000	951	3.7	68.9	245000	153000	935	3.6	73.9
	24.0	299000	170000	1063	4.6	60.6	289000	166000	1044	4.5	65.0	279000	162000	1026	4.3	69.8	269000	158000	1010	4.2	75.2
680 (0.16)	16.0	224000	160000	831	2.8	58.8	215000	156000	814	2.7	62.1	207000	152000	798	2.6	65.8	198000	148000	783	2.5	69.8
	18.0	241000	164000	883	3.2	59.4	232000	160000	865	3.1	63.0	223000	156000	848	3.0	66.9	214000	152000	833	2.8	71.3
	19.5	255000	167000	927	3.5	59.9	245000	163000	909	3.4	63.6	236000	159000	891	3.3	67.8	227000	155000	875	3.1	72.4
	22.0	282000	173000	1011	4.2	60.6	272000	169000	992	4.0	64.6	262000	165000	973	3.9	69.2	252000	161000	957	3.8	74.2
	24.0	307000	178000	1089	4.9	60.9	297000	174000	1069	4.7	65.3	286000	170000	1050	4.5	70.2	276000	166000	1034	4.4	75.6
864 (0.20)	16.0	240000	179000	882	3.2	59.4	231000	174000	863	3.1	62.8	222000	170000	845	2.9	66.5	213000	166000	828	2.8	70.6
	18.0	258000	184000	938	3.6	60.1	248000	179000	918	3.5	63.7	239000	175000	899	3.3	67.7	229000	171000	882	3.2	72.1
	19.5	273000	187000	985	4.0	60.6	263000	183000	965	3.8	64.4	253000	179000	945	3.7	68.6	243000	175000	927	3.5	73.2
	22.0	302000	194000	1075	4.7	61.2	291000	190000	1053	4.6	65.4	281000	186000	1033	4.4	69.9	270000	182000	1014	4.2	75.0
	24.0	–	–	–	–	–	318000	195000	1136	5.3	66.0	307000	191000	1115	5.1	70.9	296000	187000	1096	4.9	76.4

UC100EHS

Evap. air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
765 (0.15)	16.0	277000	194000	1037	2.8	76.3	265000	188000	1015	2.7	81.7	254000	182000	996	2.6	87.1	244000	177000	979	2.5	92.7
	18.0	296000	198000	1098	3.2	77.6	283000	192000	1075	3.1	83.2	272000	186000	1056	2.9	88.9	261000	182000	1039	2.8	94.8
	19.5	311000	201000	1147	3.5	78.5	299000	195000	1125	3.3	84.2	287000	190000	1105	3.2	90.2	276000	185000	1088	3.1	96.3
	22.0	341000	206000	1241	4.1	79.6	328000	201000	1218	3.9	85.6	317000	196000	1198	3.8	91.9	305000	191000	1180	3.7	98.5
	24.0	369000	210000	1326	4.6	79.9	356000	206000	1304	4.5	86.2	344000	201000	1284	4.4	92.8	332000	196000	1265	4.2	99.7
840 (0.16)	16.0	283000	201000	1058	3.0	76.7	271000	195000	1034	2.8	82.1	260000	190000	1015	2.7	87.5	249000	185000	998	2.6	93.1
	18.0	302000	205000	1119	3.3	78.0	290000	200000	1096	3.2	83.6	278000	194000	1076	3.1	89.3	267000	189000	1058	3.0	95.2
	19.5	319000	209000	1170	3.6	78.9	306000	203000	1147	3.5	84.7	294000	198000	1127	3.4	90.6	283000	193000	1108	3.2	96.7
	22.0	349000	214000	1266	4.2	80.0	336000	209000	1242	4.1	86.0	324000	204000	1222	3.9	92.4	312000	199000	1203	3.8	99.0
	24.0	377000	219000	1353	4.8	80.3	365000	214000	1330	4.7	86.6	352000	209000	1309	4.5	93.2	340000	205000	1290	4.4	100.2
1080 (0.20)	16.0	304000	225000	1122	3.3	77.6	290000	219000	1096	3.2	83.1	278000	213000	1074	3.0	88.6	267000	208000	1055	2.9	94.3
	18.0	324000	230000	1188	3.7	79.0	311000	224000	1162	3.6	84.6	298000	219000	1139	3.4	90.5	287000	214000	1119	3.3	96.4
	19.5	341000	234000	1242	4.1	79.9	328000	228000	1216	3.9	85.7	315000	223000	1193	3.8	91.7	303000	218000	1173	3.6	98.0
	22.0	374000	241000	1344	4.8	81.0	360000	235000	1318	4.6	87.1	347000	230000	1295	4.4	93.5	334000	225000	1274	4.3	100.2
	24.0	–	–	–	–	–	–	–	–	–	–	377000	237000	1389	5.1	94.4	364000	232000	1367	4.9	101.4

UC120EHS

Evap. air AFR (BF)	EWB	Leaving condenser water temperature (°C) 25 TC	SHC	WFC	PD	PI	30 TC	SHC	WFC	PD	PI	35 TC	SHC	WFC	PD	PI	40 TC	SHC	WFC	PD	PI
850 (0.07)	16.0	338000	236000	1253	2.9	87.9	326000	230000	1232	2.8	93.7	314000	223000	1210	2.7	99.7	301000	217000	1187	2.6	105.9
	18.0	363000	241000	1334	3.3	90.2	350000	235000	1311	3.2	96.1	337000	229000	1287	3.1	102.3	323000	222000	1261	2.9	108.7
	19.5	384000	246000	1401	3.6	91.9	371000	240000	1378	3.5	98.0	357000	233000	1352	3.4	104.2	342000	227000	1323	3.2	110.6
	22.0	423000	253000	1529	4.3	94.6	409000	247000	1503	4.2	100.7	394000	241000	1473	4.0	106.9	378000	234000	1439	3.8	113.1
	24.0	460000	260000	1646	5.0	96.4	446000	254000	1617	4.8	102.3	429000	248000	1582	4.6	108.2	411000	241000	1542	4.4	113.8
1000 (0.09)	16.0	352000	253000	1297	3.1	88.9	339000	247000	1274	3.0	94.6	326000	241000	1251	2.9	100.7	313000	234000	1226	2.8	107.0
	18.0	377000	259000	1381	3.5	91.1	364000	253000	1357	3.4	97.1	351000	247000	1331	3.3	103.4	336000	240000	1304	3.1	109.8
	19.5	399000	264000	1451	3.9	92.9	385000	258000	1426	3.8	99.0	371000	252000	1398	3.6	105.3	355000	245000	1368	3.5	111.8
	22.0	440000	272000	1583	4.6	95.6	426000	266000	1555	4.5	101.8	410000	260000	1524	4.3	108.0	393000	253000	1488	4.1	114.3
	24.0	479000	280000	1705	5.4	97.4	464000	274000	1674	5.2	103.4	447000	267000	1638	5.0	109.3	428000	260000	1595	4.7	115.0
1200 (0.11)	16.0	368000	275000	1349	3.4	89.8	355000	269000	1324	3.2	95.7	341000	262000	1299	3.1	101.8	327000	256000	1273	3.0	108.2
	18.0	395000	282000	1436	3.8	92.1	381000	276000	1410	3.7	98.2	367000	269000	1383	3.5	104.5	351000	263000	1354	3.4	111.0
	19.5	417000	287000	1509	4.2	93.9	403000	281000	1482	4.1	100.1	388000	275000	1453	3.9	106.4	372000	268000	1421	3.7	113.0
	22.0	461000	297000	1647	5.0	96.7	445000	291000	1617	4.8	102.9	429000	285000	1584	4.6	109.2	411000	278000	1546	4.4	115.5
	24.0	501000	305000	1774	5.8	98.5	485000	299000	1741	5.6	104.5	467000	293000	1703	5.4	110.5	447000	286000	1658	5.1	116.3

Symbols:

AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (°CWB)
TC : Total cooling capacity (kcal/h)
SHC: Sensible heat capacity (kcal/h)
WFC: Condenser water flow rate (ℓ/min.)
PD : Pressure drop (Condenser water) (mH_2O)
PI : Power input (compressor) (kW)

Notes:

(1) Figures in [shaded] show nominal cooling capacities.

