Manual No. '14・KX-DB-199

MHI

DATA BOOK

VRF INVERTER MULTI-SYSTEM AIR-CONDITIONERS

KXZW Heat source units

Water cooled series

- **Single use (Used also for combination)**
  FDC224KXZWE1, 280KXZWE1, 335KXZWE1
- **Combination use**
  FDC450KXZWE1, 500KXZWE1, 560KXZWE1, 615KXZWE1, 670KXZWE1, 730KXZWE1, 775KXZWE1, 850KXZWE1, 900KXZWE1, 950KXZWE1, 1000KXZWE1

・Note:
(1) Regarding the indoor unit series, refer to the No.'14・KX-DB-206.
(2) Regarding the Duct Connected-High static Pressure-type Outdoor Air Processing Unit Series (FDU500～1800FKXE6), refer to the DATA BOOK No. '08・KX-DB-122.

MITSUBISHI HEAVY INDUSTRIES, LTD.

CONTENTS

1. GENERAL INFORMATION

1.1 Specific features

NEW WATER COOLED VRF KXZW

FDC224-1000KXZWE1

Application Features

Suitable application to ・・・

1. High-rise Building

- 50m < FDC> , -100m <FDCH>
- 100m or higher in height < FDCW>

2. Glass-exterior facade Building

- Possible to hide KXZW units and to keep fine sight

Special Features

1. High efficiency (EER/COP)

- Energy saving ⇒ Reduction of operation cost !

2. Compact design

- Easy transportation and installation
- Elevator carrying

3. BMS (Building Management System)

- Can use the same BMS as air-cooled KX
- Available to large-scale and fine control

4. Serviceability & Maintenance

- Service and maintenance of main parts can be done from the front side only
- Useful service tools (Mente-PC, SL-Checker etc.)

Specifications

High efficiency & Compact design

- Cooling EER : 4.1 or higher (Max.5.3)
- Unit Size : H1100×W780×D550 (185kg)

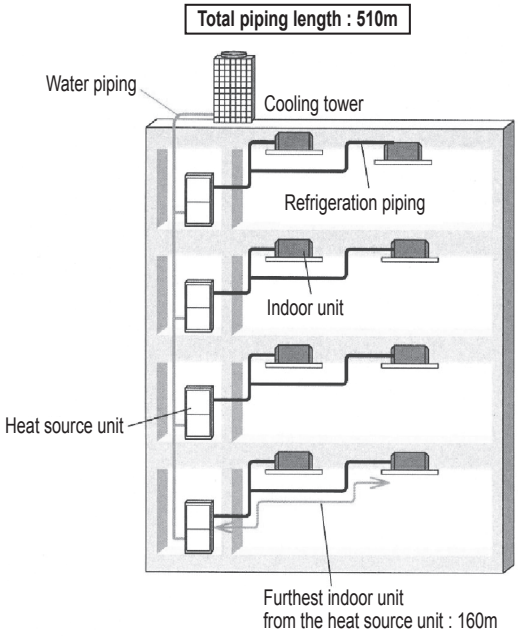
Nominal horse power			8HP	10HP	12HP	16HP	18HP	20HP	22HP	24HP	26HP	28HP	30HP	32HP	34HP	36HP
Power source			3 phase 380–415V 50Hz													
Capacity	Cooling	kW	22.4	28.0	33.5	45.0	50.0	56.0	61.5	67.0	73.0	77.5	85.0	90.0	95.0	100
	Heating	kW	25.0	31.5	37.5	50.0	56.0	63.0	69.0	75.0	82.5	90.0	95.0	100	106	112
Power Consumption	Cooling	kW	4.23	5.75	8.13	8.49	9.83	11.5	13.7	16.3	14.2	15.5	17.5	19.5	21.7	24.3
	Heating	kW	4.24	5.10	6.30	8.47	9.27	10.2	11.4	12.6	13.8	14.8	15.4	16.4	17.6	18.8
EER	Cooling		5.3	4.9	4.1	5.3	5.1	4.9	4.5	4.1	5.1	5.0	4.9	4.6	4.4	4.1
COP	Heating		5.9	6.2	6.0	5.9	6.0	6.2	6.1	6.0	6.0	6.1	6.2	6.1	6.0	6.0
Size H x W x D		mm	1100×780×550			(1100×780×550)×2units					(1100×780×550)×3units					
Sound pressure level		dB(A)	48	50	52	51	52	53	54	55	54	54	55	56	56	57
Weight		kg	185			185+185					185+185+185					

The data based on the rating condition:
Cooling: Indoor temp. of 27°C DB, 19°C WB, and heat source unit inlet water temp. of 30°C, water flow rate 96L/min
Heating: Indoor temp. of 20°C DB, 15°C WB, and heat source unit inlet water temp. of 20°C, water flow rate 96L/min

Refrigerant piping limitation

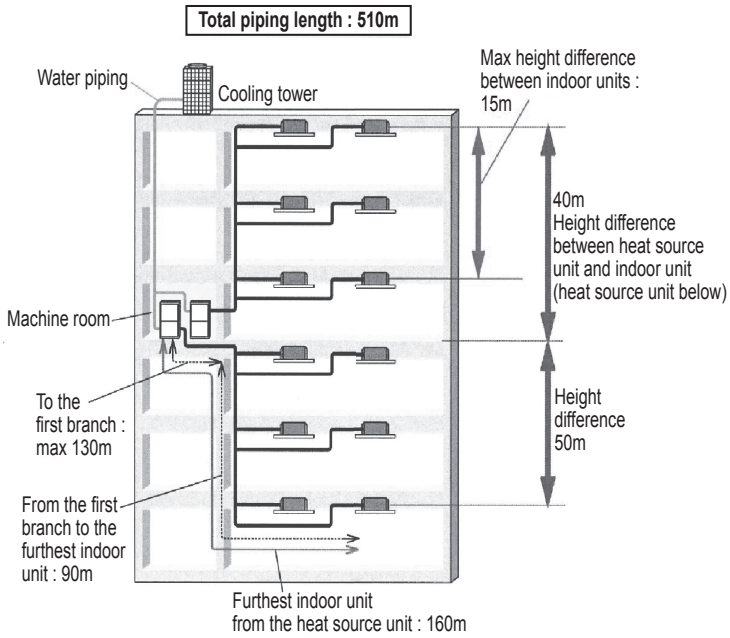
Case 1; Every story Installation

Heat source units on every floor
- New building projects -

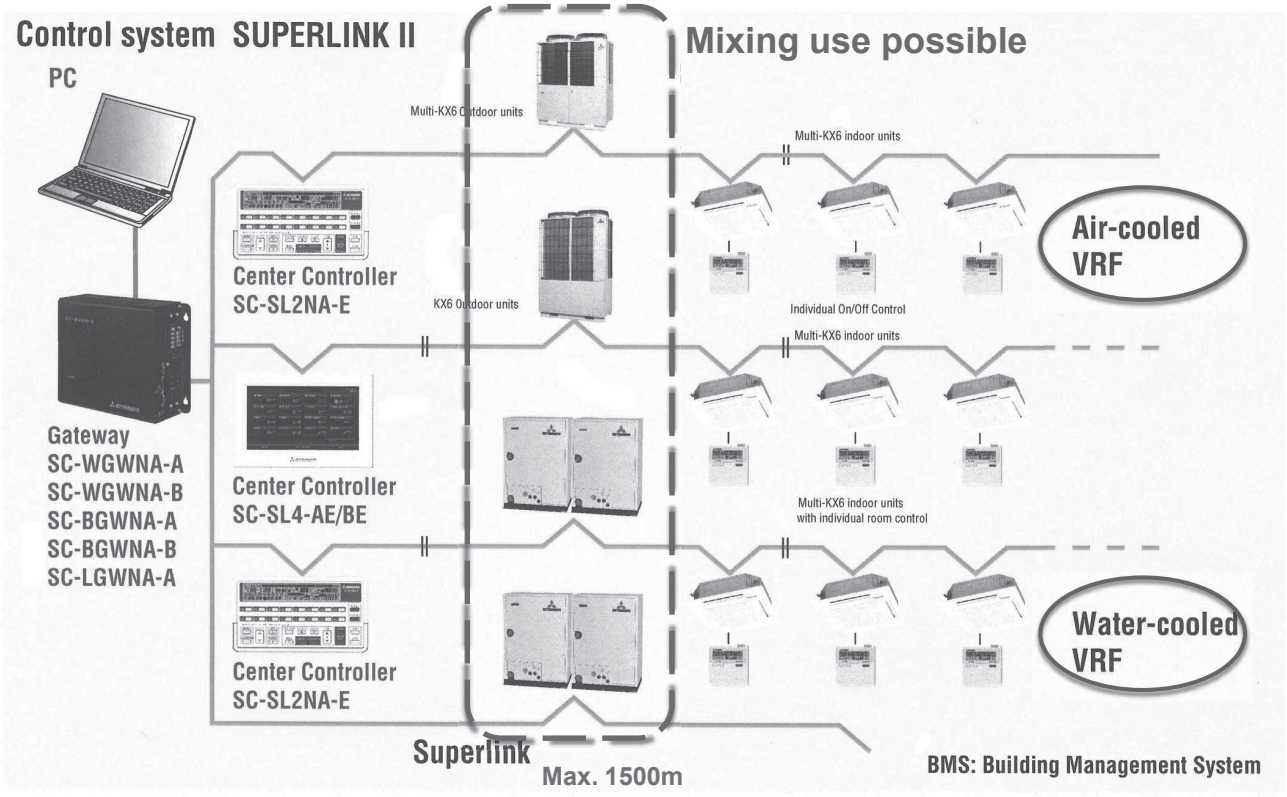


Case 2; Machine room Installation

Heat source units in the machine room
- Renovation projects -



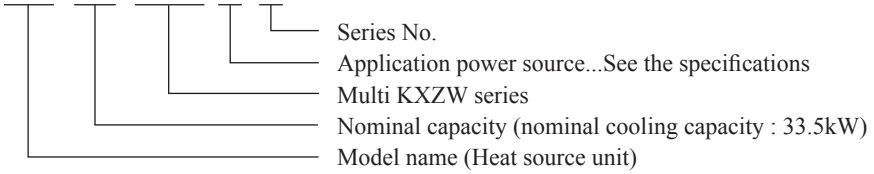
BMS



1.2 How to read the model name

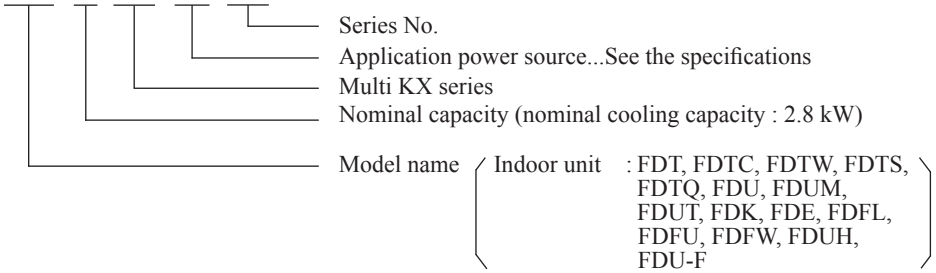
(1) Heat source unit

Example: FDC 335 KXZW E 1



(2) Indoor unit

Example: FDT 28 KX E 6F



1.3 Table of indoor unit models

Model \ Capacity	15	22	28	36	45	56	71	90	112	140	160	224	280
Ceiling cassette-4 way type (FDT)			○	○	○	○	○	○	○	○	○		
Ceiling cassette-4 way compact type (FDTC)	○	○	○	○	○	○							
Ceiling cassette-2 way type (FDTW)			○		○	○	○	○	○	○			
Ceiling cassette-1 way type (FDTS)					○		○						
Ceiling cassette-1 way compact type (FDTQ)		○	○	○									
Duct connected-High static pressure type (FDU)					○	○	○	○	○	○	○	○	○
Duct connected-Low/Middle static preessure type (FDUM)		○	○	○	○	○	○	○	○	○	○		
Duct connected (thin)-Low static preessure type (FDUT)	○	○	○	○	○	○	○						
Wall mounted type (FDK)		○	○	○	○	○	○						
Ceiling suspended type (FDE)				○	○	○	○		○	○			
Floor standing (with casing) type (FDFL)							○						
Floor standing (without casing) type (FDFU)			○		○	○	○						
Floor standing-2 way type (FDFW)			○		○	○							
Duct connected-compact and Flexible type (FDUH)		○	○	○									
Outdoor air processing unit (FDU-F) (2)								○ (500)		○ (850)		○ (1300)	○ (1800)

Note (1) Reference No. of data book : '14·KX-DB-206
(2) Reference No. of data book : '08·KX-DB-122

1.4 Heat source units combination table

(a) Models FDC224, 280, 335KXZWE1 (Single unit)

Item / Models	Indoor unit	
	Connectable (1) capacity	Number of connectable units
FDC224KXZWE1	112 - 336	1 to 22 units
FDC280KXZWE1	140 - 420	1 to 28 units
FDC335KXZWE1	167 - 503	1 to 33 units

Note (1) When connecting the indoor unit type FDK, FDFL, FDFU or FDFW series, limit the connectable capacity not higher tan 130%.

(b) Models FDC450, 500, 560, 615, 670KXZWE1 (2-heat source units combination)

Item / Models	Combination heat source unit models			Indoor unit	
	FDC224KXZWE1	FDC280KXZWE1	FDC335KXZWE1	Connectable (1) capacity	Number of connectable units
FDC450KXZWE1	2			224 - 672	1 to 44 units
FDC500KXZWE1	1	1		252 - 756	1 to 50 units
FDC560KXZWE1		2		280 - 840	1 to 56 units
FDC615KXZWE1		1	1	307 - 923	2 to 61 units
FDC670KXZWE1			2	335 - 1005	2 to 67 units

Note (1) When connecting the indoor unit type FDK, FDFL, FDFU or FDFW series, limit the connectable capacity not higher tan 130%.

(c) Models FDC730, 775, 850, 900, 950, 1000KXZWE1 (3-heat source units combination)

Item / Models	Combination heat source unit models			Indoor unit	
	FDC224KXZWE1	FDC280KXZWE1	FDC335KXZWE1	Connectable (1) capacity	Number of connectable units
FDC730KXZWE1	2	1		364 - 1092	2 to 72 units
FDC775KXZWE1	1	2		392 - 1176	2 to 78 units
FDC850KXZWE1		3		420 - 1275	2 to 80 units
FDC900KXZWE1		2	1	447 - 1343	2 to 80 units
FDC950KXZWE1		1	2	475 - 1425	2 to 80 units
FDC1000KXZWE1			3	502 - 1508	2 to 80 units

Note (1) When connecting the indoor unit type FDK, FDFL, FDFU or FDFW series, limit the connectable capacity not higher tan 130%.