(2) Capacity and condenser water flow rate are based on 5.5°C (10°F) temperature rise. There is no need to correct capacity, if the temperature rise is within 5 ~ 9°C, but compute condenser water flow rate (WFC') using the following formula.

$$WFC' = WFC \times \frac{5.5}{\text{Temp. rise}}$$

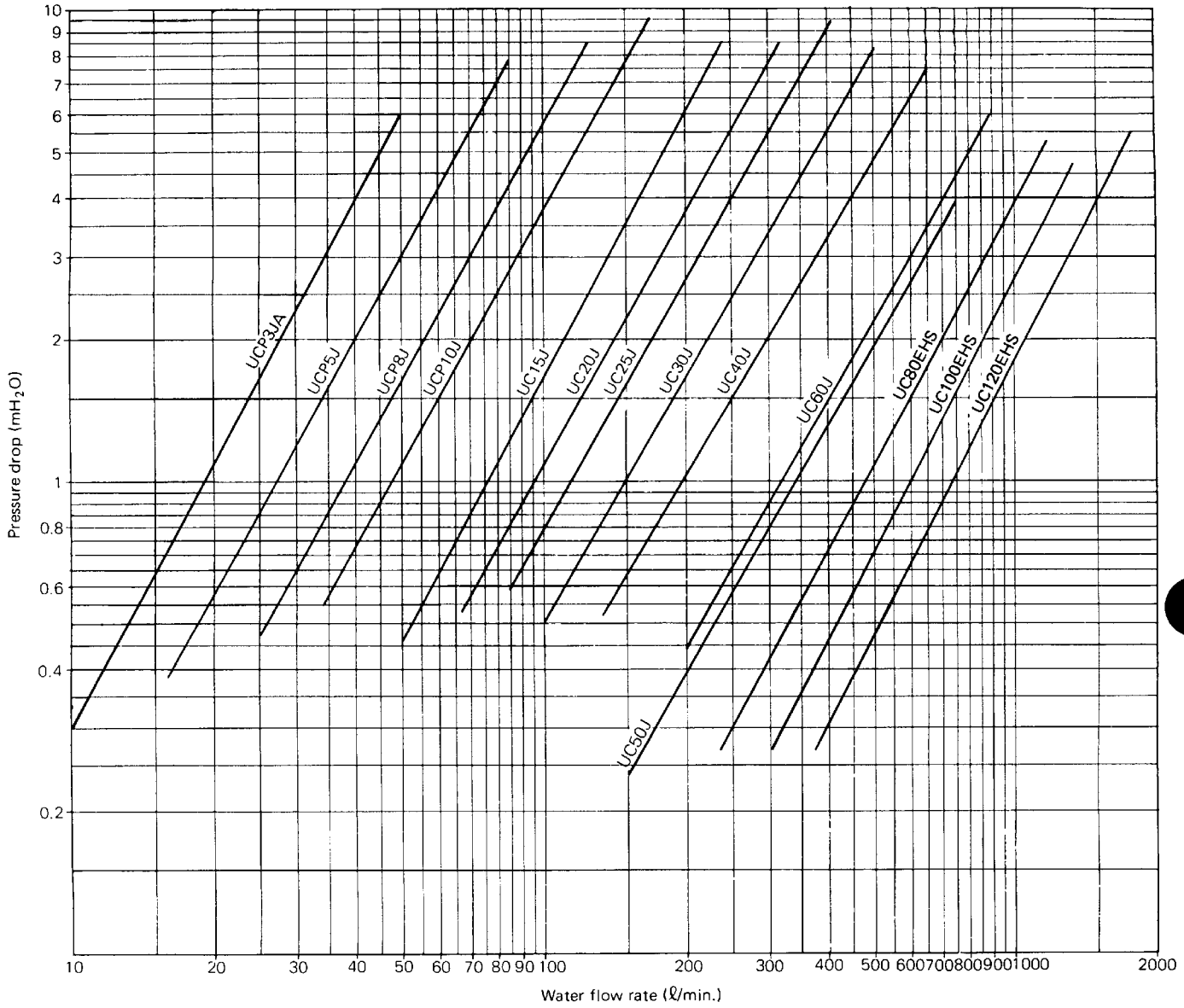
However, limit condenser water flow rate to the range of figures for "Pressure drop through condenser" shown on page 26.

(3) Ratings shown are gross capacities which do not include a deduction for evaporator fan motor heat.

(4) SHC is based on 27°C dry bulb temp. of entering evaporator air.
Below 27°C DB, subtract ΔSCC from SHC.
Above 27°C DB, add ΔSCC to SHC.
ΔSCC = Capacity correction for SHC for other dry bulb temp. than 27°C.
= 0.29 X 60 X AF(m^3/min.) X (1−BF) X (DB−27°C)

(5) Direct interpolation is permissible. Do not extrapolate.

8. Pressure drop



5

9. Fan performance

Model	Air flow rate m^3/min.	ESP	0	5	10	15	20	25	30	35	40	45	50	PD (Plenum chamber)
UCP3JA	20	r.p.m	560	760	950	1120	1270	1400						1
		kW	0.05	0.09	0.14	0.21	0.28	0.36						
	25	r.p.m	720	880	1030	1180	1320							1
		kW	0.10	0.15	0.20	0.27	0.35							
	30	r.p.m	880	1010	1150	1280								2
		kW	0.18	0.23	0.29	0.36								
	33	r.p.m	990	1110	1220									2
		kW	0.25	0.31	0.37									
UCP5J	36	r.p.m	550	730	900	1050	1190	1300	1420	1510				1
		kW	0.07	0.13	0.19	0.26	0.34	0.42	0.50	0.58				
	42	r.p.m	600	770	920	1060	1200	1310	1420	1520				1
		kW	0.11	0.17	0.23	0.31	0.39	0.48	0.57	0.66				
	48	r.p.m	680	840	970	1100	1230	1340	1450	1550				2
		kW	0.16	0.23	0.30	0.37	0.46	0.56	0.66	0.76				
	53	r.p.m	750	890	1010	1130	1250	1360	1470	1570				2
		kW	0.22	0.29	0.36	0.44	0.53	0.63	0.74	0.85				
	58	r.p.m	810	940	1060	1170	1280	1380	1480	1580				2
		kW	0.28	0.35	0.44	0.52	0.61	0.71	0.82	0.94				
	64	r.p.m	900	1010	1120	1230	1320	1420	1510					3
		kW	0.37	0.45	0.54	0.63	0.73	0.83	0.94					
UCP8J	54.5	r.p.m	600	710	830	930	1030	1130	1220	1290	1370			2
		kW	0.15	0.23	0.30	0.39	0.50	0.61	0.73	0.97	1.09			
	64	r.p.m	670	790	880	980	1070	1150	1240	1320	1400	1470	1530	2
		kW	0.24	0.33	0.42	0.52	0.63	0.75	0.96	1.12	1.28	1.43	1.58	
	72	r.p.m	740	840	930	1020	1100	1190	1260	1340	1420	1490	1560	2
		kW	0.34	0.44	0.54	0.64	0.82	0.95	1.09	1.25	1.42	1.60	1.80	
	80	r.p.m	820	910	1000	1070	1140	1230	1300	1360	1430	1500	1570	3
		kW	0.45	0.55	0.66	0.84	0.97	1.10	1.25	1.40	1.57	1.74	1.93	
	88	r.p.m	890	980	1060	1130	1210	1270	1340	1410	1470	1530	1600	4
		kW	0.60	0.71	0.90	1.04	1.17	1.31	1.46	1.62	1.79	1.96	2.15	
	96	r.p.m	970	1050	1120	1200	1260	1330	1390	1450	1510			4
		kW	0.83	0.97	1.11	1.25	1.40	1.55	1.70	1.87	2.04			
UCP10J	72	r.p.m	540	650	760	870	960	1060	1140	1220	1300	1370		2
		kW	0.20	0.28	0.37	0.47	0.58	0.70	0.84	0.97	1.12	1.27		
	86	r.p.m	650	750	850	940	1020	1110	1190	1260	1330	1410	1480	3
		kW	0.36	0.44	0.54	0.65	0.77	0.90	1.05	1.19	1.35	1.53	1.70	
	96	r.p.m	740	820	910	990	1070	1150	1220	1290	1360	1430	1500	3
		kW	0.50	0.60	0.71	0.82	0.95	1.09	1.23	1.39	1.56	1.74	1.91	
	107	r.p.m	830	910	990	1060	1140	1210	1280	1340	1410	1480		4
		kW	0.71	0.82	0.94	1.06	1.20	1.35	1.51	1.68	1.85	2.02		
	118	r.p.m	920	1000	1070	1140	1210	1270	1330	1400	1460			5
		kW	0.96	1.08	1.21	1.35	1.49	1.66	1.82	1.99	2.17			
	128	r.p.m	1020	1080	1150	1220	1280	1340	1400					6
		kW	1.15	1.27	1.40	1.70	1.85	2.02	2.19					