(d) Heat source unit side branching pipe set (Option)

Heat source unit	Branching pipe set
For 2-units (for FDC450 - 670KXZWE1)	DOS-2A-3
For 3-units (for FDC730 - 1000KXZWE1)	DOS-3A-3

(e) Branching pipe set (Option)

Total capacity downstream	Branching pipe set
Less than 180	DIS-22-1G
180 or more but less than 371	DIS-180-1G
371 or more but less than 540	DIS-371-1G
540 or more	DIS-540-3

(f) Header pipe set (Option)

Total capacity downstream	Header pipe set	Number of branches
Less than 180	HEAD4-22-1G	4 branches at the most
180 or more but less than 371	HEAD6-180-1G	6 branches at the most
371 or more but less than 540	HEAD8-371-2	8 branches at the most
540 or more	HEAD8-540-3	8 branches at the most

Models			FDC224KXZWE1	FDC280KXZWE1	FDC335KXZWE1	FDC450KXZWE1	FDC500KXZWE1	FDC560KXZWE1	FDC615KXZWE1	FDC670KXZWE1
Combination unit			-	-	-	FDC224KXZWE1	FDC224KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC335KXZWE1
			-	-	-	FDC224KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC335KXZWE1	FDC335KXZWE1
			-	-	-	-	-	-	-	-
Nominal cooling capacity *1		kW	22.4	28.0	33.5	45.0	50.0	56.0	61.5	67.0
Nominal heating capacity *2		kW	25.0	31.5	37.5	50.0	56.0	63.0	69.0	75.0
Power source			3 Phase 380-415V 50Hz							
Power consumption	Cooling	kW	4.23	5.75	8.13	8.49	9.83	11.5	13.7	16.3
	Heating	kW	4.24	5.10	6.30	8.47	9.27	10.2	11.4	12.6
Running current	Cooling	A	7.14／6.46	9.64／8.72	13.4／12.1	14.3／13.1	16.5／15.1	19.3／17.7	22.7／20.8	26.8／24.5
	Heating	A	7.13／6.45	8.59／7.77	10.5／9.52	14.3／13.1	15.6／14.3	17.2／15.7	19.1／17.5	21.0／19.2
Power factor	Cooling	%	90	91	92	90	90	91	91	92
	Heating	%	90	90	91	90	90	90	91	91
Sound pressure level		dB	48	50	52	51	52	53	54	55
Exterior dimensions Height × Width × Depth		mm	1100×780×550			(1100×780×550)×2				
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5／1.16 near equivalent)							
Net weight		kg	185			185×2				
Refrigerant equipment compressor type & Q'ty			GTC5150NH48L × 1			GTC5150NH48L × 2				
Starting method			Direct line starting							
Shock & vibration absorber			Rubber mount (for compressor)							
Capacity control		%	15-100	13-100	11-100	8-100	7-100	6-100	6-100	5-100
Crankcase heater		W	33			33×2				
Refrigerant equipment Heat exchanger			Plate heat exchanger							
Refrigerant control			Electronic expansion valve							
Refrigerant	Name		R410A							
	Quantity	kg	9.9			9.9×2				
Refrigerant oil	Name		M-MA32R							
	Quantity	L	2.2			2.2×2				
Safety equipment			Compressor overheat protection ／ Overcurrent protection ／ Power transistor overheating protection ／ Abnormal high pressure protection							
Refrigerant piping size	Liquid line	mm	φ9.52			φ12.7				
	High／low gas line	mm	φ19.05	φ22.22	φ25.4 (φ22.22)	φ28.58				
	Oil equalization line	mm	-	-	-	φ9.52				
Connecting method			Gas line：Flange ／ Liquid line：Flare							
MAX. pressure		MPa	High：4.15 Low：2.21							
Water piping size	Water inlet		R1 1/4							
	Water outlet		R1 1/4							
	Drain outlet		Rp 1/2 (internal thread)							
Insulation for piping			Necessary (both Liquid & Gas lines)							

※ Heat rejection from the casing : 0.7kW／unit

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

Item / Operation	Indoor air temperature		Inlet water conditions	
	DB	WB	temperature	flow rate
Cooling *1	27℃	19℃	30℃	96 L／min
Heating *2	20℃	-	20℃	96 L／min

(2) Refrigerant piping size applicable to European installations are shown in parentheses.

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Models			FDC730KXZWE1	FDC775KXZWE1	FDC850KXZWE1	FDC900KXZWE1	FDC950KXZWE1	FDC1000KXZWE1
Combination unit			FDC224KXZWE1	FDC224KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC335KXZWE1
			FDC224KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC335KXZWE1	FDC335KXZWE1
			FDC280KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC335KXZWE1	FDC335KXZWE1	FDC335KXZWE1
Nominal cooling capacity *1		kW	73.0	77.5	85.0	90.0	95.0	100
Nominal heating capacity *2			82.5	90.0	95.0	100	106	112
Power source			3 Phase 380-415V 50Hz					
Power consumption	Cooling	kW	14.2	15.5	17.5	19.5	21.7	24.3
	Heating		13.8	14.8	15.4	16.4	17.6	18.8
Running current	Cooling	A	23.8／21.8	26.0／23.8	29.3／26.8	32.5／29.7	36.0／33.0	40.0／36.6
	Heating		23.2／21.3	24.9／22.8	25.9／23.7	27.5／25.2	29.4／26.9	31.4／28.7
Power factor	Cooling	%	90	90	91	91	92	92
	Heating		90	90	90	91	91	91
Sound pressure level		dB	54	54	55	56	56	57
Exterior dimensions Height × Width × Depth		mm	(1100×780×550) × 3					
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5／1.16 near equivalent)					
Net weight		kg	185×3					
Refrigerant equipment compressor type & Q'ty			GTC5150NH48L × 3					
Starting method			Direct line starting					
Shock & vibration absorber			Rubber mount (for compressor)					
Capacity control		%	5-100	5-100	4-100	4-100	4-100	4-100
Crankcase heater		W	33×3					
Refrigerant equipment Heat exchanger			Plate heat exchanger					
Refrigerant control			Electronic expansion valve					
Refrigerant	Name		R410A					
	Quantity	kg	9.9×3					
Refrigerant oil	Name		M-MA32R					
	Quantity	L	2.2×3					
Safety equipment			Compressor overheat protection ／ Overcurrent protection ／ Power transistor overheating protection ／ Abnormal high pressure protection					
Refrigerant piping size	Liquid line	mm	φ15.88					
	High／low gas line		φ31.75 (φ34.92)					φ38.1 (φ34.92)
	Oil equalization line		φ9.52					
Connecting method			Gas line：Flange ／ Liquid line：Flare					
MAX. pressure		MPa	High：4.15 Low：2.21					
Water piping size	Water inlet		R1 1/4					
	Water outlet		R1 1/4					
	Drain outlet		Rp 1/2 (internal thread)					
Insulation for piping			Necessary (both Liquid & Gas lines)					

※ Heat rejection from the casing : 0.7kW／unit

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

Item / Operation	Indoor air temperature		Inlet water conditions	
	DB	WB	temperature	flow rate
Cooling *1	27℃	19℃	30℃	96 L／min
Heating *2	20℃	-	20℃	96 L／min

(2) Refrigerant piping size applicable to European installations are shown in parentheses.

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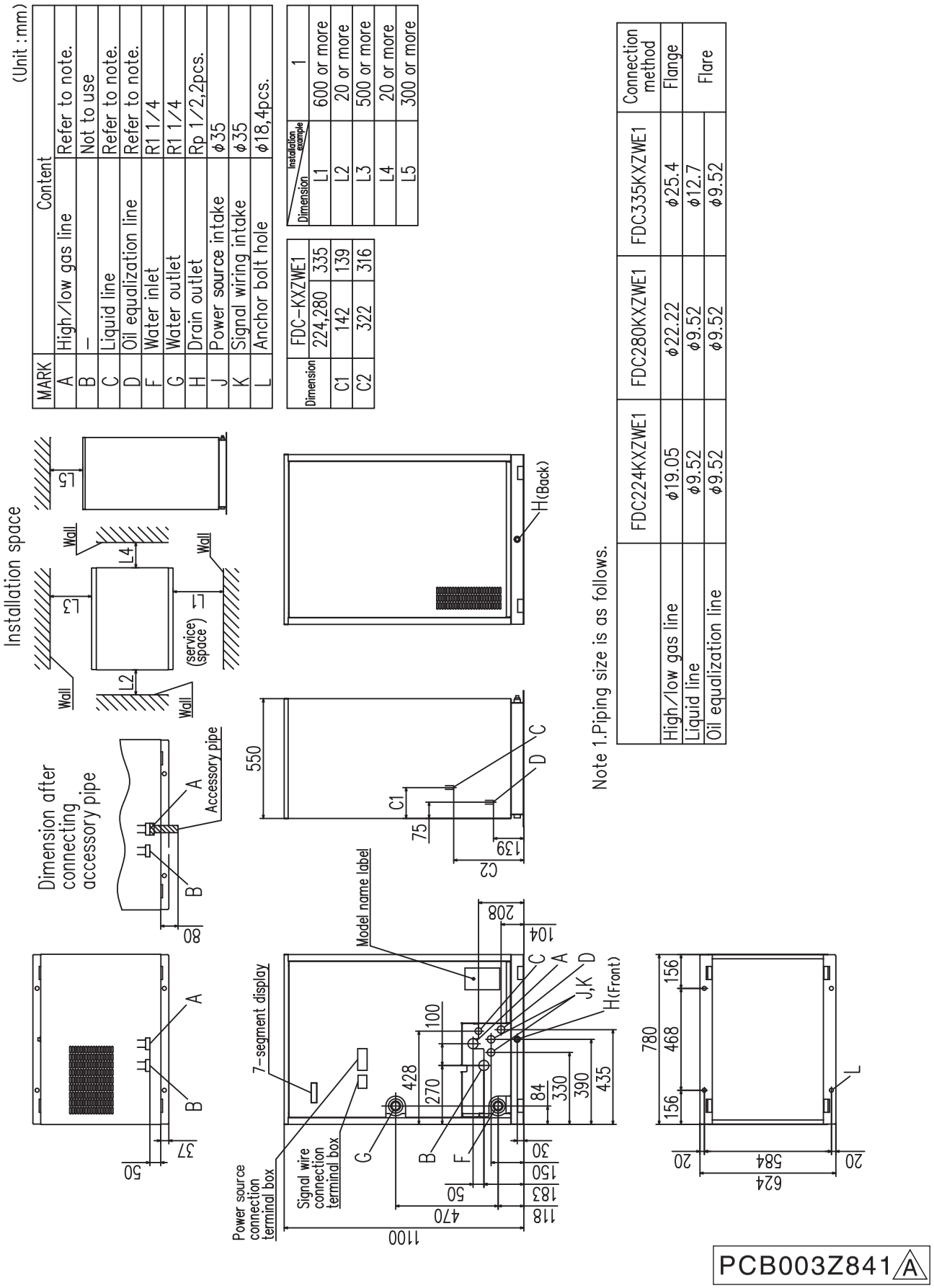
2.2 Exterior dimensions

Models FDC224KXZWE1, 280KXZWE1, 335KXZWE1



MARK	Content	
A	High/low gas line	Refer to note.
B	–	Not to use
C	Liquid line	Refer to note.
D	Oil equalization line	Refer to note.
F	Water inlet	R1 1/4
G	Water outlet	R1 1/4
H	Drain outlet	Rp 1/2,2pcs.
J	Power source intake	ϕ35
K	Signal wiring intake	ϕ35
L	Anchor bolt hole	ϕ18,4pcs.

Dimension	FDC-KXZWE1	
	224,280	335
C1	142	139
C2	322	316

Dimension \ Installation example	1
L1	600 or more
L2	20 or more
L3	500 or more
L4	20 or more
L5	300 or more

Note 1.Piping size is as follows.

	FDC224KXZWE1	FDC280KXZWE1	FDC335KXZWE1	Connection method
High/low gas line	ϕ19.05	ϕ22.22	ϕ25.4	Flange
Liquid line	ϕ9.52	ϕ9.52	ϕ12.7	Flare
Oil equalization line	ϕ9.52	ϕ9.52	ϕ9.52	

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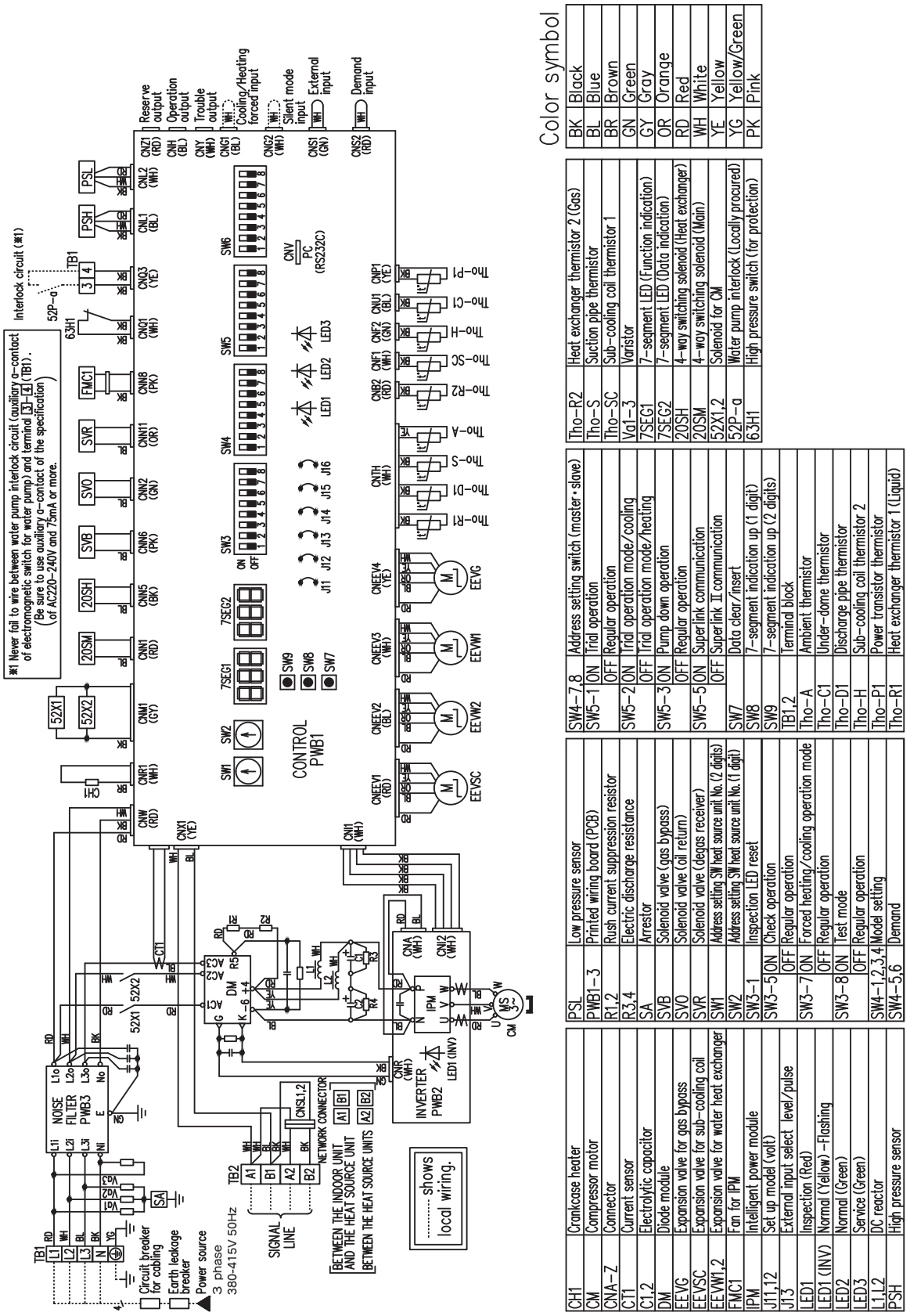
2.3 Electrical wiring

Models FDC224KXZWE1, 280KXZWE1, 335KXZWE1



CH1	Crankcase heater	PSL	Low pressure sensor	SW4-7,8	Address setting switch (master・slave)	Tho-R2	Heat exchanger thermistor 2 (Gas)
CM	Compressor motor	PWB1-3	Printed wiring board (PCB)	SW5-1 ON	Trial operation	Tho-S	Suction pipe thermistor
CNA-Z	Connector	R1,2	Rush current suppression resistor	OFF	Regular operation	Tho-SC	Sub-cooling coil thermistor 1
CT1	Current sensor	R3,4	Electric discharge resistance	SW5-2 ON	Trial operation mode/cooling	Vα1-3	Varistor
C1,2	Electrolytic capacitor	SA	Arrestor	OFF	Trial operation mode/heating	7SEG1	7-segment LED (Function indication)
DM	Diode module	SVB	Solenoid valve (gas bypass)	SW5-3 ON	Pump down operation	7SEG2	7-segment LED (Data indication)
EEVG	Expansion valve for gas bypass	SVO	Solenoid valve (oil return)	OFF	Regular operation	20SH	4-way switching solenoid (Heat exchanger)
EEVSC	Expansion valve for sub-cooling coil	SVR	Solenoid valve (degas receiver)	SW5-5 ON	Superlink communication	20SM	4-way switching solenoid (Main)
EEVW1,2	Expansion valve for water heat exchanger	SW1	Address setting SW heat source unit No. (2 digits)	OFF	Superlink II communication	52X1,2	Solenoid for CM
FMC1	Fan for IPM	SW2	Address setting SW heat source unit No. (1 digit)	SW7	Data clear/insert	52P-α	Water pump interlock (Locally procured)
IPM	Intelligent power module	SW3-1	Inspection LED reset	SW8	7-segment indication up (1 digit)	63H1	High pressure switch (for protection)
J11,12	Set up model (volt)	SW3-5 ON	Check operation	SW9	7-segment indication up (2 digits)		
J13	External input select level/pulse	OFF	Regular operation	TB1,2	Terminal block		
LED1	Inspection (Red)	SW3-7 ON	Forced heating/cooling operation mode	Tho-A	Ambient thermistor		
LED1 (INV)	Normal (Yellow) -Flashing	OFF	Regular operation	Tho-C1	Under-dome thermistor		
LED2	Normal (Green)	SW3-8 ON	Test mode	Tho-D1	Discharge pipe thermistor		
LED3	Service (Green)	OFF	Regular operation	Tho-H	Sub-cooling coil thermistor 2		
L1,L2	DC reactor	SW4-1,2,3,4	Model setting	Tho-P1	Power transistor thermistor		
PSH	High pressure sensor	SW4-5,6	Demand	Tho-R1	Heat exchanger thermistor 1 (Liquid)		

Color symbol

BK	Black
BL	Blue
BR	Brown
GN	Green
GY	Gray
OR	Orange
RD	Red
WH	White
YE	Yellow
YG	Yellow/Green
PK	Pink

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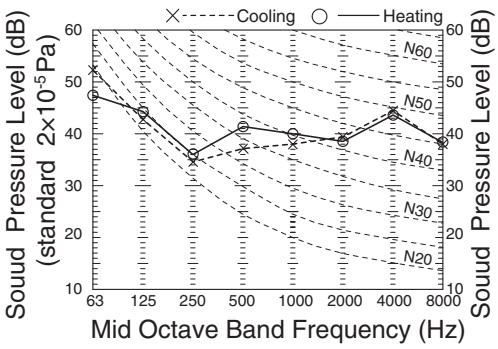
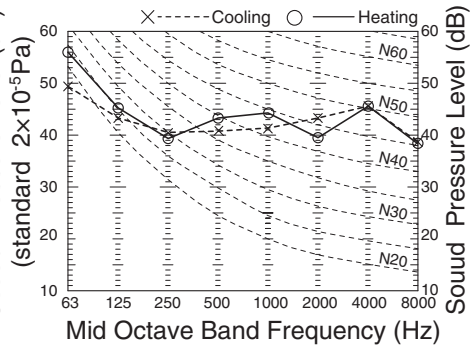
2.4 Noise level

Measured based on JIS B 8616
Mike position as highest noise level in position as below
Distance from front side 1m
Height 1m

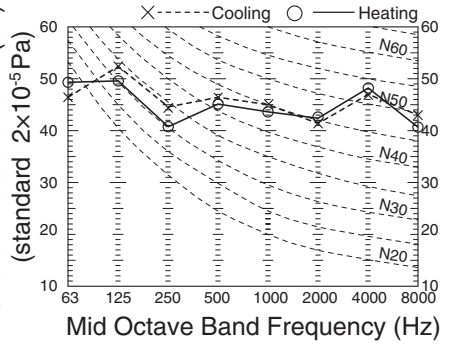
Model FDC224KXZWE1
Noise level 48 dB (A) at cooling
48 dB (A) at heating



Model FDC280KXZWE1
Noise level 50 dB (A) at cooling
50 dB (A) at heating



Model FDC335KXZWE1
Noise level 52 dB (A) at cooling
52 dB (A) at heating

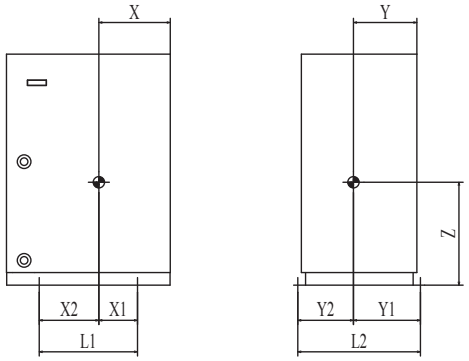


2.5 Vibration-proof design data

(1) Quake-resistance data

Item / Heat source unit	Dimension H x W x D (mm)	Weight (kg)	Center-of-gravity position (mm)(1)								
			Width direction				Depth direction				Height
			X	X1	X2	L1	Y	Y1	Y2	L2	Z
FDC224KXZWE1 FDC280KXZWE1 FDC335KXZWE1	1100x780x550	185	340	184	284	468	302	319	265	584	490

Note (1) The dimensions of L1 (X1, X2), L2 (Y1, Y2) show the positions of the anchor bolts.



(2) Vibration-proofing data

Heat source unit	Compressor speed (min-1)
FDC224KXZWE1	4800
FDC280KXZWE1	6000
FDC335KXZWE1	7200

2.6 Capacity characteristic

(1) Capacity tables

(a) Cooling mode

Model FDC224KXZWE1

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																				
			21℃DB 14℃WB			23℃DB 16℃WB			26℃DB 18℃WB			27℃DB 19℃WB			28℃DB 20℃WB			31℃DB 22℃WB			33℃DB 24℃WB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
150%	20	50	19.4	2.46	26.2	23.1	3.31	27.5	25.6	3.69	28.3	26.2	3.71	28.5	26.6	3.72	28.6	28.3	3.76	29.1	30.2	3.79	29.7
		75	19.4	2.27	24.1	23.1	2.99	24.9	26.1	3.45	25.6	26.7	3.46	25.7	27.1	3.47	25.8	29.0	3.46	26.2	30.9	3.46	26.5
		96	19.5	2.19	23.2	23.1	2.87	23.8	26.3	3.35	24.4	26.7	3.38	24.5	27.4	3.35	24.6	29.3	3.33	24.8	31.2	3.31	25.1
		125	19.5	2.12	22.5	23.1	2.78	23.0	26.4	3.27	23.4	26.7	3.26	23.4	27.6	3.25	23.5	29.5	3.23	23.7	31.5	3.18	24.0
		150	19.5	2.09	22.1	23.1	2.74	22.5	26.5	3.22	22.8	26.8	3.22	22.8	27.7	3.20	22.9	29.6	3.16	23.1	31.6	3.11	23.3
	25	50	19.3	3.08	31.4	23.0	4.06	32.7	24.6	4.16	33.2	25.2	4.19	33.4	25.8	4.22	33.5	27.5	4.30	34.1	28.8	4.35	34.4
		75	19.4	2.90	29.2	23.0	3.74	30.1	25.1	3.95	30.5	25.7	3.97	30.6	26.0	3.95	30.7	27.8	4.00	31.0	29.5	4.07	31.4
		96	19.4	2.79	28.3	23.0	3.62	28.9	25.3	3.87	29.3	25.9	3.88	29.4	26.2	3.89	29.5	28.0	3.92	29.7	29.8	3.94	30.0
		125	19.4	2.74	27.5	23.0	3.51	28.0	25.4	3.79	28.3	26.1	3.80	28.4	26.4	3.80	28.4	28.2	3.82	28.6	30.1	3.83	28.9
		150	19.4	2.68	27.1	23.0	3.46	27.5	25.5	3.75	27.8	26.1	3.76	27.8	26.5	3.76	27.9	28.3	3.77	28.0	30.2	3.77	28.2
	30	50	19.2	3.71	36.5	22.0	4.44	37.5	23.6	4.58	38.0	24.2	4.63	38.2	24.7	4.67	38.4	26.4	4.78	38.9	27.4	4.84	39.2
		75	19.2	3.49	34.3	22.3	4.30	35.1	24.0	4.41	35.4	24.6	4.44	35.5	25.2	4.47	35.6	27.0	4.56	36.0	28.1	4.61	36.2
		96	19.3	3.43	33.4	22.5	4.23	34.0	24.2	4.33	34.2	24.8	4.36	34.3	25.4	4.39	34.4	27.2	4.46	34.7	28.4	4.50	34.9
		125	19.3	3.35	32.6	22.6	4.19	33.1	24.4	4.27	33.3	25.0	4.29	33.3	25.5	4.32	33.4	27.4	4.38	33.6	28.7	4.41	33.8
		150	19.3	3.30	32.1	22.7	4.15	32.6	24.5	4.23	32.7	25.0	4.26	32.8	25.7	4.28	32.8	27.5	4.33	33.0	28.8	4.35	33.2
	35	50	19.1	4.38	41.7	21.0	4.86	42.3	22.5	4.96	42.8	23.1	5.01	43.0	23.6	5.07	43.2	25.3	5.22	43.7	26.4	5.32	44.0
		75	19.1	4.15	39.4	21.3	4.69	39.9	23.0	4.81	40.3	23.5	4.86	40.4	24.1	4.90	40.5	25.8	5.03	40.9	27.0	5.12	41.1
		96	19.1	4.04	38.4	21.5	4.62	38.9	23.1	4.75	39.1	23.7	4.79	39.2	24.3	4.84	39.3	26.0	4.95	39.6	27.1	5.04	39.8
		125	19.1	3.97	37.6	21.6	4.57	38.0	23.3	4.69	38.2	23.9	4.73	38.3	24.4	4.78	38.3	26.2	4.88	38.5	27.2	4.93	38.7
		150	19.1	3.92	37.2	21.7	4.54	37.5	23.4	4.67	37.7	23.9	4.71	37.7	24.5	4.74	37.8	26.3	4.84	38.0	27.3	4.88	38.1
140%	20	50	18.2	2.22	25.8	21.7	2.97	27.0	25.1	3.67	28.2	25.5	3.68	28.3	26.3	3.71	28.5	28.0	3.75	29.0	29.9	3.79	29.6
		75	18.2	2.04	23.8	21.7	2.73	24.6	25.6	3.45	25.5	26.0	3.45	25.6	26.9	3.46	25.8	28.7	3.46	26.1	30.6	3.46	26.5
		96	18.3	2.00	23.0	21.7	2.61	23.6	25.7	3.35	24.3	26.2	3.35	24.4	27.1	3.35	24.5	29.0	3.34	24.8	30.9	3.31	25.1
		125	18.3	1.94	22.3	21.7	2.53	22.8	25.7	3.27	23.3	26.4	3.26	23.4	27.3	3.26	23.5	29.2	3.23	23.7	31.2	3.18	23.9
		150	18.3	1.89	21.9	21.7	2.47	22.3	25.7	3.24	22.7	26.5	3.21	22.8	27.4	3.20	22.9	29.3	3.17	23.1	31.3	3.12	23.3
	25	50	18.1	2.79	31.0	21.5	3.65	32.2	24.2	4.13	33.0	24.7	4.16	33.2	25.1	4.18	33.3	26.8	4.27	33.8	28.5	4.33	34.4
		75	18.2	2.62	28.9	21.6	3.38	29.7	24.6	3.94	30.4	24.9	3.92	30.5	25.7	3.98	30.6	27.4	4.02	31.0	29.2	4.06	31.3
		96	18.2	2.56	28.1	21.6	3.29	28.7	24.8	3.85	29.2	25.0	3.86	29.3	25.9	3.89	29.4	27.6	3.91	29.7	29.5	3.94	30.0
		125	18.2	2.50	27.4	21.6	3.20	27.8	24.9	3.79	28.3	25.2	3.79	28.3	26.1	3.80	28.4	27.9	3.82	28.6	29.8	3.83	28.8
		150	18.3	2.48	27.0	21.6	3.16	27.4	25.0	3.74	27.7	25.3	3.75	27.8	26.2	3.76	27.8	28.0	3.77	28.0	29.9	3.77	28.2
	30	50	18.1	3.39	36.1	21.5	4.39	37.4	23.1	4.54	37.9	23.7	4.59	38.1	24.2	4.63	38.2	25.9	4.75	38.7	27.1	4.83	39.1
		75	18.1	3.21	34.0	21.5	4.09	34.8	23.6	4.38	35.3	24.1	4.41	35.4	24.4	4.43	35.5	26.1	4.48	35.8	27.8	4.60	36.2
		96	18.1	3.15	33.2	21.5	3.98	33.8	23.7	4.31	34.2	24.3	4.34	34.2	24.6	4.36	34.3	26.3	4.43	34.6	28.1	4.49	34.8
		125	18.1	3.06	32.4	21.5	3.91	32.9	23.9	4.25	33.2	24.4	4.28	33.3	24.8	4.29	33.3	26.5	4.35	33.5	28.4	4.40	33.7
		150	18.1	3.04	32.0	21.5	3.84	32.4	24.0	4.21	32.7	24.5	4.24	32.7	24.9	4.25	32.8	26.7	4.31	32.9	28.5	4.35	33.1
	35	50	18.0	4.04	41.3	20.6	4.83	42.2	22.1	4.94	42.7	22.7	4.97	42.9	23.2	5.02	43.0	24.8	5.18	43.5	25.8	5.26	43.8
		75	18.0	3.81	39.1	20.9	4.67	39.9	22.5	4.78	40.2	23.0	4.83	40.3	23.6	4.87	40.4	25.3	5.00	40.8	26.4	5.08	41.0
		96	18.0	3.73	38.2	21.1	4.60	38.8	22.7	4.72	39.1	23.2	4.76	39.2	23.8	4.80	39.2	25.5	4.92	39.5	26.7	4.99	39.7
		125	18.0	3.67	37.5	21.2	4.54	37.9	22.8	4.66	38.1	23.4	4.71	38.2	23.9	4.74	38.3	25.7	4.85	38.5	26.9	4.92	38.6
		150	18.0	3.64	37.1	21.3	4.51	37.4	22.9	4.63	37.6	23.4	4.67	37.7	24.0	4.71	37.7	25.8	4.81	37.9	27.0	4.87	38.0
130%	20	50	17.0	1.99	25.4	20.3	2.65	26.5	24.3	3.64	27.9	25.1	3.67	28.2	26.0	3.70	28.4	27.7	3.74	28.9	29.5	3.78	29.5
		75	17.1	1.85	23.6	20.3	2.44	24.3	24.4	3.38	25.3	25.7	3.45	25.5	26.5	3.46	25.7	28.3	3.47	26.0	30.2	3.46	26.4
		96	17.1	1.79	22.8	20.3	2.33	23.4	24.4	3.16	24.1	25.9	3.35	24.3	26.7	3.35	24.5	28.6	3.34	24.7	30.5	3.32	25.0
		125	17.1	1.75	22.1	20.3	2.27	22.6	24.4	3.05	23.1	26.1	3.27	23.3	26.9	3.26	23.4	28.8	3.24	23.6	30.8	3.20	23.9
		150	17.1	1.72	21.8	20.4	2.24	22.1	24.5	2.99	22.6	26.1	3.22	22.8	27.0	3.21	22.9	28.9	3.18	23.0	30.9	3.13	23.2
	25	50	17.0	2.52	30.5	20.2	3.30	31.7	23.6	4.10	32.9	24.0	4.12	33.0	24.8	4.17	33.2	26.5	4.25	33.7	28.2	4.32	34.3
		75	17.0	2.38	28.7	20.2	3.06	29.4	23.8	3.91	30.3	24.5	3.93	30.4	25.3	3.97	30.6	27.1	4.01	30.9	28.9	4.05	31.3
		96	17.1	2.32	27.9	20.2	2.98	28.4	23.9	3.83	29.1	24.7	3.86	29.2	25.6	3.87	29.4	27.3	3.91	29.6	29.2	3.93	29.9
		125	17.1	2.27	27.2	20.3	2.92	27.6	24.1	3.76	28.2	24.9	3.78	28.3	25.7	3.80	28.4	27.5	3.82	28.6	29.4	3.83	28.8
		150	17.1	2.26	26.8	20.3	2.86	27.2	24.1	3.73	27.6	25.0	3.74	27.7	25.9	3.76	27.8	27.6	3.77	28.0	29.6	3.77	28.2
	30	50	16.9	3.09	35.7	20.0	3.93	36.8	22.6	4.50	37.7	23.2	4.55	37.9	23.6	4.58	38.0	25.2	4.70	38.5	26.8	4.81	39.0
		75	17.0	2.94	33.8	20.1	3.73	34.5	23.0	4.35	35.2	23.3	4.37	35.3	24.1	4.41	35.4	25.8	4.50	35.7	27.5	4.58	36.1
		96	17.0	2.88	32.9	20.1	3.63	33.5	23.2	4.28	34.1	23.5	4.29	34.1	24.3	4.34	34.3	26.0	4.42	34.5	27.8	4.48	34.8
		125	17.0	2.82	32.3	20.1	3.55	32.7	23.4	4.22	33.1	23.7	4.24	33.2	24.5	4.27	33.3	26.2	4.34	33.5	28.0	4.39	33.7
		150	17.0	2.79	31.9	20.1	3.51	32.2	23.4	4.19	32.6	23.8	4.21	32.7	24.6	4.24	32.7	26.3	4.30	32.9	28.1	4.35	33.1
	35	50	16.8	3.67	40.8	20.0	4.75	42.0	21.7	4.91	42.6	22.2	4.94	42.7	22.7	4.97	42.9	24.3	5.12	43.4	25.5	5.24	43.7
		75	16.8	3.49	38.9	20.0	4.39	39.6	22.1	4.73	40.1	22.6	4.78	40.2	22.9	4.80	40.3	24.4	4.94	40.6	26.1	5.06	40.9
		96	16.8	3.42	38.0	20.0	4.31	38.6	22.2	4.67	39.0	22.7	4.72	39.1	23.1	4.75	39.1	24.7	4.86	39.4	26.4	4.97	39.7
		125	16.9	3.37	37.3	20.0	4.19	37.8	22.3	4.63	38.1	22.9	4.67	38.1	23.3	4.69	38.2	24.9	4.80	38.4	26.6	4.90	38.6
		150	16.9	3.36	36.9	20.1	4.17	37.3	22.4	4.60	37.6	22.9	4.64	37.6	23.3	4.67	37.7	25.0	4.76	37.8	26.7	4.85	38.0
120%	20	50	15.8	1.77	25.0	18.8	2.34	26.0	22.8	3.24	27.4	24.8	3.66	28.1	25.6	3.69	28.3	27.3	3.73	28.8	29.1	3.77	29.4
		75	15.8	1.65	23.3	18.8	2.15	24.0	22.8	2.96	24.9	25.3	3.44	25.4	26.1	3.46	25.6	27.9	3.47	26.0	29.8	3.46	26.3
		96	15.8	1.60	22.6	18.9	2.10	23.1	22.8	2.83	23.8	25.5	3.35	24.3	26.4	3.35	24.4	28.2	3.34	24.7	30.1	3.32	25.0
		125	15.9	1.57	22.0	18.9	2.01	22.4	22.9	2.74	22.9	25.7	3.27	23.3	26.5	3.27	23.4	28.4	3.24	23.6	30.3	3.21	23.8
		150	15.9	1.55	21.7	18.9	1.99	22.0	22.9	2.69	22.4	25.8	3.23	22.7	26.7	3.21	22.8	28.5	3.19	23.0	30.5	3.14	23.2
	25	50	15.8	2.28	30.2	18.8	2.95	31.2	22.8	4.04	32.6	23.6	4.10	32.9	24.5	4.15	33.1	26.1	4.24	33.6	27.8	4.31	34.1
		75	15.8	2.14	28.4	18.8	2.77	29.1	22.8	3.69	30.0	24.2	3.92	30.3	25.0	3.95	30.5	26.7	4.00	30.8	28.5	4.04	31.2
		96	15.8	2.09	27.7	18.8	2.67	28.2	22.8	3.57	28.9	24.3	3.85	29.2	25.2	3.87	29.3	26.9	3.90	29.6	28.8	3.93	29.9
		125	15.9	2.06	27.0	18.8	2.62	27.4	22.8	3.46	28.0	24.5	3.77	28.2	25.4	3.79	28.3	27.1	3.81	28.5	29.0	3.83	28.7
		150	15.9	2.03	26.7	18.9	2.60	27.0	22.8	3.41	27.5	24.6	3.74	27.7	25.5	3.75	27.8	27.2	3.76	27.9	29.1	3.77	28.1
	30	50	15.7	2.78	35.3	18.7	3.56	36.3	22.1	4.44	37.5	22.6	4.49	37.7	23.3	4.56	37.9	24.9	4.68	38.4	26.5	4.78	38.9
		75	15.8	2.65	33.5	18.7	3.36	34.2	22.2	4.29	35.0	23.0	4.34	35.2	23.8	4.39	35.3	25.4	4.49	35.7	27.2	4.56	36.0
		96	15.8	2.60	32.7	18.7	3.28	33.3	22.4	4.23	34.0	23.2	4.28	34.1	24.0	4.32	34.2	25.7	4.40	34.5	27.4	4.47	34.7
		125	15.8	2.56	32.1	18.7	3.21	32.5	22.6	4.18	33.0	23.4	4.22	33.1	24.2	4.26	33.2	25.9	4.33	33.4	27.6	4.38	33.7
		150	15.8	2.55	31.7	18.7	3.17	32.1	22.7	4.15	32.5	23.5	4.19	32.6	24.3	4.22	32.7	26.0	4.29	32.9	27.8	4.33	33.1
	35	50	15.7	3.34	40.4	18.6	4.20	41.5	21.2	4.87	42.4	21.4	4.89	42.5	22.1	4.93	42.7	23.6	5.06	43.2	25.2	5.21	43.7
		75	15.7	3.19	38.6	18.7	4.01	39.3	21.5	4.69	40.0	21.8	4.71	40.0	22.6	4.78	40.2	24.1	4.91	40.5	25.7	5.03	40.8
		96	15.7	3.11	37.8	18.7	3.90	38.3	21.7	4.63	38.9	22.0	4.66	39.0	22.8	4.72	39.1	24.4	4.84	39.3	26.0	4.95	39.6
		125	15.7	3.07	37.1	18.7	3.84	37.6	21.8	4.58	38.0	22.2	4.61	38.0	22.9	4.67	38.1	24.6	4.78	38.3	26.2	4.88	38.5
		150	15.7	3.05	36.8	18.7	3.80	37.1	21.9	4.56	37.5	22.3	4.58	37.5	23.0	4.64	37.6	24.7	4.75	37.8	26.4	4.84	38.0