Symbols:

ESP	: External static pressure	(mmH_2O)
r.p.m	: Fan speed	(r.p.m)
kW	: Required motor output	(kW)
PD	: Pressure drop through optional plenum chamber	(mmH_2O)

Notes:

1. ▒▒ shows the operating range of the fan motor standard.
   In case the fan motor is to be used out of this range, change motor size.

2.

Model	UCP3JA	UCP5J	UCP8J	UCP10J
Fan motor	3 phase, 4 pole, E class insulation			
Motor speed (50/60Hz) r.p.m	1410/1700	1420/1700	1420/1700	1420/1700
Rated output kW	0.4	0.75	0.75	1.5
Max. replaceable output kW	–	1.5	2.2	2.2
Max. fan speed r.p.m	1500	1600	1600	1600
Pulley size				
Motor pulley	AR99-65-14 (Variable dia.)	AL129-100-19 (Variable dia.)	AL104-75-19 (Variable dia.)	AL129-100-24 (Variable dia.)
Fan pulley	A169-25 (Fixed dia.)	A195-25 (Fixed dia.)	A149-25 (Fixed dia.)	A195-35 (Fixed dia.)
V belt size x No.	A28 x 1	A42 x 1	A43 x 1	A45 x 1
Air flow rate range m^3/min.	20 ~ 33	36 ~ 64	54.5 ~ 96	72 ~ 128

Model	Air flow rate m^3/min.	ESP	0	5	10	15	20	25	30	35	40	45	50	PD (Plenum chamber)
UC15J	90	r.p.m	530	620	710	800	890	970	1040	1110	1180	1240	1300	2
		kW	0.26	0.38	0.53	0.69	0.86	1.03	1.21	1.39	1.58	1.78	1.98	
	105	r.p.m	590	680	770	860	940	1020	1090	1160	1220	1280	1340	2
		kW	0.43	0.57	0.74	0.92	1.11	1.30	1.50	1.70	1.91	2.12	2.38	
	120	r.p.m	660	750	830	910	990	1060	1130	1190	1260	1320	1370	2
		kW	0.62	0.77	0.95	1.14	1.34	1.55	1.77	1.98	2.20	2.55	2.78	
	135	r.p.m	730	820	900	970	1050	1120	1180	1240	1300	1360	1410	3
		kW	0.89	1.07	1.26	1.46	1.68	1.91	2.15	2.49	2.74	3.00	3.26	
	150	r.p.m	830	910	980	1050	1110	1180	1230	1290	1350	1410	1460	4
		kW	1.23	1.42	1.63	1.85	2.08	2.37	2.62	2.89	3.16	3.43	3.70	
	165	r.p.m	910	970	1040	1100	1160	1220	1280	1330	1390			5
		kW	1.62	1.84	2.06	2.33	2.58	2.85	3.12	3.41	3.70			
UC20J	120	r.p.m	570	650	730	820	900	970	1040	1110	1190	1250	1310	2
		kW	0.46	0.59	0.74	0.92	1.10	1.30	1.51	1.73	1.94	2.16	2.47	
	140	r.p.m	630	720	800	880	960	1030	1100	1160	1230	1290	1340	3
		kW	0.75	0.91	1.08	1.27	1.47	1.68	1.91	2.15	2.49	2.74	3.00	
	160	r.p.m	720	800	880	950	1020	1090	1150	1210	1260	1320	1370	3
		kW	1.11	1.30	1.49	1.69	1.91	2.14	2.47	2.73	3.00	3.29	3.58	
	180	r.p.m	800	870	940	1010	1070	1140	1190	1250	1310	1360	1410	4
		kW	1.57	1.77	1.98	2.28	2.52	2.77	3.03	3.31	3.60	3.74	4.04	
	200	r.p.m	900	960	1030	1090	1140	1200	1250	1310	1360	1410	1460	5
		kW	2.15	2.46	2.70	2.95	3.21	3.48	3.77	3.89	4.17	4.47	4.79	
	220	r.p.m	990	1050	1110	1170	1220	1270	1320	1370	1420	1460		6
		kW	2.99	3.25	3.51	3.78	3.90	4.18	4.46	4.75	5.06	5.37		

Model	Air flow m^3/min.	ESP	0	10	20	30	40	50	60	70	80	ESP (Factory set) 50Hz	ESP (Factory set) 60Hz**
UC25J	150	r.p.m	420	510	600	690	780	870	950	1020	1100	29.9	29.9
		kW	0.54	0.83	1.16	1.57	2.02	2.53	3.08	3.67	4.15		
	200	r.p.m	480	570	650	730	820	900	960	1030	1100	24.8	24.8
		kW	1.24	1.62	2.02	2.45	2.93	3.45	3.89	4.48	5.12		
	225	r.p.m	520	600	680	760	840	910	980	1040	1100	20.0	20.0
		kW	1.75	2.17	2.61	3.08	3.57	3.97	4.53	5.14	5.81		
	250	r.p.m	560	640	720	790	870	930	990	1050		16.8	16.8
		kW	2.27	2.70	3.17	3.65	4.20	4.73	[illegible]	5.95			
	300	r.p.m	660	730	800	870	930	990	1050			4.7	4.7
		kW	3.85	4.36	4.80	5.45	6.13	6.74	7.36				
UC30J	180	r.p.m	430	520	610	700	780	870	940	1010	1080	28.9	28.9
		kW	0.84	1.16	1.52	1.90	2.36	2.85	3.39	3.97	4.59		
	240	r.p.m	530	610	690	770	840	910	980	1040	1100	19.8	19.8
		kW	1.98	2.40	2.85	3.33	3.82	4.34	4.91	5.49	6.12		
	270	r.p.m	580	660	740	810	880	940	1000	1060		15.0	15.0
		kW	2.81	3.28	3.77	4.29	4.83	5.39	5.94	6.54			
	300	r.p.m	640	710	790	850	920	980	990			6.6	6.6
		kW	3.83	4.43	4.88	5.44	6.00	6.60	7.22				
	360	r.p.m	760	830								–	–
		kW	6.55	7.15									
UC40J	240	r.p.m	510	610	710	810	930	1040	1130			30.6	30.6
		kW	1.20	1.75	2.37	3.05	3.79	4.63	5.46				
	300	r.p.m	600	690	780	880	970	1060	1150	1230		24.0	24.0
		kW	2.38	3.06	3.78	4.56	5.39	6.27	7.22	8.40			
	360	r.p.m	700	780	860	940	1020	1100	1180	1250		15.0	15.0
		kW	4.06	4.87	5.70	6.58	7.50	8.65	9.69	10.77			
	420	r.p.m	820	890	970	1040	1110	1170	1240			0.6	0.6
		kW	6.40	7.32	8.67	9.69	10.73	11.62	12.74				
	480	r.p.m	930	1000	1070	1130	1180					–	–
		kW	10.05	11.25	12.03	13.15	14.30						

Symbols:
ESP : External static pressure (mmH_2O)
r.p.m: Fan speed (r.p.m)
kW : Required motor output (kW)
PD : Pressure drop through optional plenum chamber (mmH_2O)

5

Notes:

1. ▭ shows the operating range of the fan motor standard. In case the fan motor is to be used out of this range, change motor size.