TC : Total capacity (kW)
PC : Power consumption (kW)

(FDC224KXZWE1)

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																					
			21℃CDB 14℃CWB			23℃CDB 16℃CWB			26℃CDB 18℃CWB			27℃CDB 19℃CWB			28℃CDB 20℃CWB			31℃CDB 22℃CWB			33℃CDB 24℃CWB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
110%	20	50	14.6	1.59	24.6	17.4	2.06	25.5	21.2	2.86	26.9	24.4	3.65	28.0	25.2	3.67	28.2	26.9	3.72	28.7	28.7	3.76	29.2
		75	14.7	1.50	23.1	17.4	1.90	23.7	21.3	2.63	24.5	24.4	3.38	25.3	25.7	3.45	25.5	27.5	3.46	25.9	29.3	3.47	26.2
		96	14.7	1.46	22.4	17.4	1.84	22.9	21.4	2.54	23.5	24.5	3.27	24.1	25.9	3.36	24.3	27.7	3.35	24.6	29.5	3.34	24.9
		125	14.7	1.42	21.8	17.5	1.80	22.2	21.4	2.45	22.7	24.6	3.10	23.2	26.1	3.26	23.3	27.9	3.25	23.5	29.8	3.23	23.8
		150	14.7	1.40	21.5	17.5	1.77	21.8	21.4	2.40	22.3	24.7	3.04	22.6	26.2	3.22	22.8	28.0	3.19	23.0	29.9	3.15	23.1
	25	50	14.6	2.04	29.7	17.3	2.60	30.7	21.1	3.52	32.0	23.3	4.08	32.8	24.1	4.13	33.0	25.7	4.22	33.5	27.4	4.29	34.0
		75	14.6	1.92	28.1	17.4	2.47	28.8	21.2	3.30	29.7	23.8	3.90	30.2	24.6	3.93	30.4	26.3	3.99	30.7	28.1	4.03	31.1
		96	14.6	1.89	27.5	17.4	2.38	27.9	21.2	3.19	28.6	24.0	3.83	29.1	24.8	3.85	29.2	26.5	3.90	29.5	28.3	3.92	29.8
		125	14.6	1.86	26.9	17.4	2.34	27.3	21.3	3.12	27.8	24.1	3.77	28.2	25.0	3.78	28.3	26.7	3.81	28.5	28.5	3.83	28.7
		150	14.6	1.84	26.6	17.4	2.31	26.9	21.3	3.08	27.3	24.2	3.73	27.6	25.1	3.74	27.7	26.8	3.76	27.9	28.6	3.77	28.1
	30	50	14.6	2.51	34.9	17.3	3.17	35.8	21.0	4.21	37.2	22.2	4.46	37.6	23.0	4.53	37.8	24.5	4.65	38.3	26.1	4.76	38.8
		75	14.6	2.39	33.2	17.3	3.01	33.9	21.0	3.95	34.7	22.6	4.32	35.1	23.4	4.37	35.3	25.0	4.46	35.6	26.7	4.55	35.9
		96	14.6	2.34	32.5	17.3	2.96	33.0	21.1	3.88	33.7	22.8	4.25	34.0	23.6	4.30	34.1	25.2	4.38	34.4	27.0	4.46	34.7
		125	14.6	2.30	31.9	17.3	2.88	32.3	21.1	3.78	32.8	23.0	4.20	33.1	23.8	4.24	33.2	25.4	4.32	33.4	27.2	4.37	33.6
		150	14.6	2.28	31.6	17.3	2.86	31.9	21.1	3.74	32.4	23.1	4.17	32.6	23.9	4.21	32.7	25.5	4.27	32.8	27.3	4.32	33.0
	35	50	14.5	2.99	40.0	17.2	3.76	41.0	20.4	4.82	42.2	21.1	4.87	42.4	21.8	4.92	42.6	23.3	5.03	43.1	24.8	5.18	43.5
		75	14.5	2.87	38.3	17.2	3.59	38.9	20.8	4.66	39.8	21.5	4.69	40.0	22.3	4.75	40.1	23.8	4.88	40.4	25.4	5.00	40.8
		96	14.5	2.84	37.6	17.3	3.54	38.1	21.0	4.59	38.8	21.7	4.63	38.9	22.4	4.69	39.0	24.0	4.81	39.3	25.6	4.93	39.5
		125	14.5	2.81	37.0	17.3	3.47	37.4	21.1	4.53	37.9	21.8	4.58	38.0	22.6	4.64	38.1	24.2	4.75	38.3	25.8	4.86	38.5
		150	14.5	2.76	36.6	17.3	3.44	37.0	21.1	4.49	37.4	21.9	4.56	37.5	22.7	4.61	37.6	24.3	4.72	37.8	26.0	4.82	37.9
100%	20	50	13.4	1.43	24.2	15.9	1.79	25.0	19.7	2.52	26.3	22.6	3.19	27.3	24.7	3.66	28.1	26.4	3.71	28.6	28.1	3.75	29.1
		75	13.4	1.33	22.8	15.9	1.66	23.3	19.7	2.31	24.2	22.6	2.91	24.8	25.2	3.44	25.4	26.9	3.46	25.8	28.7	3.47	26.1
		96	13.4	1.30	22.2	15.9	1.61	22.6	19.7	2.22	23.3	22.7	2.79	23.8	25.4	3.34	24.3	27.1	3.35	24.5	29.0	3.34	24.8
		125	13.4	1.28	21.7	15.9	1.57	22.0	19.7	2.16	22.5	22.7	2.71	22.9	25.5	3.27	23.3	27.3	3.25	23.5	29.2	3.24	23.7
		150	13.4	1.27	21.4	15.9	1.55	21.7	19.7	2.12	22.1	22.7	2.64	22.4	25.6	3.23	22.7	27.4	3.20	22.9	29.3	3.17	23.1
	25	50	13.4	1.84	29.3	15.9	2.28	30.2	19.5	3.12	31.4	22.5	3.91	32.5	23.6	4.10	32.9	25.2	4.19	33.4	26.9	4.27	33.9
		75	13.4	1.75	27.9	15.9	2.15	28.4	19.5	2.91	29.3	22.6	3.64	30.0	24.1	3.92	30.3	25.7	3.98	30.6	27.5	4.03	31.0
		96	13.4	1.71	27.2	15.9	2.10	27.7	19.6	2.84	28.3	22.6	3.50	28.9	24.3	3.84	29.2	26.0	3.88	29.4	27.7	3.92	29.7
		125	13.4	1.68	26.7	15.9	2.06	27.0	19.6	2.77	27.5	22.6	3.43	28.0	24.5	3.77	28.2	26.2	3.80	28.4	28.0	3.82	28.6
		150	13.4	1.67	26.4	15.9	2.04	26.7	19.6	2.72	27.1	22.6	3.36	27.5	24.5	3.73	27.7	26.3	3.76	27.9	28.1	3.77	28.0
	30	50	13.3	2.25	34.4	15.8	2.79	35.3	19.4	3.74	36.6	21.8	4.42	37.5	22.6	4.49	37.7	24.1	4.62	38.2	25.7	4.73	38.7
		75	13.3	2.16	32.9	15.8	2.67	33.5	19.4	3.54	34.4	22.2	4.29	35.0	23.0	4.34	35.2	24.6	4.44	35.5	26.3	4.53	35.8
		96	13.3	2.13	32.3	15.8	2.60	32.7	19.5	3.48	33.4	22.4	4.23	33.9	23.2	4.28	34.1	24.8	4.36	34.3	26.5	4.44	34.6
		125	13.3	2.09	31.8	15.9	2.58	32.1	19.5	3.39	32.6	22.4	4.13	33.0	23.3	4.22	33.1	25.0	4.29	33.3	26.7	4.36	33.5
		150	13.3	2.07	31.5	15.9	2.56	31.8	19.5	3.36	32.2	22.5	4.10	32.5	23.4	4.19	32.6	25.1	4.26	32.8	26.7	4.31	32.9
	35	50	13.2	2.66	39.5	15.8	3.35	40.4	19.3	4.44	41.7	20.8	4.84	42.3	21.4	4.89	42.5	22.9	4.99	42.9	24.4	5.14	43.4
		75	13.2	2.57	38.0	15.8	3.21	38.6	19.3	4.17	39.4	21.1	4.68	39.9	21.8	4.71	40.0	23.4	4.84	40.4	24.9	4.97	40.7
		96	13.2	2.54	37.3	15.8	3.16	37.8	19.3	4.09	38.5	21.3	4.60	38.8	22.0	4.66	39.0	23.6	4.78	39.2	25.2	4.90	39.5
		125	13.3	2.52	36.8	15.8	3.12	37.2	19.3	4.00	37.7	21.4	4.55	38.0	22.2	4.61	38.1	23.7	4.72	38.2	25.4	4.83	38.4
		150	13.3	2.51	36.5	15.8	3.07	36.8	19.3	3.97	37.2	21.5	4.53	37.5	22.3	4.58	37.5	23.8	4.70	37.7	25.4	4.80	37.9
90%	20	50	11.9	1.23	23.7	14.1	1.54	24.5	17.6	2.12	25.6	20.3	2.70	26.6	23.1	3.36	27.5	25.2	3.61	28.2	26.9	3.66	28.7
		75	11.9	1.15	22.5	14.1	1.43	23.0	17.6	1.95	23.7	20.3	2.46	24.3	23.1	3.06	25.0	25.7	3.38	25.5	27.4	3.40	25.9
		96	11.9	1.12	21.9	14.1	1.39	22.3	17.6	1.90	22.9	20.4	2.38	23.4	23.1	2.91	23.9	25.9	3.28	24.3	27.7	3.28	24.6
		125	11.9	1.10	21.5	14.1	1.36	21.8	17.6	1.82	22.2	20.4	2.29	22.6	23.2	2.83	23.0	26.1	3.19	23.3	27.9	3.18	23.5
		150	11.9	1.09	21.2	14.1	1.35	21.5	17.6	1.80	21.8	20.4	2.26	22.1	23.2	2.76	22.5	26.2	3.14	22.8	28.0	3.12	23.0
	25	50	11.8	1.59	28.8	14.1	1.96	29.6	17.5	2.67	30.7	20.2	3.31	31.7	22.6	3.98	32.6	24.2	4.07	33.0	25.8	4.15	33.5
		75	11.8	1.51	27.5	14.1	1.87	28.0	17.5	2.49	28.8	20.2	3.10	29.4	23.0	3.80	30.1	24.6	3.87	30.4	26.3	3.93	30.7
		96	11.8	1.49	27.0	14.1	1.82	27.4	17.5	2.44	28.0	20.2	2.99	28.4	23.0	3.70	29.0	24.8	3.79	29.2	26.5	3.82	29.5
		125	11.8	1.46	26.5	14.1	1.78	26.8	17.5	2.39	27.3	20.3	2.93	27.6	23.0	3.62	28.0	25.0	3.71	28.3	26.7	3.73	28.5
		150	11.8	1.46	26.3	14.1	1.77	26.5	17.5	2.34	26.9	20.3	2.89	27.2	23.0	3.48	27.5	25.1	3.67	27.7	26.8	3.69	27.9
	30	50	11.8	1.97	33.9	14.1	2.41	34.7	17.4	3.23	35.9	20.1	3.98	36.8	21.6	4.35	37.4	23.1	4.48	37.8	24.6	4.60	38.3
		75	11.8	1.91	32.6	14.1	2.30	33.1	17.4	3.07	33.9	20.1	3.73	34.5	22.0	4.22	35.0	23.5	4.31	35.3	25.1	4.40	35.6
		96	11.8	1.86	32.0	14.1	2.26	32.4	17.4	2.99	33.0	20.2	3.66	33.5	22.2	4.16	33.9	23.7	4.24	34.1	25.4	4.31	34.4
		125	11.8	1.85	31.6	14.1	2.22	31.9	17.5	2.94	32.3	20.2	3.58	32.7	22.3	4.10	33.0	23.9	4.18	33.2	25.5	4.24	33.4
		150	11.8	1.84	31.3	14.1	2.21	31.6	17.5	2.92	31.9	20.2	3.55	32.3	22.4	4.07	32.5	24.0	4.14	32.7	25.7	4.20	32.8
	35	50	11.8	2.37	39.0	14.0	2.88	39.8	17.3	3.83	41.0	19.9	4.71	42.0	20.6	4.75	42.2	21.9	4.85	42.6	23.4	4.98	43.1
		75	11.8	2.29	37.7	14.0	2.76	38.2	17.3	3.64	39.0	20.0	4.50	39.6	20.9	4.59	39.8	22.4	4.70	40.1	23.9	4.82	40.5
		96	11.8	2.27	37.1	14.0	2.72	37.5	17.3	3.56	38.1	20.0	4.31	38.6	21.1	4.52	38.8	22.6	4.64	39.0	24.2	4.76	39.3
		125	11.8	2.25	36.6	14.0	2.68	36.9	17.4	3.51	37.4	20.0	4.22	37.8	21.2	4.48	37.9	22.7	4.59	38.1	24.3	4.70	38.3
		150	11.8	2.23	36.3	14.0	2.67	36.6	17.4	3.48	37.0	20.0	4.17	37.3	21.3	4.45	37.4	22.8	4.56	37.6	24.4	4.66	37.8
80%	20	50	10.4	1.04	23.3	12.4	1.30	23.9	15.6	1.76	24.9	18.1	2.25	25.8	20.6	2.79	26.7	24.2	3.54	27.9	25.8	3.59	28.4
		75	10.4	0.99	22.2	12.5	1.24	22.6	15.6	1.64	23.3	18.1	2.06	23.8	20.6	2.53	24.4	24.6	3.33	25.3	26.3	3.34	25.6
		96	10.4	0.96	21.7	12.5	1.21	22.0	15.6	1.59	22.6	18.1	1.99	23.0	20.7	2.45	23.4	24.8	3.23	24.2	26.5	3.24	24.4
		125	10.4	0.95	21.3	12.5	1.19	21.6	15.7	1.56	22.0	18.1	1.93	22.3	20.7	2.36	22.6	25.0	3.16	23.2	26.7	3.15	23.4
		150	10.4	0.94	21.1	12.5	1.16	21.3	15.7	1.53	21.6	18.1	1.90	21.9	20.7	2.32	22.2	25.1	3.11	22.7	26.8	3.09	22.8
	25	50	10.4	1.38	28.4	12.4	1.69	29.0	15.6	2.26	30.1	18.0	2.80	30.9	20.5	3.44	31.8	23.2	3.98	32.7	24.7	4.06	33.2
		75	10.4	1.31	27.2	12.5	1.62	27.7	15.6	2.12	28.4	18.0	2.63	28.9	20.5	3.18	29.5	23.6	3.80	30.2	25.2	3.85	30.5
		96	10.4	1.30	26.7	12.5	1.59	27.1	15.6	2.08	27.6	18.0	2.54	28.0	20.5	3.08	28.5	23.8	3.72	29.1	25.4	3.76	29.3
		125	10.4	1.27	26.3	12.5	1.57	26.6	15.6	2.04	27.0	18.0	2.48	27.3	20.6	3.01	27.7	24.0	3.65	28.1	25.6	3.68	28.3
		150	10.4	1.27	26.1	12.5	1.54	26.3	15.6	2.00	26.7	18.1	2.46	27.0	20.6	2.97	27.2	24.0	3.61	27.6	25.7	3.63	27.8
	30	50	10.5	1.74	33.5	12.4	2.09	34.1	15.5	2.75	35.2	17.9	3.39	36.1	20.3	4.07	36.9	22.2	4.37	37.5	23.7	4.49	38.0
		75	10.4	1.66	32.3	12.4	2.00	32.7	15.5	2.62	33.4	17.9	3.21	34.0	20.4	3.83	34.6	22.6	4.22	35.1	24.1	4.31	35.4
		96	10.4	1.63	31.8	12.4	1.98	32.1	15.5	2.57	32.7	17.9	3.12	33.1	20.4	3.74	33.6	22.8	4.15	34.0	24.4	4.23	34.2
		125	10.4	1.62	31.4	12.5	1.96	31.6	15.5	2.53	32.1	18.0	3.08	32.4	20.4	3.65	32.7	22.9	4.09	33.1	24.5	4.16	33.3
		150	10.4	1.61	31.1	12.5	1.95	31.4	15.6	2.52	31.7	18.0	3.05	32.0	20.5	3.63	32.3	23.0	4.06	32.6	24.6	4.12	32.7
	35	50	10.4	2.08	38.5	12.4	2.48	39.2	15.4	3.29	40.3	17.8	4.01	41.2	19.8	4.66	41.9	21.1	4.75	42.4	22.5	4.86	42.8
		75	10.4	2.03	37.4	12.4	2.42	37.8	15.4	3.14	38.5	17.8	3.80	39.1	20.1	4.50	39.7	21.5	4.59	40.0	23.0	4.71	40.3
		96	10.4	2.02	36.8	12.4	2.38	37.2	15.5	3.10	37.8	17.8	3.70	38.2	20.3	4.43	38.7	21.7	4.53	38.9	23.2	4.65	39.1
		125	10.4	1.98	36.4	12.4	2.34	36.7	15.5	3.04	37.1	17.9	3.66	37.5	20.4	4.38	37.8	21.8	4.48	38.0	23.4	4.59	38.2
		150	10.4	1.97	36.2	12.4	2.33	36.4	15.5	3.01	36.8	17.9	3.63	37.0	20.4	4.35	37.4	21.9	4.46	37.5	23.4	4.56	37.7

TC : Total capacity (kW)
PC : Power consumption (kW)

(FDC224KXZWE1)

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																					
			21℃CDB 14℃CWB			23℃CDB 16℃CWB			26℃CDB 18℃CWB			27℃CDB 19℃CWB			28℃CDB 20℃CWB			31℃CDB 22℃CWB			33℃CDB 24℃CWB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
70%	20	50	9.0	0.87	22.8	10.7	1.07	23.4	13.5	1.46	24.3	15.8	1.82	25.0	17.9	2.23	25.7	22.4	3.26	27.3	24.4	3.49	27.9
		75	9.0	0.83	21.9	10.7	1.02	22.2	13.6	1.38	22.8	15.8	1.69	23.3	17.9	2.05	23.8	22.5	2.97	24.8	24.9	3.27	25.3
		96	9.0	0.82	21.5	10.8	1.01	21.8	13.6	1.34	22.2	15.8	1.62	22.6	17.9	1.98	22.9	22.6	2.87	23.8	25.1	3.17	24.2
		125	9.0	0.80	21.1	10.8	0.99	21.3	13.6	1.32	21.7	15.8	1.58	22.0	17.9	1.92	22.3	22.6	2.76	22.9	25.2	3.08	23.2
		150	9.0	0.79	20.9	10.8	0.98	21.1	13.6	1.30	21.4	15.8	1.55	21.6	17.9	1.88	21.9	22.6	2.71	22.4	25.3	3.04	22.7
	25	50	9.0	1.16	27.9	10.7	1.42	28.5	13.5	1.88	29.4	15.7	2.32	30.1	17.9	2.81	30.9	22.0	3.85	32.3	23.4	3.94	32.8
		75	9.0	1.12	26.9	10.7	1.36	27.3	13.5	1.77	27.9	15.7	2.17	28.4	17.9	2.62	28.9	22.3	3.69	29.9	23.9	3.74	30.2
		96	9.0	1.10	26.5	10.8	1.35	26.8	13.6	1.75	27.3	15.7	2.11	27.6	17.9	2.54	28.0	22.5	3.62	28.9	24.1	3.66	29.1
		125	9.0	1.09	26.1	10.8	1.33	26.4	13.6	1.72	26.7	15.7	2.06	27.0	17.9	2.49	27.3	22.6	3.55	28.0	24.2	3.59	28.2
		150	9.0	1.09	26.0	10.8	1.32	26.2	13.6	1.70	26.5	15.7	2.04	26.7	17.9	2.46	26.9	22.6	3.51	27.5	24.3	3.55	27.6
	30	50	9.0	1.47	33.0	10.7	1.78	33.6	13.5	2.29	34.5	15.6	2.81	35.3	17.8	3.38	36.0	21.0	4.22	37.2	22.4	4.34	37.6
		75	9.0	1.42	32.0	10.7	1.71	32.4	13.5	2.20	33.0	15.6	2.67	33.5	17.8	3.21	34.0	21.4	4.08	34.8	22.9	4.18	35.1
		96	9.0	1.41	31.5	10.7	1.70	31.8	13.5	2.15	32.3	15.7	2.62	32.7	17.8	3.12	33.1	21.6	4.02	33.8	23.1	4.11	34.0
		125	9.0	1.41	31.2	10.7	1.68	31.4	13.5	2.11	31.8	15.7	2.57	32.1	17.8	3.06	32.4	21.7	3.97	32.9	23.2	4.05	33.1
		150	9.0	1.40	31.0	10.8	1.67	31.2	13.5	2.10	31.5	15.7	2.54	31.7	17.8	3.01	32.0	21.8	3.94	32.4	23.3	4.01	32.6
	35	50	8.9	1.79	38.1	10.7	2.15	38.7	13.5	2.77	39.6	15.6	3.36	40.4	17.7	4.00	41.2	20.1	4.61	42.0	21.4	4.69	42.4
		75	8.9	1.75	37.0	10.7	2.10	37.4	13.5	2.65	38.1	15.6	3.20	38.6	17.7	3.79	39.1	20.4	4.44	39.7	21.8	4.56	40.0
		96	9.0	1.74	36.6	10.7	2.05	36.9	13.5	2.61	37.4	15.6	3.13	37.8	17.7	3.69	38.2	20.5	4.38	38.7	22.0	4.50	38.9
		125	9.0	1.73	36.2	10.7	2.03	36.4	13.4	2.57	36.8	15.6	3.09	37.1	17.7	3.65	37.4	20.7	4.34	37.8	22.1	4.45	38.0
		150	9.0	1.72	36.0	10.7	2.02	36.2	13.4	2.54	36.5	15.6	3.07	36.8	17.8	3.61	37.0	20.8	4.31	37.4	22.2	4.42	37.5
60%	20	50	7.6	0.71	22.4	9.1	0.89	22.9	11.6	1.20	23.6	13.5	1.47	24.3	15.4	1.75	24.9	19.3	2.54	26.2	23.0	3.40	27.5
		75	7.6	0.68	21.6	9.1	0.84	21.9	11.6	1.13	22.4	13.5	1.37	22.8	15.4	1.63	23.2	19.3	2.33	24.1	23.4	3.21	25.0
		96	7.6	0.67	21.2	9.1	0.82	21.5	11.6	1.10	21.9	13.5	1.32	22.2	15.4	1.57	22.5	19.3	2.25	23.2	23.5	3.12	23.9
		125	7.6	0.67	20.9	9.1	0.82	21.1	11.6	1.08	21.4	13.5	1.30	21.7	15.4	1.55	21.9	19.3	2.16	22.4	23.6	3.04	23.0
		150	7.6	0.66	20.8	9.1	0.80	20.9	11.6	1.07	21.2	13.5	1.29	21.4	15.4	1.52	21.6	19.3	2.13	22.0	23.7	3.00	22.5
	25	50	7.6	0.95	27.4	9.1	1.17	27.9	11.5	1.56	28.7	13.4	1.86	29.3	15.3	2.24	30.0	19.1	3.14	31.3	22.0	3.82	32.4
		75	7.6	0.93	26.6	9.1	1.13	26.9	11.5	1.48	27.5	13.4	1.76	27.9	15.3	2.10	28.3	19.1	2.92	29.2	22.5	3.65	30.0
		96	7.6	0.93	26.3	9.1	1.12	26.5	11.5	1.45	26.9	13.4	1.73	27.2	15.3	2.05	27.6	19.2	2.85	28.3	22.6	3.57	28.9
		125	7.6	0.92	26.0	9.1	1.11	26.2	11.5	1.43	26.5	13.4	1.69	26.7	15.3	2.01	27.0	19.3	2.79	27.5	22.8	3.51	28.0
		150	7.6	0.92	25.8	9.1	1.10	26.0	11.5	1.42	26.2	13.4	1.68	26.4	15.3	1.97	26.6	19.3	2.75	27.1	22.8	3.47	27.5
	30	50	7.6	1.24	32.5	9.0	1.48	33.0	11.5	1.93	33.8	13.4	2.28	34.5	15.2	2.72	35.1	19.1	3.78	36.5	21.2	4.19	37.2
		75	7.6	1.21	31.7	9.1	1.45	32.0	11.5	1.86	32.5	13.4	2.18	33.0	15.3	2.62	33.4	19.1	3.55	34.3	21.5	4.05	34.9
		96	7.6	1.20	31.3	9.1	1.44	31.6	11.5	1.82	32.0	13.4	2.15	32.3	15.3	2.54	32.6	19.2	3.48	33.4	21.7	3.98	33.8
		125	7.6	1.20	31.0	9.1	1.43	31.2	11.5	1.81	31.5	13.4	2.11	31.8	15.3	2.51	32.0	19.2	3.39	32.6	21.8	3.93	32.9
		150	7.6	1.19	30.8	9.1	1.42	31.0	11.5	1.78	31.3	13.4	2.08	31.5	15.3	2.48	31.7	19.2	3.36	32.1	21.9	3.90	32.4
	35	50	7.6	1.53	37.6	9.0	1.82	38.1	11.5	2.31	38.9	13.3	2.72	39.6	15.2	3.25	40.2	19.0	4.48	41.7	20.2	4.57	42.1
		75	7.6	1.48	36.7	9.1	1.77	37.1	11.5	2.23	37.6	13.3	2.63	38.0	15.2	3.11	38.5	19.0	4.28	39.4	20.6	4.41	39.7
		96	7.6	1.47	36.3	9.1	1.76	36.6	11.5	2.21	37.0	13.3	2.58	37.4	15.2	3.06	37.7	19.0	4.10	38.4	20.7	4.36	38.7
		125	7.6	1.47	36.0	9.1	1.75	36.2	11.5	2.18	36.6	13.4	2.56	36.8	15.2	3.01	37.1	19.0	4.02	37.6	20.9	4.31	37.9
		150	7.6	1.47	35.9	9.1	1.74	36.0	11.5	2.17	36.3	13.4	2.54	36.5	15.2	2.98	36.7	19.0	3.96	37.2	20.9	4.28	37.4
50%	20	50	6.3	0.56	21.9	7.6	0.70	22.4	9.6	0.95	23.0	11.2	1.15	23.5	12.8	1.36	24.0	16.2	1.92	25.2	19.7	2.67	26.4
		75	6.3	0.55	21.3	7.6	0.68	21.6	9.6	0.89	22.0	11.2	1.09	22.3	12.8	1.29	22.7	16.2	1.77	23.4	19.7	2.43	24.2
		96	6.3	0.55	21.0	7.6	0.67	21.2	9.6	0.88	21.6	11.2	1.05	21.8	12.8	1.25	22.1	16.2	1.71	22.7	19.8	2.35	23.3
		125	6.3	0.55	20.8	7.6	0.67	20.9	9.6	0.87	21.2	11.2	1.04	21.4	12.8	1.22	21.6	16.2	1.66	22.0	19.8	2.28	22.5
		150	6.3	0.55	20.6	7.6	0.66	20.8	9.6	0.86	21.0	11.2	1.02	21.2	12.8	1.21	21.3	16.2	1.64	21.7	19.8	2.22	22.1
	25	50	6.3	0.78	27.0	7.5	0.94	27.4	9.6	1.26	28.1	11.2	1.51	28.6	12.7	1.75	29.1	16.1	2.42	30.3	19.6	3.29	31.5
		75	6.3	0.77	26.3	7.5	0.92	26.6	9.6	1.20	27.0	11.2	1.45	27.4	12.8	1.68	27.8	16.1	2.27	28.5	19.6	3.05	29.3
		96	6.3	0.76	26.1	7.5	0.92	26.3	9.6	1.18	26.6	11.2	1.40	26.9	12.8	1.64	27.1	16.1	2.20	27.7	19.7	2.97	28.4
		125	6.3	0.76	25.8	7.6	0.91	26.0	9.6	1.17	26.2	11.2	1.38	26.4	12.8	1.62	26.6	16.1	2.16	27.1	19.7	2.88	27.6
		150	6.3	0.76	25.7	7.6	0.91	25.8	9.6	1.17	26.0	11.2	1.37	26.2	12.8	1.59	26.4	16.1	2.14	26.7	19.7	2.84	27.1
	30	50	6.3	1.00	32.1	7.5	1.22	32.5	9.6	1.59	33.2	11.2	1.87	33.7	12.7	2.15	34.2	16.0	2.93	35.4	19.5	3.92	36.7
		75	6.3	0.99	31.4	7.5	1.19	31.7	9.6	1.52	32.1	11.2	1.81	32.5	12.7	2.06	32.8	16.0	2.79	33.6	19.6	3.70	34.4
		96	6.3	0.99	31.1	7.5	1.18	31.3	9.6	1.51	31.6	11.2	1.78	31.9	12.7	2.03	32.2	16.1	2.74	32.8	19.6	3.58	33.4
		125	6.3	0.99	30.8	7.5	1.16	31.0	9.6	1.50	31.3	11.2	1.75	31.5	12.8	2.01	31.7	16.1	2.69	32.1	19.6	3.53	32.6
		150	6.3	0.99	30.7	7.5	1.16	30.8	9.6	1.49	31.1	11.2	1.74	31.2	12.8	2.00	31.4	16.1	2.65	31.8	19.6	3.47	32.2
	35	50	6.3	1.26	37.2	7.5	1.51	37.6	9.6	1.93	38.3	11.2	2.24	38.8	12.7	2.57	39.4	15.9	3.52	40.5	19.0	4.44	41.7
		75	6.3	1.25	36.4	7.5	1.47	36.7	9.6	1.88	37.2	11.2	2.18	37.5	12.7	2.48	37.9	15.9	3.31	38.7	19.3	4.29	39.5
		96	6.3	1.24	36.1	7.5	1.46	36.3	9.6	1.85	36.7	11.2	2.15	37.0	12.7	2.44	37.3	16.0	3.27	37.9	19.4	4.23	38.5
		125	6.3	1.24	35.9	7.5	1.45	36.0	9.6	1.83	36.3	11.2	2.12	36.5	12.7	2.41	36.7	16.0	3.22	37.2	19.5	4.17	37.7
		150	6.3	1.24	35.7	7.5	1.45	35.9	9.6	1.82	36.1	11.2	2.11	36.3	12.7	2.40	36.4	16.0	3.18	36.8	19.5	4.14	37.2