2.

Model		UC15J	UC20J	UC25J	UC30J	UC40J
Fan motor		3 phase, 4 pole, E class insulation			3 phase, 4 pole, B class insulation	
Motor speed (50/60Hz)	r.p.m	1420/1710	1420/1710	1420/1710	1440/1730	1440/1730
Rated output	kW	2.2	3.7	3.7	5.5	7.5
Max. replaceable output	kW	3.7	5.5***	7.5	7.5	15
Max. fan speed	r.p.m	1600	1600	1100	1100	1300
Pulley size						
Motor pulley		BR151-115-28 (Variable dia.)	BR161-125-28 (Variable dia.)	50Hz: 2B161-28 60Hz: 2B136-28*	50Hz: 2B161-38 60Hz: 2B136-38*	50Hz: 3B171-38 60Hz: 3B143-38*
Fan pulley		B235-35	2B235-35	2B326-45	2B326-45	3B291-35
V belt size x No.		B40 x 1	B41 x 1	50Hz: B73 x 2 60Hz: B71 x 2*	50Hz: B73 x 2 60Hz: B71 x 2*	50Hz: B70 x 3 60Hz: B68 x 3*
Air flow rate range	m^3/min	90 ~ 165	120 ~ 220	150 ~ 300	180 ~ 360	240 ~ 480

Remarks: * Settings of the motor pulley and V belt are as stated below.
Those for 50Hz are factory set and the ones for 60Hz are to be set on site. (UC25J ~ 40J)
** ESP on 60Hz in the case when the attached standard motor pulley is used on the site. (UC25J ~ 40J)
*** The number of V belts to be used should be changed from one to two when a 5.5 kW motor is used. (only UC20J)

Model	Air flow rate m^3/min.	ESP	0	10	20	30	40	50	60	70	80	ESP (Factory set) 50Hz	ESP (Factory set) 60Hz	Remarks
UC50J	280	r.p.m	680	730	780	840	890	1060	1150	1240		42	42	
		kW	2.05	2.70	3.39	4.15	4.96	5.84	6.78	7.77				
	360	r.p.m	680	760	840	930	1010	1080	1160	1240		30	30	
		kW	3.92	4.73	5.56	6.42	7.34	8.32	9.32	10.38				
	420	r.p.m	770	850	920	1000	1070	1130	1200	1260		19	19	
		kW	6.06	7.00	7.95	8.93	9.93	10.74	11.81	12.94				
	480	r.p.m	870	940	1010	1080	1140	1190	1250			8	8	
		kW	8.92	9.99	11.49	11.90	12.99	14.12	15.28					
	540	r.p.m	970	1040	1110	1160	1210	1260				0	0	
		kW	13.35	13.53	14.71	15.90	17.12	18.35						
UC60J	360	r.p.m	450	540	630	720	800	870	950	1020	1080	41	43	
		kW	2.18	2.95	3.81	4.76	5.81	6.93	8.14	9.43	10.79			
	420	r.p.m	510	590	680	750	830	890	960	1030	1090	37	40	
		kW	3.41	4.27	5.24	6.27	7.39	8.59	9.84	11.44	12.87			
	480	r.p.m	570	650	720	790	860	920	980	1060		32	35	
		kW	4.97	5.93	7.00	8.12	9.31	10.57	12.19	13.63				
	540	r.p.m	630	700	770	840	900	960	1020			25	28	
		kW	7.01	8.10	9.25	10.47	12.03	13.40	14.84					
	600	r.p.m	700	770	840	890	950	1010				15	18	
		kW	9.60	10.82	12.35	13.71	15.42	16.47						
	660	r.p.m	790	860	920	960						2	4	
		kW	13.26	14.63	15.88	17.35								
UC80EHS	612	r.p.m	440	500	560	620	680	740	790	850	910	25	44	See Note 3 3C574-50 (Standard) ↓ 4C464-50
		kW	4.89	6.29	7.75	9.27	10.82	12.43	14.09	15.77	17.52			
	680	r.p.m	460	530	590	650	710	760	810	870	920	20	40	
		kW	6.70	8.25	9.85	11.51	13.20	14.91	16.72	18.32	20.15			
	740	r.p.m	510	560	620	680	730	780	830	890		14	34	
		kW	8.81	10.49	12.24	14.02	15.84	17.71	19.35	21.27				
	800	r.p.m	540	590	650	710	760	810				9	29	
		kW	10.89	12.68	14.52	16.39	18.32	20.34						
	864	r.p.m	570	630	680	730	780					3	24	
		kW	13.58	15.53	17.54	19.32	21.36							
UC100EHS	765	r.p.m	400	480	550	630	700	760	820	880	930	23	40	See Note 3 4C514-50 (Standard) ↓ 5C464-50
		kW	5.35	7.21	9.15	11.18	13.29	15.49	17.84	20.27	22.80			
	840	r.p.m	430	500	570	640	710	770	820	880	940	20	38	
		kW	6.88	8.89	10.99	13.17	15.44	17.77	20.17	22.77	23.40			
	920	r.p.m	460	540	610	670	730	780	840	890		15	35	
		kW	8.94	11.14	13.42	15.78	18.19	20.69	23.30	25.94				
	1000	r.p.m	500	570	630	690	750	800	850	910		11	31	
		kW	11.34	13.72	16.16	18.69	21.28	23.99	26.73	29.53				
	1080	r.p.m	530	600	660	710	760	810	860			6	28	
		kW	13.62	16.12	18.69	21.34	24.13	26.88	29.75					
UC120EHS	850	r.p.m	410	500	560	630	700	750	820	870	930	28	48	In case brake horse power is over 24 kW, change number of V belts from 4 to 5 pieces. See Note 3 4C514-50 (Standard) ↓ 5C464-50
		kW	6.58	8.56	10.61	12.77	15.01	17.33	19.73	22.18	24.70			
	900	r.p.m	440	520	580	650	710	770	820	880	930	25	45	
		kW	7.82	9.90	12.07	14.32	16.66	19.07	21.56	24.11	26.73			
	1000	r.p.m	490	550	620	680	730	790	840	910		20	41	
		kW	10.72	13.02	15.41	17.87	20.41	23.01	25.69	28.43				
	1100	r.p.m	540	600	660	710	760	820				13	36	
		kW	14.27	16.80	19.39	22.00	24.80	27.61						
	1200	r.p.m	580	640	700	750	800					6	–	
		kW	18.53	21.28	24.08	26.97	29.92							

Symbols: ESP : External static pressure (mmH_2O) r.p.m: Fan speed (r.p.m) kW : Required motor output (kW)

Notes:

1. ▨ shows the operating range of the fan motor standard. In case the fan motor is to be used out of this range, change motor size.

2.

Model		UC50J	UC60J	UC80EHS	UC100EHS	UC120EHS
Fan motor		3 phase, 4 pole, B class insulation				
Motor speed (50/60Hz)	r.p.m.	1450/1740	1450/1740	1450/1735	1450/1735	1450/1735
Rated output	kW	11	11	18.5	22	22
Max. replaceable output	kW	18.5	18.5	22	30	30
Max. fan speed	r.p.m.	1300	1100	950	950	950
Pulley size						
Motor pulley		(50Hz) 3B191-42 (60Hz) 3B161-42*	(50Hz) 3B235-42 (60Hz) 3B201-42*	3C241-48	4C214-55	4C226-55
Fan pulley		3B 291-35	3B411-45	3C574-50	4C514-50	4C514-50
V belt size x No.		(50Hz) B116 x 3 (60Hz) B115 x 3*	(50Hz) B124 x 3 (60Hz) B122 x 3*	C136 x 3	C130 x 4	C130 x 4
Air flow rate range	m^3/min.	280 ~ 540	360 ~ 660	612 ~ 864	765 ~ 1080	850 ~ 1200

Remarks: * Settings of the motor pulley and V belt are as stated below.
Those for 50Hz are factory set and the ones for 60Hz are to be set on site. (UC50J, UC60J)
** ESP on 60Hz in the case when the attached standard motor pulley is used on the site. (UC50J, UC60J)

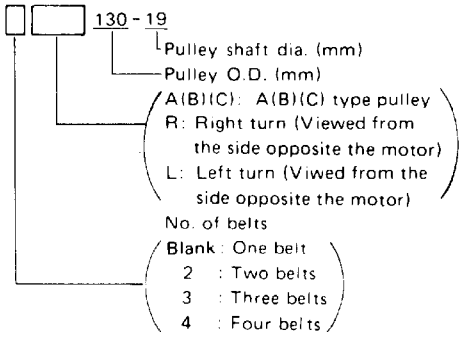
3. In case of Fan motor is changed to bigger size, "Fan pulley" should be changed.
(Only for UC80EHS, UC100EHS & UC120EHS)

(2) Adjusting range of fan motor pulley.