TC : Total capacity (kW)
PC : Power consumption (kW)

Model FDC280KXZWE1

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																				
			21℃CDB 14℃CWB			23℃CDB 16℃CWB			26℃CDB 18℃CWB			27℃CDB 19℃CWB			28℃CDB 20℃CWB			31℃CDB 22℃CWB			33℃CDB 24℃CWB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
150%	20	50	23.1	3.25	27.5	26.6	4.17	28.7	31.4	5.32	30.4	32.4	5.40	30.7	33.4	5.48	31.0	35.6	5.64	31.7	37.8	5.80	32.4
		75	23.1	3.02	25.0	26.7	3.81	25.8	32.0	5.04	27.0	33.1	5.10	27.2	34.2	5.16	27.5	36.4	5.27	27.9	38.9	5.37	28.4
		96	23.1	2.91	23.9	26.7	3.67	24.5	32.3	4.92	25.5	33.4	4.98	25.7	34.6	5.02	25.9	36.9	5.10	26.2	39.3	5.16	26.6
		125	23.1	2.84	23.0	26.7	3.56	23.4	32.6	4.82	24.2	33.7	4.85	24.4	34.8	4.90	24.5	37.2	4.95	24.8	39.7	5.00	25.1
		150	23.1	2.79	22.5	26.7	3.50	22.9	32.7	4.76	23.6	33.8	4.79	23.7	35.0	4.82	23.8	37.3	4.87	24.0	39.8	4.92	24.2
	25	50	23.0	3.97	32.7	26.4	4.95	33.9	30.0	5.78	35.2	31.0	5.88	35.5	32.0	5.98	35.8	34.1	6.18	36.4	36.3	6.38	37.1
		75	23.1	3.71	30.1	26.6	4.63	30.9	30.7	5.56	31.9	31.7	5.64	32.1	32.8	5.72	32.3	35.0	5.87	32.7	37.2	6.03	33.2
		96	23.1	3.61	29.0	26.6	4.50	29.6	31.0	5.45	30.4	32.0	5.53	30.6	33.1	5.61	30.7	35.3	5.74	31.1	37.7	5.86	31.5
		125	23.1	3.54	28.0	26.6	4.37	28.5	31.2	5.37	29.2	32.3	5.43	29.3	33.4	5.50	29.4	35.6	5.62	29.7	38.0	5.73	30.0
		150	23.1	3.51	27.5	26.6	4.32	27.9	31.3	5.32	28.5	32.4	5.38	28.6	33.5	5.45	28.7	35.8	5.55	28.9	38.2	5.65	29.2
	30	50	23.0	4.71	37.9	26.4	5.85	39.1	28.7	6.24	39.9	29.6	6.31	40.2	30.6	6.41	40.5	32.6	6.65	41.2	34.7	6.90	41.8
		75	23.0	4.43	35.2	26.4	5.40	36.0	29.3	5.99	36.7	30.3	6.09	36.9	31.3	6.20	37.1	33.4	6.40	37.6	35.6	6.61	38.0
		96	23.0	4.32	34.1	26.4	5.26	34.7	29.6	5.91	35.3	30.6	6.01	35.4	31.6	6.11	35.6	33.8	6.29	35.9	36.0	6.47	36.3
		125	23.1	4.27	33.1	26.4	5.17	33.6	29.8	5.84	34.1	30.9	5.93	34.2	31.9	6.03	34.3	34.0	6.20	34.6	36.3	6.36	34.9
		150	23.1	4.23	32.6	26.4	5.09	33.0	29.9	5.80	33.4	31.0	5.89	33.5	32.0	5.98	33.6	34.2	6.14	33.8	36.6	6.29	34.1
	35	50	22.9	5.63	43.1	25.5	6.59	44.1	27.3	6.79	44.7	28.2	6.88	45.0	29.1	6.97	45.3	31.0	7.16	45.9	33.1	7.34	46.5
		75	23.0	5.31	40.4	26.1	6.39	41.1	27.9	6.55	41.5	28.9	6.62	41.7	29.8	6.69	41.9	31.8	6.85	42.3	33.9	7.10	42.8
		96	23.0	5.18	39.2	26.3	6.29	39.8	28.2	6.44	40.1	29.1	6.51	40.3	30.1	6.58	40.4	32.2	6.77	40.8	34.3	6.99	41.1
		125	23.0	5.07	38.2	26.5	6.22	38.7	28.4	6.35	39.0	29.4	6.41	39.1	30.4	6.48	39.2	32.5	6.69	39.5	34.7	6.90	39.7
		150	23.0	5.02	37.7	26.6	6.18	38.1	28.5	6.31	38.3	29.5	6.37	38.4	30.5	6.43	38.5	32.6	6.64	38.7	34.8	6.85	39.0
140%	20	50	21.6	2.92	27.0	25.0	3.73	28.2	30.9	5.29	30.3	31.9	5.37	30.6	33.0	5.45	30.9	35.1	5.60	31.6	37.4	5.77	32.3
		75	21.6	2.71	24.6	25.0	3.42	25.4	31.6	5.02	26.9	32.7	5.08	27.1	33.7	5.14	27.3	36.0	5.24	27.8	38.3	5.34	28.3
		96	21.6	2.62	23.6	25.0	3.30	24.2	31.9	4.91	25.4	32.9	4.96	25.6	34.1	4.99	25.8	36.3	5.08	26.1	38.8	5.15	26.5
		125	21.7	2.56	22.8	25.1	3.22	23.2	32.1	4.80	24.2	33.2	4.84	24.3	34.3	4.88	24.5	36.6	4.94	24.7	39.1	5.00	25.0
		150	21.7	2.54	22.3	25.1	3.18	22.7	32.2	4.75	23.5	33.3	4.78	23.6	34.4	4.82	23.7	36.8	4.86	24.0	39.3	4.90	24.2
	25	50	21.6	3.59	32.2	24.9	4.49	33.4	29.6	5.74	35.0	30.6	5.84	35.4	31.6	5.94	35.7	33.7	6.14	36.3	35.8	6.34	37.0
		75	21.6	3.39	29.7	24.9	4.19	30.5	30.3	5.52	31.8	31.3	5.60	32.0	32.4	5.68	32.2	34.5	5.84	32.7	36.7	6.00	33.1
		96	21.6	3.28	28.7	24.9	4.07	29.3	30.5	5.43	30.3	31.6	5.50	30.5	32.7	5.57	30.7	34.8	5.71	31.0	37.2	5.84	31.4
		125	21.7	3.23	27.8	25.0	4.00	28.3	30.8	5.35	29.1	31.8	5.41	29.2	32.9	5.48	29.4	35.2	5.59	29.6	37.5	5.70	29.9
		150	21.7	3.21	27.4	25.0	3.92	27.7	30.9	5.30	28.4	32.0	5.36	28.5	33.0	5.42	28.6	35.3	5.53	28.9	37.7	5.63	29.1
	30	50	21.5	4.25	37.3	24.8	5.29	38.5	28.3	6.21	39.8	29.2	6.28	40.1	30.2	6.36	40.4	32.2	6.60	41.0	34.3	6.84	41.7
		75	21.6	4.06	34.9	24.8	4.94	35.6	28.9	5.95	36.6	29.9	6.05	36.8	30.9	6.16	37.0	33.0	6.36	37.5	35.2	6.56	37.9
		96	21.6	3.97	33.8	24.8	4.82	34.4	29.2	5.87	35.2	30.2	5.97	35.4	31.2	6.07	35.5	33.3	6.26	35.9	35.6	6.43	36.2
		125	21.6	3.88	32.9	24.9	4.76	33.4	29.4	5.80	34.0	30.4	5.90	34.1	31.4	5.99	34.3	33.6	6.16	34.5	35.9	6.32	34.8
		150	21.6	3.85	32.4	24.9	4.68	32.8	29.5	5.77	33.3	30.6	5.86	33.5	31.6	5.94	33.6	33.8	6.10	33.8	36.1	6.27	34.0
	35	50	21.5	5.10	42.5	24.7	6.31	43.8	27.0	6.75	44.6	27.8	6.84	44.9	28.8	6.94	45.1	30.7	7.12	45.7	32.6	7.31	46.4
		75	21.5	4.84	40.0	24.7	5.90	40.8	27.6	6.52	41.5	28.5	6.59	41.6	29.5	6.66	41.9	31.5	6.81	42.3	33.5	7.06	42.7
		96	21.5	4.72	38.9	24.8	5.76	39.5	27.8	6.41	40.1	28.8	6.48	40.2	29.7	6.55	40.4	31.8	6.72	40.7	33.9	6.95	41.1
		125	21.5	4.62	38.0	24.8	5.62	38.5	28.0	6.32	38.9	29.0	6.39	39.0	30.0	6.45	39.1	32.0	6.64	39.4	34.2	6.86	39.7
		150	21.5	4.57	37.5	24.8	5.56	37.9	28.1	6.28	38.3	29.1	6.35	38.4	30.1	6.40	38.5	32.2	6.60	38.7	34.4	6.81	38.9
130%	20	50	20.1	2.61	26.5	23.4	3.32	27.6	30.5	5.25	30.1	31.5	5.33	30.4	32.5	5.41	30.8	34.6	5.57	31.4	36.8	5.73	32.1
		75	20.2	2.43	24.3	23.5	3.09	25.0	31.1	4.99	26.8	32.1	5.05	27.0	33.3	5.11	27.3	35.4	5.22	27.7	37.7	5.32	28.2
		96	20.2	2.38	23.4	23.5	2.97	23.9	31.4	4.87	25.4	32.4	4.93	25.5	33.5	4.97	25.7	35.8	5.06	26.0	38.2	5.14	26.4
		125	20.2	2.31	22.6	23.5	2.90	23.0	31.6	4.78	24.1	32.6	4.83	24.3	33.8	4.86	24.4	36.1	4.93	24.7	38.5	4.99	24.9
		150	20.2	2.29	22.1	23.5	2.85	22.5	31.7	4.73	23.4	32.8	4.76	23.6	33.9	4.79	23.7	36.2	4.84	23.9	38.7	4.89	24.1
	25	50	20.1	3.23	31.7	23.4	4.06	32.8	29.2	5.69	34.9	30.2	5.79	35.2	31.2	5.89	35.5	33.2	6.09	36.2	35.3	6.30	36.8
		75	20.2	3.06	29.4	23.4	3.79	30.2	29.8	5.48	31.7	30.8	5.56	31.9	31.9	5.64	32.1	34.0	5.81	32.5	36.3	5.96	33.0
		96	20.2	2.98	28.4	23.4	3.67	29.0	30.1	5.39	30.2	31.1	5.47	30.4	32.1	5.54	30.6	34.3	5.67	30.9	36.6	5.81	31.3
		125	20.2	2.92	27.6	23.4	3.61	28.1	30.3	5.31	29.0	31.3	5.38	29.2	32.4	5.45	29.3	34.6	5.57	29.6	36.9	5.68	29.9
		150	20.2	2.91	27.2	23.4	3.57	27.6	30.4	5.27	28.4	31.5	5.33	28.5	32.5	5.39	28.6	34.8	5.50	28.8	37.1	5.60	29.1
	30	50	20.1	3.85	36.8	23.3	4.78	38.0	27.9	6.17	39.7	28.9	6.25	40.0	29.8	6.33	40.3	31.7	6.55	40.9	33.8	6.80	41.5
		75	20.1	3.67	34.5	23.3	4.50	35.3	28.5	5.91	36.5	29.5	6.01	36.7	30.5	6.11	36.9	32.5	6.32	37.4	34.7	6.52	37.8
		96	20.1	3.61	33.5	23.3	4.39	34.1	28.8	5.82	35.1	29.8	5.92	35.3	30.8	6.02	35.4	32.8	6.21	35.8	35.1	6.40	36.1
		125	20.1	3.54	32.7	23.3	4.32	33.1	29.0	5.76	34.0	30.0	5.85	34.1	31.0	5.95	34.2	33.1	6.12	34.5	35.4	6.29	34.7
		150	20.1	3.52	32.2	23.3	4.27	32.6	29.1	5.73	33.3	30.1	5.82	33.4	31.1	5.90	33.5	33.2	6.07	33.7	35.5	6.23	34.0
	35	50	20.0	4.60	42.0	23.2	5.72	43.2	26.6	6.71	44.5	27.5	6.80	44.7	28.4	6.90	45.0	30.3	7.08	45.6	32.2	7.27	46.2
		75	20.1	4.38	39.6	23.2	5.36	40.4	27.1	6.48	41.4	28.1	6.56	41.6	29.0	6.64	41.8	31.0	6.78	42.2	33.1	7.00	42.6
		96	20.1	4.28	38.6	23.2	5.25	39.2	27.4	6.38	40.0	28.3	6.45	40.2	29.4	6.52	40.3	31.3	6.67	40.6	33.4	6.90	41.0
		125	20.1	4.22	37.8	23.2	5.13	38.2	27.6	6.30	38.9	28.6	6.36	39.0	29.6	6.42	39.1	31.5	6.60	39.3	33.7	6.81	39.6
		150	20.1	4.18	37.3	23.2	5.08	37.7	27.7	6.26	38.2	28.7	6.32	38.3	29.7	6.38	38.4	31.7	6.55	38.6	33.9	6.76	38.9
120%	20	50	18.7	2.31	26.0	21.7	2.94	27.0	29.1	4.87	29.6	30.9	5.28	30.3	31.9	5.36	30.6	34.0	5.52	31.2	36.2	5.69	31.9
		75	18.7	2.17	24.0	21.8	2.73	24.6	29.2	4.47	26.4	31.6	5.01	26.9	32.5	5.08	27.1	34.8	5.19	27.6	37.1	5.29	28.0
		96	18.7	2.12	23.1	21.8	2.65	23.6	29.2	4.30	25.0	31.8	4.90	25.4	32.9	4.95	25.6	35.1	5.04	25.9	37.5	5.11	26.3
		125	18.7	2.08	22.4	21.8	2.58	22.8	29.2	4.14	23.8	32.1	4.79	24.2	33.1	4.84	24.3	35.4	4.91	24.6	37.8	4.96	24.9
		150	18.7	2.06	22.0	21.7	2.54	22.3	29.2	4.08	23.2	32.2	4.74	23.5	33.3	4.77	23.6	35.5	4.83	23.8	37.9	4.88	24.1
	25	50	18.7	2.90	31.1	21.7	3.62	32.2	28.7	5.63	34.8	29.7	5.74	35.1	30.7	5.84	35.4	32.6	6.04	36.0	34.8	6.24	36.7
		75	18.7	2.74	29.1	21.7	3.40	29.8	29.0	5.38	31.5	30.3	5.52	31.8	31.3	5.61	32.0	33.4	5.76	32.4	35.6	5.92	32.9
		96	18.7	2.67	28.2	21.8	3.32	28.7	29.0	5.15	30.1	30.6	5.42	30.3	31.6	5.49	30.5	33.7	5.64	30.8	36.0	5.77	31.2
		125	18.7	2.63	27.4	21.8	3.24	27.8	29.1	5.03	28.9	30.7	5.34	29.1	31.8	5.41	29.2	34.0	5.53	29.5	36.3	5.65	29.8
		150	18.7	2.62	27.0	21.8	3.22	27.4	29.1	4.97	28.2	30.9	5.30	28.4	31.9	5.35	28.5	34.1	5.48	28.8	36.5	5.58	29.0
	30	50	18.6	3.48	36.3	21.7	4.30	37.4	27.5	6.13	39.5	28.4	6.21	39.8	29.3	6.29	40.1	31.2	6.49	40.7	33.3	6.73	41.4
		75	18.7	3.33	34.2	21.7	4.08	34.9	28.0	5.88	36.4	29.0	5.95	36.6	30.0	6.06	36.8	32.0	6.26	37.3	34.1	6.47	37.7
		96	18.7	3.26	33.3	21.7	3.98	33.8	28.3	5.77	35.0	29.3	5.87	35.2	30.2	5.97	35.4	32.3	6.16	35.7	34.5	6.35	36.0
		125	18.7	3.22	32.5	21.7	3.91	32.9	28.5	5.71	33.9	29.5	5.81	34.0	30.5	5.90	34.1	32.5	6.08	34.4	34.7	6.25	34.7
		150	18.7	3.19	32.1	21.7	3.86	32.4	28.6	5.68	33.2	29.6	5.77	33.4	30.6	5.86	33.5	32.7	6.03	33.7	34.9	6.19	33.9
	35	50	18.6	4.15	41.5	21.6	5.14	42.6	26.2	6.67	44.3	27.1	6.76	44.6	27.9	6.85	44.9	29.8	7.04	45.5	31.8	7.22	46.1
		75	18.6	3.97	39.3	21.6	4.86	40.0	26.7	6.44	41.3	27.6	6.52	41.5	28.6	6.60	41.7	30.5	6.74	42.1	32.5	6.94	42.5
		96	18.6	3.88	38.3	21.6	4.72	38.9	27.0	6.34	39.9	27.9	6.41	40.1	28.8	6.48	40.2	30.8	6.62	40.6	32.9	6.84	40.9
		125	18.6	3.82	37.6	21.6	4.65	38.0	27.2	6.26	38.8	28.1	6.33	38.9	29.1	6.39	39.0	31.1	6.54	39.3	33.2	6.76	39.6
		150	18.6	3.81	37.1	21.6	4.59	37.5	27.2	6.22	38.2	28.2	6.29	38.3	29.2	6.35	38.4	31.2	6.50	38.6	33.4	6.71	38.8