Model	No. of Turns	Gap. (mm)	Pitch dia. (mm)	Fan speed (r.p.m)	
				50Hz	60Hz
UCP3JA	5	0	90	795	955
	4	1.5	85	750	905
	3	3	80	705	850
	2	4.5	75	660	795
	1	6	70	615	745
	0	7.5	65*	570	690
UCP5J UCP10J	5	0	120	915	1100
	4	1.5	115	880	1050
	3	3.0	110	840	1005
	2	4.5	105	800	960
	1	6.0	100*	765	915
	0	7.5	95	725	870
UCP8J	5	0	95	960	1150
	4	1.5	90	910	1090
	3	3	85	860	1030
	2	4.5	80	810	970
	1	6	75*	760	910
	0	7.5	70	710	850
UC15J	6	0	140	895	1070
	5	1.5	135	855	1030
	4	3.0	130	825	990
	3	4.5	125	790	955
	2	6.0	120	760	915
	1	7.5	115*	730	875
	0	9.0	110	700	840
UC20J	6	0	150	950	1145
	5	1.5	145	920	1105
	4	3.0	140	885	1070
	3	4.5	135	855	1030
	2	6.0	130	820	990
	1	7.5	125*	790	955
	0	9.0	120	760	915
UC25J	–	–	60Hz:125* 50Hz:150*	– 675	675 –
UC30J	–	–	60Hz:125* 50Hz:150*	– 685	685 –
UC40J	–	–	60Hz:132* 50Hz:160*	– 820	815 –
UC50J	–	–	60Hz: 150* 50Hz: 180*	– 830	830 –
UC60J	–	–	60Hz: 190* 50Hz: 224*	– 825	825 –
UC80EHS	–	–	227*	590	700
UC100EHS	–	–	200*	580	700
UC120EHS	–	–	212*	610	735

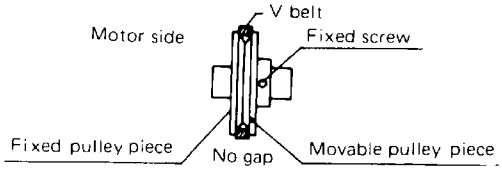
*denotes factory set. For UC25J - UC60J, the attached standard motor pulley is used on the site in case of 60Hz.

- **Nomenclature**



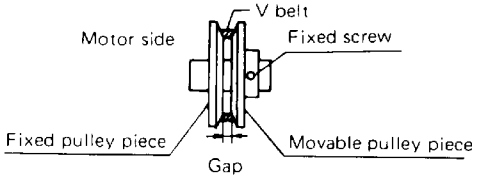
- **Pulley adjusting method**

[Max. dia.]



Turn the movable pulley piece clockwise in case of UCP5J~10J (counterclockwise in case of UCP3JA, UC15·20J) viewed from the side opposite the motor by the number of turns tabulated.

[Min. dia.]



(Refer to Gap in the table on the left)

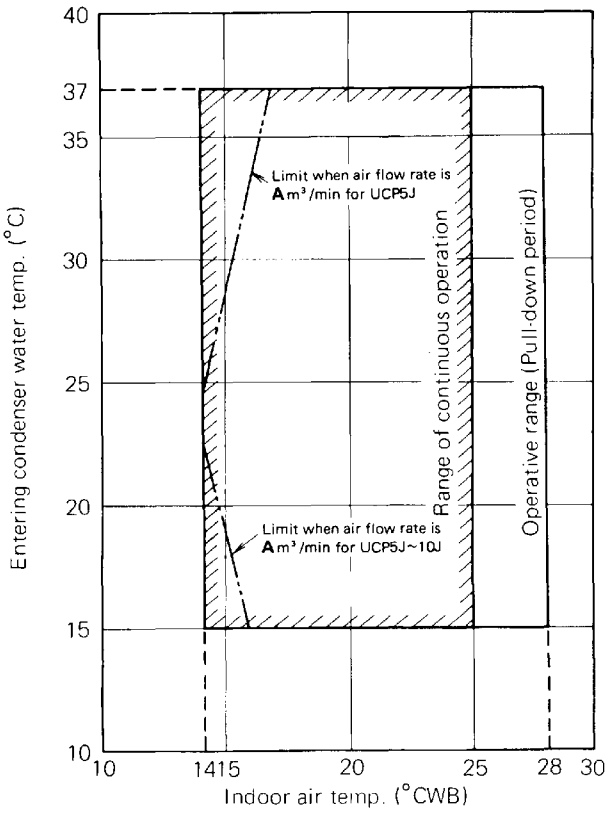
How to adjust the variable pitch pulley

- After stopping, loosen the belt, remove the screw from the movable pulley piece and turn the movable piece in the direction shown by the required number of turns (tabulated in the Table).
- Insert the screw into one of two holes, from which it can contact the flat face of the fixed pulley piece when it is tightened.
- Retighten the screw.
- Align the pulleys of the fan and the motor and adjust the tension of the V belt.

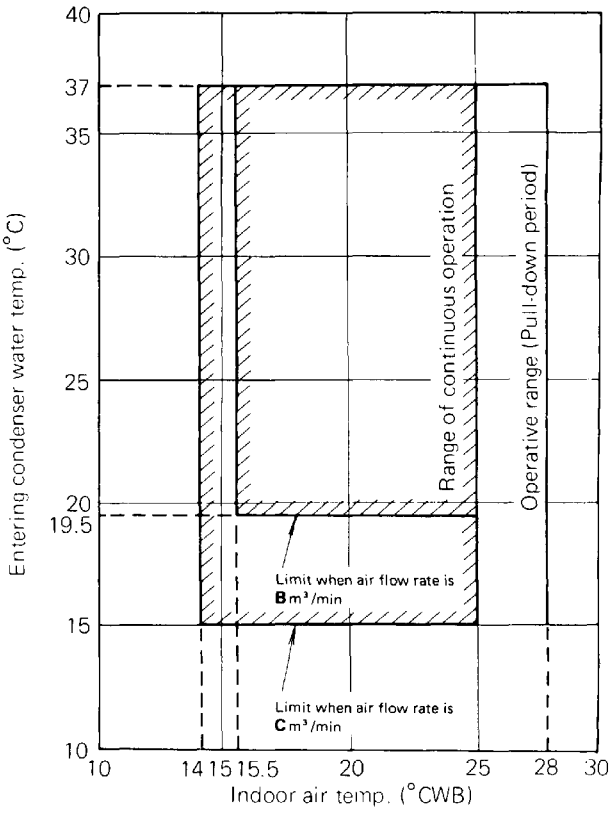
5

10. Operation limit

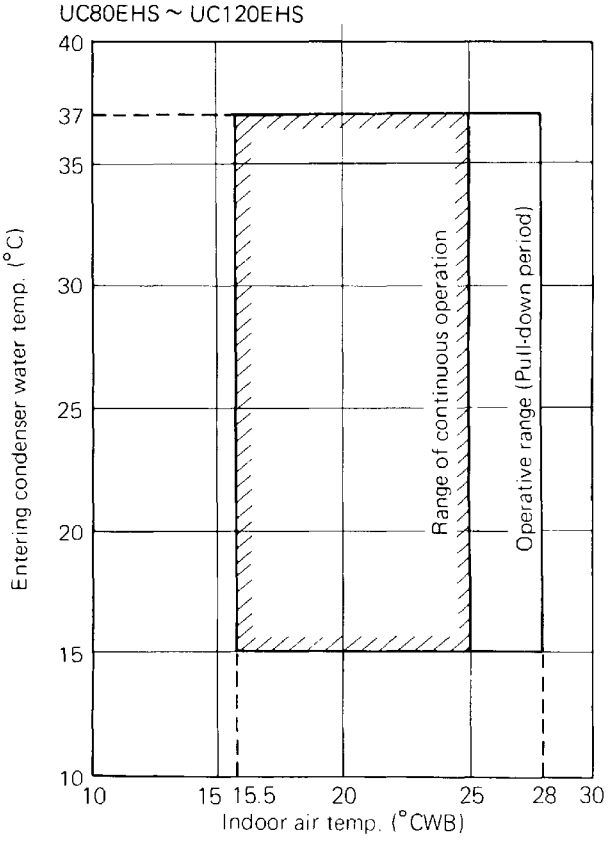
UCP3JA ~ UCP10J



UC15J ~ UC60J



UC80EHS ~ UC120EHS



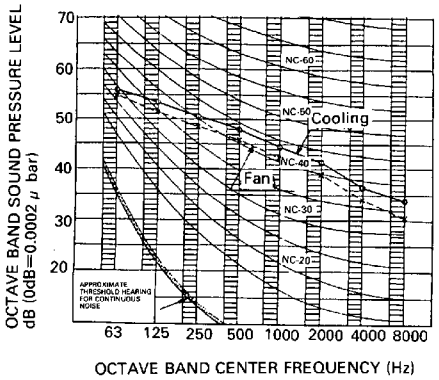
Model	A
UCP5J	36
UCP8J	54.5
UCP10J	72

Model	B	C
UC15J	90~108	108~165
UC20J	120~144	144~220
UC25J	150~180	180~300
UC30J	180~216	216~360
UC40J	240~288	288~480
UC50J	280~336	336~540
UC60J	360~432	432~600

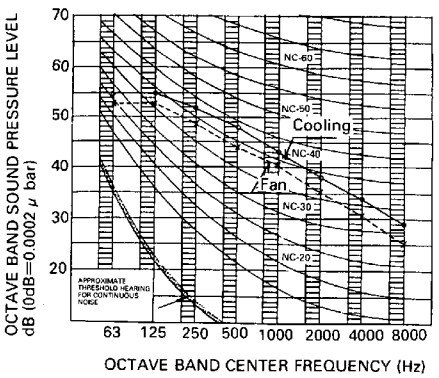
Note: These diagrams are based on standard condenser water flow rate shown in the specification on pages 2 and 4.