TC : Total capacity (kW)
PC : Power consumption (kW)

(FDC280KXZWE1)

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [°C]	Water flow rate [L/min]	Indoor air temperature																					
			21°CDB 14°CWB			23°CDB 16°CWB			26°CDB 18°CWB			27°CDB 19°CWB			28°CDB 20°CWB			31°CDB 22°CWB			33°CDB 24°CWB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	°C	kW	kW	°C	kW	kW	°C	kW	kW	°C	kW	kW	°C	kW	kW	°C	kW	kW	°C
110%	20	50	17.2	2.04	25.5	20.1	2.61	26.5	26.9	4.24	28.9	30.3	5.24	30.1	31.3	5.31	30.4	33.4	5.47	31.0	35.4	5.63	31.7
		75	17.2	1.93	23.6	20.1	2.42	24.3	27.0	3.90	25.9	30.6	4.85	26.7	32.0	5.04	27.0	34.1	5.15	27.4	36.3	5.26	27.9
		96	17.2	1.87	22.8	20.1	2.34	23.3	27.0	3.73	24.5	30.6	4.67	25.2	32.2	4.91	25.5	34.4	5.01	25.8	36.7	5.09	26.2
		125	17.2	1.85	22.2	20.1	2.29	22.5	27.0	3.62	23.5	30.6	4.51	24.0	32.4	4.82	24.2	34.6	4.89	24.5	37.0	4.95	24.8
		150	17.2	1.83	21.8	20.1	2.28	22.1	27.0	3.56	22.9	30.6	4.40	23.3	32.5	4.76	23.5	34.7	4.82	23.8	37.1	4.87	24.0
	25	50	17.1	2.55	30.6	20.1	3.22	31.6	26.8	5.05	34.0	29.1	5.68	34.9	30.0	5.78	35.2	32.0	5.98	35.8	34.1	6.18	36.5
		75	17.2	2.44	28.7	20.1	3.02	29.4	26.9	4.70	31.0	29.7	5.47	31.7	30.7	5.55	31.9	32.7	5.71	32.3	34.9	5.87	32.7
		96	17.2	2.38	27.9	20.1	2.95	28.4	26.9	4.56	29.7	29.9	5.38	30.2	30.9	5.45	30.4	33.0	5.60	30.7	35.3	5.73	31.1
		125	17.2	2.35	27.2	20.1	2.91	27.6	26.9	4.44	28.6	30.1	5.30	29.0	31.1	5.37	29.2	33.3	5.49	29.4	35.5	5.61	29.7
		150	17.2	2.34	26.9	20.1	2.89	27.2	26.9	4.39	28.0	30.2	5.25	28.4	31.3	5.32	28.5	33.4	5.44	28.7	35.7	5.54	28.9
	30	50	17.1	3.09	35.7	20.0	3.83	36.8	26.8	6.06	39.3	27.8	6.16	39.7	28.8	6.24	39.9	30.7	6.42	40.5	32.6	6.66	41.2
		75	17.1	2.97	33.8	20.0	3.66	34.5	26.8	5.53	36.1	28.4	5.90	36.5	29.4	5.99	36.7	31.4	6.20	37.1	33.5	6.40	37.6
		96	17.2	2.94	33.0	20.0	3.57	33.5	26.8	5.39	34.8	28.6	5.81	35.1	29.6	5.91	35.3	31.7	6.11	35.6	33.8	6.29	35.9
		125	17.2	2.90	32.3	20.1	3.54	32.7	26.8	5.27	33.6	28.9	5.75	33.9	29.9	5.84	34.1	31.9	6.02	34.3	34.1	6.20	34.6
		150	17.2	2.88	31.9	20.1	3.51	32.2	26.8	5.22	33.0	28.9	5.72	33.3	30.0	5.80	33.4	32.0	5.98	33.6	34.2	6.13	33.8
	35	50	17.1	3.71	40.9	20.0	4.58	42.0	25.7	6.61	44.2	26.5	6.71	44.4	27.4	6.80	44.7	29.3	6.98	45.3	31.2	7.17	45.9
		75	17.1	3.55	38.9	20.0	4.35	39.6	26.2	6.40	41.2	27.1	6.48	41.4	28.0	6.56	41.6	29.9	6.70	41.9	32.0	6.86	42.4
		96	17.1	3.50	38.1	20.0	4.26	38.6	26.4	6.30	39.8	27.4	6.37	40.0	28.3	6.44	40.1	30.2	6.58	40.5	32.3	6.78	40.8
		125	17.1	3.44	37.3	20.0	4.18	37.8	26.6	6.23	38.7	27.6	6.29	38.8	28.5	6.36	39.0	30.5	6.48	39.2	32.6	6.69	39.5
		150	17.1	3.41	36.9	20.0	4.15	37.3	26.7	6.18	38.1	27.6	6.25	38.2	28.6	6.31	38.3	30.6	6.44	38.5	32.7	6.65	38.7
100%	20	50	15.7	1.80	25.0	18.4	2.25	25.9	24.7	3.65	28.1	28.0	4.54	29.2	30.6	5.25	30.2	32.6	5.41	30.8	34.7	5.57	31.4
		75	15.7	1.70	23.3	18.4	2.11	23.9	24.7	3.35	25.3	28.0	4.16	26.1	31.2	4.99	26.8	33.3	5.11	27.3	35.4	5.22	27.7
		96	15.7	1.68	22.6	18.4	2.06	23.0	24.7	3.21	24.1	28.1	4.02	24.8	31.4	4.88	25.4	33.5	4.97	25.7	35.8	5.06	26.1
		125	15.7	1.67	22.0	18.4	2.03	22.3	24.7	3.14	23.2	28.1	3.88	23.6	31.6	4.78	24.1	33.8	4.86	24.4	36.0	4.93	24.7
		150	15.7	1.66	21.7	18.4	2.03	21.9	24.7	3.08	22.6	28.1	3.81	23.0	31.7	4.73	23.5	33.9	4.79	23.7	36.2	4.85	23.9
	25	50	15.6	2.24	30.1	18.4	2.83	31.0	24.6	4.41	33.3	27.9	5.39	34.4	29.4	5.71	35.0	31.3	5.91	35.6	33.4	6.11	36.2
		75	15.6	2.15	28.4	18.4	2.68	29.0	24.7	4.11	30.5	27.9	5.00	31.2	30.0	5.49	31.7	32.0	5.65	32.1	34.1	5.81	32.6
		96	15.6	2.11	27.6	18.4	2.61	28.1	24.7	3.99	29.2	28.0	4.86	29.9	30.2	5.40	30.3	32.2	5.54	30.6	34.4	5.68	30.9
		125	15.6	2.09	27.0	18.4	2.57	27.4	24.7	3.90	28.3	28.0	4.72	28.7	30.4	5.32	29.1	32.5	5.45	29.3	34.7	5.58	29.6
		150	15.6	2.08	26.7	18.4	2.56	27.0	24.7	3.84	27.7	28.0	4.67	28.1	30.5	5.27	28.4	32.6	5.39	28.6	34.8	5.51	28.8
	30	50	15.6	2.73	35.2	18.4	3.41	36.2	24.5	5.19	38.4	27.2	6.10	39.5	28.1	6.19	39.8	30.0	6.34	40.3	32.0	6.57	41.0
		75	15.6	2.64	33.5	18.4	3.25	34.1	24.6	4.86	35.6	27.8	5.86	36.4	28.7	5.92	36.6	30.7	6.13	37.0	32.7	6.33	37.4
		96	15.6	2.59	32.7	18.4	3.18	33.2	24.6	4.73	34.3	28.0	5.75	35.0	28.9	5.84	35.2	30.9	6.04	35.5	33.0	6.23	35.8
		125	15.6	2.58	32.1	18.4	3.15	32.5	24.6	4.67	33.3	28.0	5.59	33.8	29.1	5.78	34.0	31.2	5.96	34.2	33.3	6.14	34.5
		150	15.6	2.56	31.7	18.4	3.13	32.0	24.6	4.59	32.8	28.0	5.51	33.2	29.2	5.74	33.3	31.3	5.91	33.5	33.4	6.08	33.7
	35	50	15.6	3.29	40.4	18.3	4.07	41.4	24.4	6.18	43.7	26.0	6.65	44.3	26.8	6.74	44.5	28.7	6.92	45.1	30.6	7.12	45.7
		75	15.6	3.16	38.6	18.3	3.88	39.2	24.5	5.81	40.7	26.5	6.42	41.2	27.4	6.50	41.4	29.3	6.66	41.8	31.3	6.80	42.2
		96	15.6	3.12	37.8	18.3	3.78	38.3	24.5	5.66	39.5	26.7	6.32	39.9	27.7	6.40	40.0	29.6	6.54	40.3	31.6	6.69	40.7
		125	15.6	3.09	37.1	18.3	3.76	37.5	24.5	5.51	38.4	26.9	6.25	38.8	27.9	6.31	38.9	29.8	6.44	39.1	31.8	6.62	39.4
		150	15.6	3.07	36.8	18.4	3.74	37.1	24.6	5.48	37.8	27.0	6.20	38.1	27.9	6.27	38.2	29.9	6.39	38.4	32.0	6.58	38.7
90%	20	50	14.1	1.57	24.5	16.6	1.93	25.3	22.4	3.10	27.2	25.3	3.82	28.3	28.4	4.68	29.4	31.6	5.33	30.5	33.7	5.49	31.1
		75	14.1	1.51	23.0	16.6	1.84	23.5	22.4	2.85	24.8	25.3	3.49	25.5	28.4	4.26	26.2	32.2	5.05	27.1	34.4	5.16	27.5
		96	14.1	1.50	22.3	16.6	1.80	22.7	22.4	2.76	23.7	25.4	3.39	24.3	28.4	4.10	24.8	32.4	4.92	25.5	34.7	5.01	25.9
		125	14.1	1.49	21.8	16.6	1.76	22.1	22.4	2.69	22.9	25.4	3.27	23.3	28.5	3.98	23.7	32.7	4.82	24.3	34.9	4.89	24.5
		150	14.1	1.48	21.5	16.6	1.75	21.7	22.4	2.66	22.4	25.4	3.23	22.7	28.5	3.90	23.1	32.8	4.75	23.6	35.0	4.81	23.8
	25	50	14.1	1.98	29.6	16.6	2.43	30.4	22.3	3.77	32.4	25.2	4.58	33.5	28.3	5.53	34.6	30.4	5.81	35.3	32.4	6.01	35.9
		75	14.1	1.92	28.0	16.6	2.33	28.6	22.3	3.52	29.9	25.3	4.26	30.6	28.3	5.15	31.3	31.0	5.57	31.9	33.1	5.73	32.4
		96	14.1	1.91	27.4	16.6	2.29	27.8	22.3	3.44	28.8	25.4	4.17	29.4	28.4	4.98	29.9	31.2	5.47	30.4	33.4	5.61	30.8
		125	14.1	1.89	26.8	16.6	2.25	27.1	22.3	3.36	27.9	25.4	4.07	28.3	28.4	4.84	28.8	31.5	5.37	29.2	33.6	5.50	29.5
		150	14.1	1.89	26.5	16.6	2.24	26.8	22.3	3.32	27.4	25.4	4.01	27.8	28.4	4.79	28.1	31.6	5.32	28.5	33.8	5.44	28.7
	30	50	14.1	2.41	34.7	16.6	2.96	35.6	22.3	4.46	37.6	25.2	5.44	38.7	27.3	6.10	39.5	29.1	6.26	40.1	31.1	6.46	40.7
		75	14.1	2.33	33.1	16.6	2.83	33.7	22.3	4.22	35.0	25.2	5.05	35.7	27.8	5.86	36.4	29.8	6.02	36.8	31.8	6.23	37.2
		96	14.1	2.31	32.4	16.6	2.81	32.9	22.3	4.12	33.9	25.2	4.92	34.5	28.1	5.75	35.0	30.0	5.94	35.3	32.1	6.13	35.7
		125	14.1	2.30	31.9	16.6	2.77	32.2	22.3	4.05	33.0	25.2	4.82	33.4	28.3	5.68	33.9	30.2	5.87	34.1	32.3	6.05	34.4
		150	14.1	2.29	31.6	16.6	2.77	31.8	22.3	4.02	32.5	25.3	4.79	32.9	28.4	5.65	33.2	30.3	5.83	33.4	32.4	6.00	33.6
	35	50	14.1	2.87	39.8	16.6	3.56	40.7	22.1	5.33	42.8	25.0	6.43	43.9	26.1	6.65	44.3	27.9	6.84	44.9	29.7	7.02	45.4
		75	14.1	2.78	38.2	16.6	3.41	38.8	22.2	5.06	40.2	25.2	6.05	40.9	26.6	6.42	41.3	28.5	6.58	41.6	30.4	6.73	42.0
		96	14.1	2.75	37.5	16.6	3.36	38.0	22.2	4.92	39.0	25.2	5.88	39.6	26.9	6.32	39.9	28.7	6.46	40.2	30.7	6.60	40.5
		125	14.1	2.72	36.9	16.6	3.31	37.3	22.2	4.81	38.1	25.2	5.76	38.5	27.0	6.24	38.8	28.9	6.37	39.0	30.9	6.51	39.3
		150	14.1	2.72	36.6	16.6	3.29	36.9	22.3	4.78	37.6	25.2	5.67	37.9	27.1	6.20	38.2	29.0	6.33	38.4	31.0	6.47	38.6
80%	20	50	12.4	1.35	23.9	14.6	1.65	24.6	19.8	2.56	26.4	22.4	3.13	27.3	25.2	3.83	28.3	30.2	5.18	30.0	32.2	5.34	30.7
		75	12.4	1.31	22.6	14.7	1.59	23.1	19.8	2.38	24.2	22.4	2.88	24.8	25.2	3.50	25.5	30.7	4.93	26.8	32.8	5.04	27.2
		96	12.4	1.31	22.0	14.7	1.56	22.4	19.8	2.30	23.3	22.4	2.79	23.7	25.2	3.36	24.2	31.0	4.81	25.3	33.1	4.90	25.6
		125	12.4	1.30	21.6	14.7	1.55	21.9	19.8	2.26	22.5	22.4	2.71	22.9	25.2	3.28	23.2	31.0	4.65	24.0	33.3	4.79	24.3
		150	12.4	1.30	21.3	14.7	1.55	21.5	19.8	2.24	22.1	22.5	2.69	22.4	25.2	3.20	22.7	31.0	4.54	23.4	33.4	4.72	23.6
	25	50	12.4	1.74	29.0	14.7	2.09	29.8	19.8	3.16	31.5	22.4	3.81	32.5	25.1	4.57	33.4	29.1	5.64	34.8	31.0	5.84	35.5
		75	12.4	1.68	27.7	14.7	2.00	28.2	19.8	2.97	29.3	22.4	3.58	29.9	25.1	4.27	30.6	29.6	5.42	31.6	31.6	5.58	32.1
		96	12.4	1.67	27.1	14.7	1.97	27.5	19.8	2.91	28.4	22.4	3.48	28.8	25.2	4.15	29.3	29.8	5.33	30.2	31.9	5.47	30.5
		125	12.4	1.67	26.6	14.7	1.97	26.9	19.8	2.86	27.6	22.4	3.41	27.9	25.2	4.03	28.3	30.0	5.24	29.0	32.1	5.38	29.3
		150	12.4	1.67	26.3	14.7	1.97	26.6	19.8	2.82	27.1	22.4	3.36	27.4	25.2	3.99	27.8	30.1	5.20	28.3	32.2	5.32	28.6
	30	50	12.4	2.12	34.1	14.7	2.52	34.9	19.8	3.78	36.7	22.3	4.51	37.6	25.0	5.42	38.7	27.9	6.12	39.7	29.8	6.27	40.2
		75	12.4	2.07	32.8	14.7	2.45	33.3	19.8	3.59	34.4	22.4	4.28	35.1	25.0	5.03	35.7	28.4	5.85	36.5	30.4	6.06	36.9
		96	12.4	2.05	32.1	14.7	2.41	32.5	19.8	3.52	33.5	22.4	4.18	33.9	25.1	4.90	34.4	28.7	5.77	35.1	30.6	5.97	35.4
		125	12.4	2.05	31.6	14.7	2.40	32.0	19.8	3.46	32.6	22.4	4.09	33.0	25.1	4.81	33.4	28.9	5.71	33.9	30.9	5.89	34.2
		150	12.4	2.04	31.4	14.7	2.39	31.6	19.8	3.44	32.2	22.4	4.05	32.5	25.1	4.75	32.8	28.9	5.67	33.3	31.0	5.84	33.5
	35	50	12.4	2.52	39.3	14.7	3.04	40.0	19.6	4.48	41.9	22.3	5.41	42.9	24.9	6.45	43.9	26.7	6.66	44.5	28.5	6.85	45.0
		75	12.4	2.44	37.8	14.7	2.92	38.3	19.7	4.27	39.5	22.3	5.10	40.2	24.9	6.00	40.9	27.2	6.43	41.4	29.1	6.58	41.8
		96	12.4	2.43	37.2	14.7	2.89	37.6	19.7	4.20	38.5	22.3	4.96	39.0	24.9	5.82	39.6	27.5	6.32	40.0	29.4	6.46	40.3
		125	12.4	2.43	36.7	14.7	2.87	37.0	19.7	4.11	37.7	22.3	4.85	38.1	25.0	5.73	38.5	27.6	6.24	38.9	29.6	6.36	39.1
		150	12.4	2.43	36.4	14.7	2.87	36.7	19.7	4.09	37.3	22.3	4.82	37.6	25.0	5.64	37.9	27.7	6.19	38.2	29.7	6.31	38.4