11. Operation noise

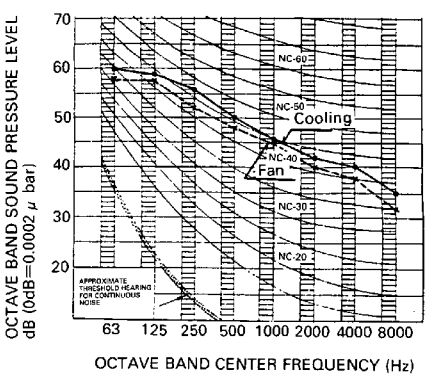
UCP3JA



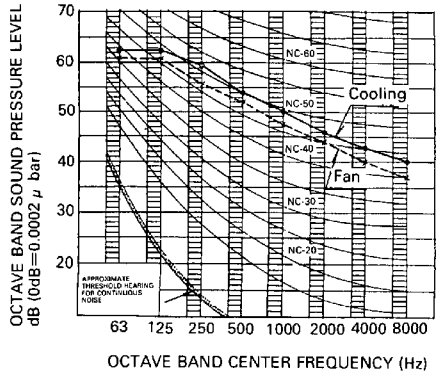
UCP5J



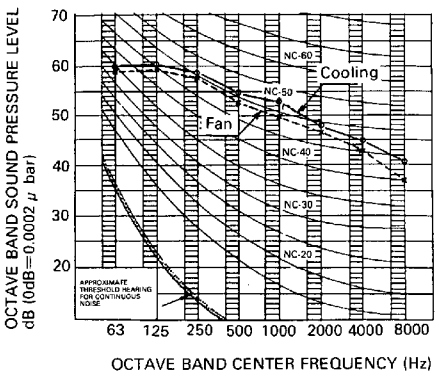
UCP8J



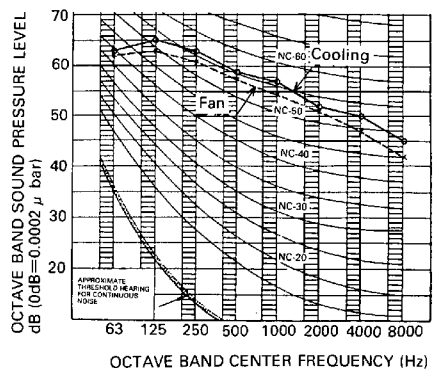
UCP10J



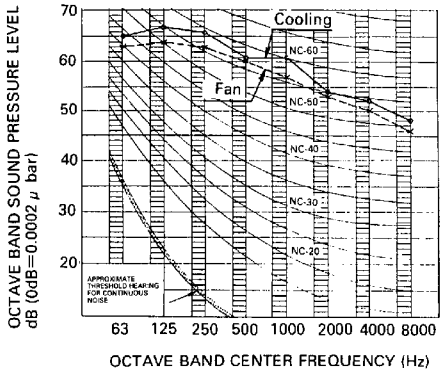
UC15J



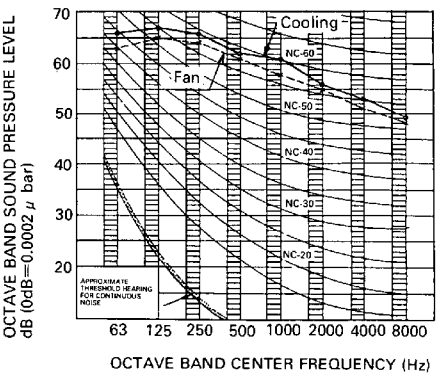
UC20J



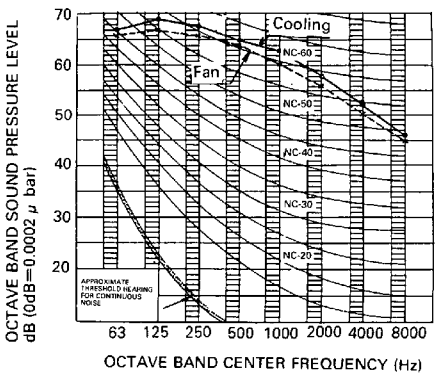
UC25J



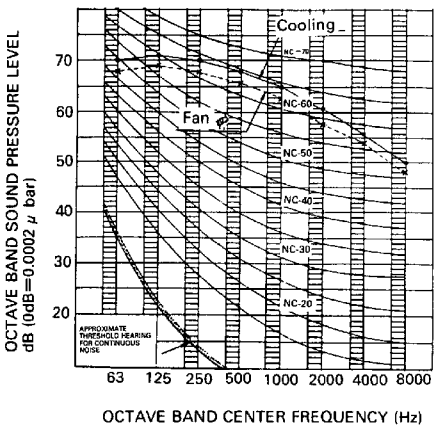
UC30J



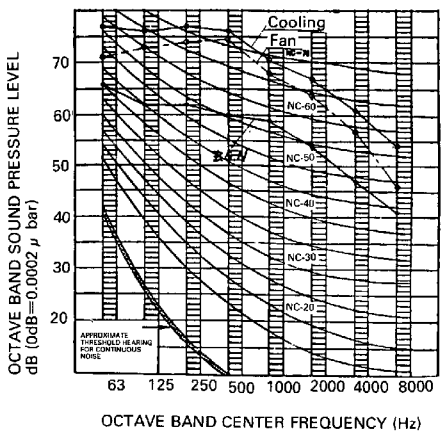
UC40J



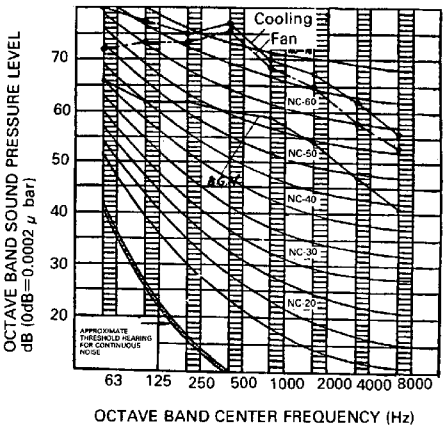
UC50J



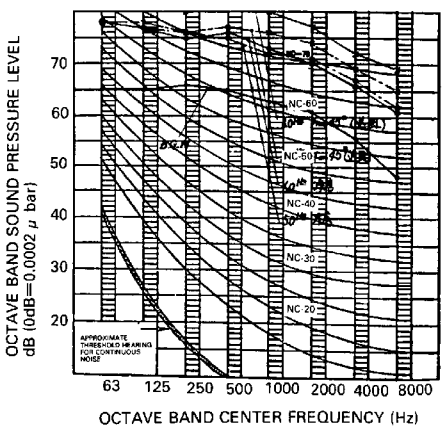
UC60J



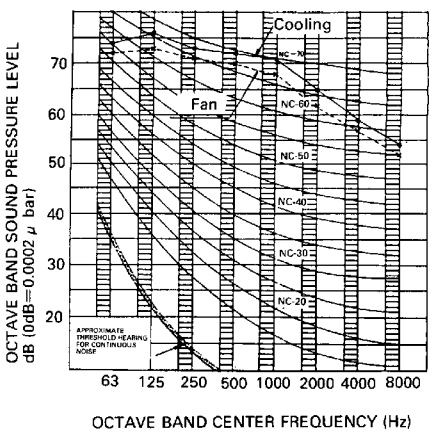
UC80EHS



UC100EHS



UC120EHS



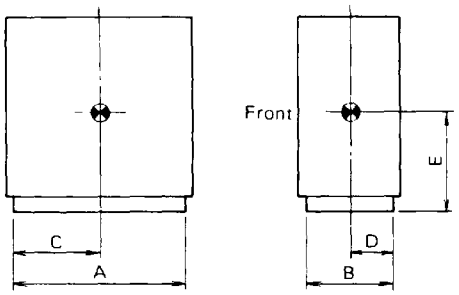
12. Electric characteristics

Model	Symbol of power supply	Rated power supply (Volts—pH—Hz)	Starting method	Compressor			Fan motor		Total	
				No.	LRA each	MRC each	No.	MRC	MRC	NRC
UCP3JA	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Direct	1	34.2 36.0 37.4 32.0 35.2	7	1	1.2	8.2	4.3 4.3 4.3 4.6 4.4
UCP5J	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Direct	1	52 54 56 49.2 53	10	1	1.8	11.8	7.2 7.2 7.1 8.0 7.6
UCP8J	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Direct	1	93 98 102 85 94	13	1	1.8	14.8	11.6 11.6 11.9 12.7 12.1
UCP10J	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Direct	1	121 127 132 111 122	21	1	3.2	24.2	16.1 16.2 16.2 17.5 16.3
UC15J	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Sequence direct	2	74 78 81 70 77	13	1	4.6	30.6	21.0 20.6 20.7 22.9 21.3
UC20J	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Sequence direct	2	121 127 132 111 122	21	1	7.2	49.2	29.6 29.9 30.3 32.3 30.3
UC25J	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Sequence direct	2	154/121 162/127 168/132 139/111 153/122	28/21	1	7.2	56.2	35.7 35.5 35.7 39.1 36.7
UC30J	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Sequence direct	2	191 201 209 173 190	28	1	11	67.0	44.8 44.8 44.5 48.7 45.5
UC40J	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Y—△	2	85 89 92 77 85	36	1	15	87.0	60.1 59.5 60.3 65.1 61.0
UC50J	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Y—△	2	85 89 92 77 85	42	1	21	105	64.2 63.9 64.6 74.3 69.8
UC60J	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Y—△	3	85 89 92 77 85	36	1	21	129	84.5 84.0 85.7 97.9 92.0
UC80EHS	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Y—△	2	100 105 109 93 102	76	1	34	186	123 121 122 129 121
UC100EHS	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Y—△	2	123 130 135 112 123	100	1	42	284	154 152 153 168 159
UC120EHS	YE	380—3—50 400—3—50 415—3—50 400—3—60 440—3—60	Y—△	3	152 160 167 127 139	114	1	42	270	191 182 174 196 179

Symbols:
LRA : Locked rotor amps (A)
(LRA for units larger than UC40J is for star winding.)
MRC : Maximum running current (A)
NRC : Nominal running current (A)

Notes:
1. Max. inrush current is the total of LRA for the compressor to be operated finally and MRC for the compressor and the fan motor in operation.
2. NRC means running current for the unit under the same coditions as the nominal cooling capacity on page 2 and 4.

13. Center of gravity



Model	Size of base frame (mm)		Centre of gravity (mm)			Weight (kg)	
	A	B	C	D	E	Machine	Operation
UCP3JA	724	347	337	215	560	125	128
UCP5J	924	477	435	225	600	205	209
UCP8J	1144	477	550	250	620	245	251
UCP10J	1444	477	670	250	620	290	298
UC15J	1445	678	705	350	750	430	442
UC20J	1785	678	890	380	800	535	550
UC25J	1570	1018	750	585	750	700	722
UC30J	1730	1018	880	570	750	830	855
UC40J	1930	1170	1000	670	760	1030	1058
UC50J	1930	1170	960	660	720	1150	1174
UC60J	2330	1170	1150	680	710	1360	1391
UC80EHS	3080	1500	1330	670	650	3000	3036
UC100EHS	3730	1690	1550	720	650	3600	3644
UC120EHS	4080	1690	1730	780	650	3900	3956

Note: The location of centre of gravity shown is for a unit which is not in operation.

- Vibration isolation pads are supplied with UC80EHS ~ 120EHS. So place the pads on a wooden base or a concrete base as shown on the right, and then place the air conditioner on them.

(Unit: mm)

Model	A	B	C	D
UC80EHS	3080	1500	993	–
UC100EHS	3730	1690	1210	805
UC120EHS	4080	1690	1327	805

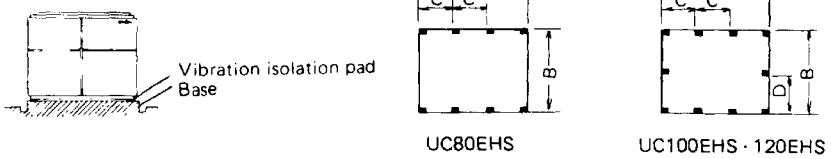
- Lay field wiring in accordance with local regulations. The grounding terminal is provided as shown on the right.

(Unit: mm)

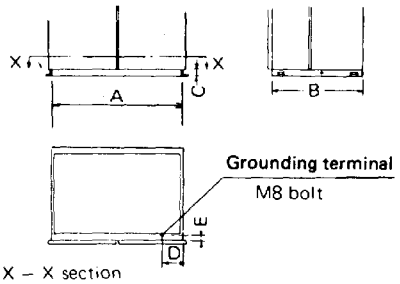
Model	A	B	C	D	E
UC80EHS	3080	1500	100	280	25
UC100EHS	3730	1690	100	280	25
UC120EHS	4080	1690	100	280	25

In case of UCP3JA ~ UC60J, refer to "Dimensions".

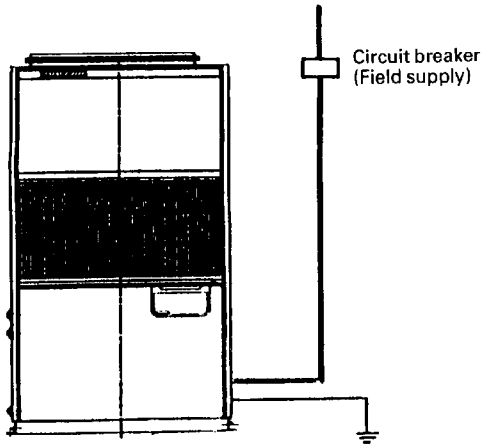
UC80EHS ~ UC120EHS



UC80EHS ~ UC120EHS



14. Wiring connection



UCP3JA,UCP5~10J
UC15~60J
UC80~120EHS

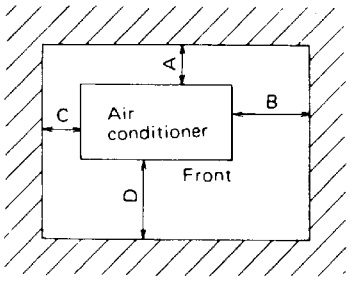
Notes:
1. All wiring components and materials to be procured on the site must comply with the applicable local and national codes.
2. Use copper conductors only.
3. As for details, see wiring diagram.
4. Install circuit breaker for safety.
5. All field wiring and components must be provided by licensed electrician.
6. Unit shall be grounded in compliance with the applicable local and national codes.
7. Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.

Line voltage
24 volt line

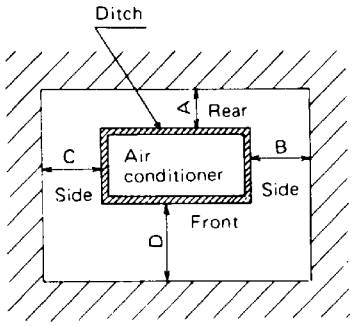
15. Service space

- Install the unit in a dry place which is strong enough to support its weight. If installation position is not suitable, it may cause noise, vibration and damage.
- For ease of drain, use a wooden base or make a concrete base higher than the floor level.
- In case of the air conditioners larger than UC50J, provide a ditch around the base.
- Do not install the unit where it is exposed to flammable materials.
- Leave sufficient space around the unit as shown on the right.
- Measurements tabulated on the right are based on right-hand piping. In case of left-hand piping, reverse measurements in B and C columns.

UCP3JA ~ UC40J



UC50J ~ UC120EHS



(Unit: mm)

Model	A	B	C	D
UCP3JA	Min. 100	Min. 500	Min. 100	Min. 900
UCP5J	100	500	100	900
UCP8J	100	500	100	900
UCP10J	100	500	100	900
UC15J	100	500	100	900
UC20J	100	500	100	900
UC25J	600	600	600	1000
UC30J	600	600	600	1000
UC40J	600	600	600	1000
UC50J	600	600	600	1200
UC60J	600	600	600	1200
UC80EHS	600	1800	600	1200
UC100EHS	600	1800	600	1200
UC120EHS	600	1800	600	1200

Appendix-1

Anti-corrosion

Usage: In case A/C units are installed in corrosive area, corrosion of fins or casing will affect the performance and life time of that A/C units.
Following models have stronger resistance against corrosion than standard models.
We recomend to use following models in case A/C units are installed in the location as attached. (See Fig.1 & Fig.2)

	Applicable model
Anti-corrosion "E" type (see Fig.1)	R71BBY1, R100BBY1, RU05JY1, RU07JY1, RU08JY1, RU10JY1, RU11JY1, RU16JY1, RU22JY1, UAT05JY1, UAT06JY1, UAT09JY1, UAT10JY1, UAT12JY1, UAT14JY1, UAT16JY1, UAT19JY1, UAT22JY1
Anti-corrosion "E1" type (see Fig.1)	CR3MAYE, CR5MAYE, CR8MYE, CR10MYE, CR8M2YE, CR10M2YE, CR12JA2YE, CR15JA2YE, CR20JA2YE CRY3MAYE, CRY5MAYE, CRY8MYE, CRY10MYE, CRY8M2YE, CRY10M2YE, CRY12JA2YE, CRY15JA2YE, CRY20JA2YE, CRY25J50YE RY6LY1, RY8LY1, RY10LY1
Anti-corrosion "E2" type (see Fig.2)	R71BBY1, R100BBY1, RU05JY1, RU07JY1, RU08JY1, RU10JY1, RU11JY1, RU16JY1, RU22JY1 RY6LY1, RY8LY1, RY10LY1 UAT05JY1, UAT06JY1, UAT09JY1, UAT10JY1, UAT12JY1, UAT14JY1, UAT16JY1, UAT19JY1, UAT22JY1 CR3MAYE, CR5MAYE, CR8MYE, CR10MYE, CR8M2YE, CR10M2YE, CR12JA2YE, CR15JA2YE, CR20JA2YE CRY3MAYE, CRY5MAYE, CRY8MYE, CRY10MYE, CRY8M2YE, CRY10M2YE, CRY12JA2YE, CRY15JA2YE, CRY20JA2YE, CRY25J50YE

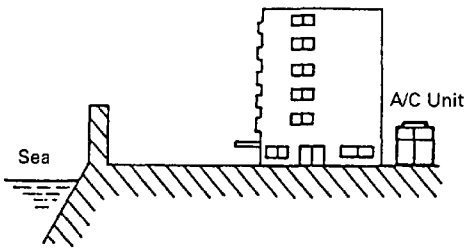


Fig.1 "E" or "E1"

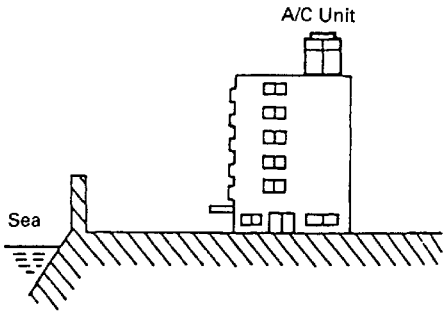


Fig.2 "E2"

Even though Anti-corrosion models have stronger resistance against corrosion, it is necessary to pay attention to following points.
Please be sure to explain these points to customer.

≪Notes for designing≫

① A/C units should be installed leeward side of buildings. (See Fig.1)
② Be sure to make wind screen to prevent salty air will touch A/C units directly, in case A/C units are installed on the shore.
③ Smooth drainage is required for installation place.

≪Notes for maintenance works≫

① Apply grease or wax to the A/C unit every 3 months.
② Cover the A/C unit with waterproof hood during prolonged idle period.
③ Paint the casing of the A/C unit with Non yellowing polyurethane resin paint at site, in case the A/C unit will be installed on the shore.

Specifications

	Standard model	Anti-corrosion model "E" or "E1"	Anti-corrosion model "E2"
Outer plate (Casing)	Paintable Galvanized Steel Plate + Polyester resin powder paint 40 μ	Paintable Galvanized Steel Plate + Anti-corrosion Polyester resin powder paint 80 μ	Paintable Galvanized Steel Plate + High build Epoxy resin Zinc rich primer + Epoxy resin paint pigmented by micaceous iron oxide 150 μ
Heat exchanger (Cross fin coil)	Copper tube + Pre-coated Alminum fin (PE fin)	Copper tube + Pre-coated Alminum fin (PE fin)	Copper tube + Pre-coated Alminum fin (PE fin)
NOTE ②	Copper tube + Alminum fin	Copper tube + Pre-coated Alminum fin	Copper tube + Pre-coated Alminum fin
Heat exchanger (Tube plate)	Paintable Galvanized Steel Plate + Polyester resin powder paint 40 μ	Paintable Galvanized Steel Plate + Anticorrosion Polyester resin paint 80 μ	Paintable Galvanized Steel Plate + High build epoxy resin Zinc rich primer + Epoxy resin paint pigmented by micaceous iron oxide 150 μ
Fan (Fan blade)	Alminum or ASG resin	Alminum + Anticorrosion treatment 30 μ or ASG resin	Alminum + Polyurethane 30 μ + Anticorrosion treatment 30 μ or ASG resin
Screws	SUS304 or Galvanized steel	SUS304 (or SUS410) + Dacrotized treatment + Anticorrosion treatment 30 μ	SUS410 + Dacrotized treatment + Anticorrosion treatment 30 μ

NOTE:

① Specification may change without prior notice.

② This specification is only for CR(Y) series.

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