TC : Total capacity (kW)
PC : Power consumption (kW)

(FDC280KXZWE1)

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																					
			21℃DB 14℃WB			23℃DB 16℃WB			26℃DB 18℃WB			27℃DB 19℃WB			28℃DB 20℃WB			31℃DB 22℃WB			33℃DB 24℃WB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
70%	20	50	10.8	1.16	23.4	12.8	1.40	24.0	17.3	2.08	25.5	19.6	2.54	26.3	22.0	3.05	27.1	27.0	4.35	28.9	30.6	5.19	30.2
		75	10.8	1.14	22.3	12.8	1.36	22.7	17.3	1.95	23.7	19.6	2.35	24.2	22.0	2.82	24.7	27.1	3.97	25.9	31.1	4.92	26.8
		96	10.8	1.14	21.8	12.8	1.35	22.1	17.3	1.91	22.8	19.6	2.29	23.3	22.0	2.72	23.7	27.1	3.82	24.6	31.4	4.80	25.4
		125	10.8	1.14	21.4	12.8	1.35	21.6	17.3	1.88	22.2	19.6	2.24	22.5	22.1	2.66	22.8	27.1	3.72	23.5	31.5	4.70	24.1
		150	10.8	1.14	21.1	12.8	1.35	21.3	17.3	1.86	21.8	19.7	2.22	22.1	22.1	2.64	22.3	27.1	3.63	22.9	31.7	4.64	23.4
	25	50	10.8	1.50	28.5	12.8	1.78	29.1	17.3	2.60	30.7	19.6	3.12	31.5	22.0	3.71	32.3	26.9	5.14	34.1	29.5	5.66	35.0
		75	10.8	1.47	27.3	12.8	1.74	27.8	17.3	2.47	28.8	19.6	2.93	29.3	22.0	3.49	29.8	27.0	4.80	31.0	30.1	5.43	31.7
		96	10.8	1.47	26.8	12.8	1.72	27.2	17.3	2.43	27.9	19.6	2.89	28.3	22.0	3.38	28.8	27.0	4.66	29.7	30.3	5.33	30.3
		125	10.8	1.46	26.4	12.8	1.72	26.7	17.3	2.39	27.2	19.6	2.83	27.6	22.0	3.33	27.9	27.0	4.54	28.6	30.5	5.25	29.1
		150	10.8	1.46	26.2	12.8	1.72	26.4	17.3	2.37	26.9	19.6	2.80	27.1	22.0	3.27	27.4	27.1	4.49	28.0	30.6	5.19	28.4
	30	50	10.8	1.84	33.6	12.8	2.19	34.3	17.2	3.13	35.8	19.6	3.75	36.6	21.9	4.39	37.5	26.6	5.96	39.2	28.4	6.12	39.8
		75	10.8	1.82	32.4	12.8	2.11	32.8	17.2	3.01	33.8	19.6	3.56	34.4	22.0	4.17	35.0	26.8	5.63	36.1	28.9	5.88	36.6
		96	10.9	1.82	31.9	12.8	2.11	32.2	17.2	2.95	33.0	19.6	3.49	33.4	22.0	4.08	33.9	26.9	5.44	34.8	29.2	5.79	35.2
		125	10.8	1.81	31.4	12.8	2.10	31.7	17.2	2.91	32.3	19.6	3.44	32.6	22.0	4.00	33.0	26.9	5.35	33.7	29.3	5.72	34.0
		150	10.8	1.81	31.2	12.8	2.10	31.4	17.3	2.90	31.9	19.6	3.40	32.2	22.0	3.95	32.5	26.9	5.27	33.0	29.4	5.68	33.3
	35	50	10.8	2.20	38.7	12.8	2.59	39.4	17.2	3.77	41.0	19.5	4.44	41.8	21.9	5.29	42.7	25.5	6.50	44.1	27.2	6.69	44.6
		75	10.8	2.16	37.5	12.8	2.53	37.9	17.2	3.60	38.9	19.5	4.23	39.5	21.9	4.98	40.1	26.0	6.28	41.1	27.7	6.43	41.5
		96	10.8	2.16	36.9	12.8	2.50	37.3	17.2	3.52	38.1	19.5	4.15	38.5	21.9	4.84	39.0	26.1	6.18	39.8	28.0	6.32	40.1
		125	10.8	2.16	36.5	12.8	2.49	36.7	17.2	3.48	37.4	19.5	4.07	37.7	21.9	4.77	38.0	26.3	6.10	38.7	28.2	6.23	38.9
		150	10.8	2.16	36.2	12.8	2.49	36.5	17.2	3.46	37.0	19.5	4.05	37.2	21.9	4.71	37.5	26.4	6.06	38.1	28.2	6.19	38.3
60%	20	50	9.3	0.98	22.9	10.9	1.17	23.4	14.8	1.67	24.7	16.9	2.01	25.4	19.0	2.41	26.1	23.3	3.35	27.6	27.9	4.63	29.2
		75	9.3	0.98	22.0	10.9	1.15	22.3	14.8	1.60	23.1	16.9	1.89	23.6	19.0	2.24	24.0	23.3	3.08	25.0	27.9	4.21	26.1
		96	9.3	0.98	21.5	10.9	1.14	21.8	14.9	1.58	22.4	16.9	1.85	22.8	18.9	2.17	23.1	23.4	3.00	23.9	28.0	4.05	24.7
		125	9.3	0.98	21.2	10.9	1.14	21.4	14.9	1.57	21.9	16.9	1.83	22.1	18.9	2.13	22.4	23.4	2.91	23.0	28.0	3.91	23.6
		150	9.3	0.98	21.0	10.9	1.14	21.1	14.9	1.57	21.6	16.9	1.80	21.8	18.9	2.11	22.0	23.4	2.86	22.5	28.0	3.85	23.0
	25	50	9.3	1.27	28.0	10.9	1.50	28.5	14.8	2.10	29.8	16.8	2.52	30.5	18.9	2.96	31.2	23.3	4.07	32.8	27.8	5.44	34.4
		75	9.3	1.27	27.0	10.9	1.48	27.4	14.8	2.02	28.2	16.9	2.39	28.7	18.9	2.80	29.1	23.3	3.81	30.1	27.9	5.08	31.2
		96	9.3	1.27	26.6	10.9	1.48	26.8	14.8	2.00	27.5	16.9	2.35	27.9	18.9	2.75	28.2	23.3	3.69	29.0	27.9	4.89	29.9
		125	9.3	1.27	26.2	10.9	1.48	26.4	14.9	1.99	26.9	16.9	2.33	27.2	18.9	2.69	27.5	23.3	3.63	28.1	27.9	4.78	28.7
		150	9.3	1.27	26.0	10.9	1.48	26.2	14.9	1.98	26.6	16.9	2.30	26.8	18.9	2.67	27.1	23.3	3.56	27.5	27.9	4.69	28.1
	30	50	9.3	1.59	33.1	10.9	1.86	33.6	14.8	2.57	35.0	16.8	3.03	35.6	18.9	3.55	36.4	23.2	4.82	38.0	26.9	5.97	39.3
		75	9.3	1.58	32.1	10.9	1.83	32.4	14.8	2.47	33.3	16.8	2.90	33.7	18.9	3.38	34.2	23.2	4.52	35.3	27.3	5.72	36.3
		96	9.3	1.58	31.6	10.9	1.82	31.9	14.8	2.45	32.6	16.8	2.86	32.9	18.9	3.34	33.3	23.2	4.40	34.1	27.5	5.61	34.9
		125	9.3	1.58	31.2	10.9	1.82	31.5	14.8	2.43	32.0	16.9	2.84	32.2	18.9	3.27	32.5	23.2	4.31	33.1	27.7	5.55	33.8
		150	9.3	1.58	31.0	10.9	1.82	31.2	14.8	2.42	31.6	16.9	2.83	31.9	18.9	3.25	32.1	23.2	4.27	32.6	27.8	5.52	33.2
	35	50	9.3	1.92	38.2	10.9	2.21	38.7	14.8	3.07	40.1	16.8	3.63	40.8	18.8	4.26	41.6	23.1	5.73	43.2	25.8	6.52	44.2
		75	9.3	1.90	37.1	10.9	2.18	37.5	14.8	2.98	38.4	16.8	3.47	38.8	18.9	4.05	39.3	23.1	5.38	40.4	26.3	6.29	41.2
		96	9.3	1.90	36.7	10.9	2.18	36.9	14.8	2.93	37.6	16.8	3.42	38.0	18.9	3.97	38.4	23.1	5.25	39.2	26.5	6.18	39.8
		125	9.3	1.90	36.3	10.9	2.17	36.5	14.8	2.89	37.0	16.8	3.40	37.3	18.9	3.90	37.6	23.1	5.14	38.2	26.6	6.11	38.7
		150	9.3	1.90	36.1	10.9	2.17	36.2	14.8	2.89	36.7	16.8	3.37	36.9	18.9	3.89	37.2	23.1	5.09	37.7	26.7	6.07	38.1
50%	20	50	7.7	0.81	22.4	9.2	0.97	22.9	12.3	1.35	23.9	14.0	1.57	24.4	15.8	1.82	25.0	19.4	2.51	26.2	23.3	3.36	27.6
		75	7.7	0.81	21.6	9.2	0.97	21.9	12.3	1.31	22.6	14.1	1.50	23.0	15.8	1.73	23.3	19.4	2.33	24.1	23.3	3.11	25.0
		96	7.7	0.81	21.3	9.2	0.97	21.5	12.4	1.30	22.0	14.1	1.49	22.3	15.8	1.70	22.6	19.4	2.26	23.2	23.3	2.99	23.9
		125	7.7	0.81	21.0	9.2	0.97	21.2	12.4	1.30	21.6	14.1	1.48	21.8	15.8	1.67	22.0	19.4	2.22	22.5	23.3	2.91	23.0
		150	7.7	0.81	20.8	9.2	0.97	21.0	12.4	1.30	21.3	14.1	1.48	21.5	15.8	1.66	21.7	19.5	2.20	22.1	23.3	2.86	22.5
	25	50	7.6	1.05	27.5	9.2	1.26	28.0	12.3	1.71	29.0	14.0	1.97	29.5	15.8	2.30	30.1	19.4	3.08	31.4	23.3	4.08	32.8
		75	7.6	1.05	26.7	9.2	1.26	27.0	12.3	1.67	27.7	14.0	1.91	28.0	15.8	2.20	28.4	19.4	2.92	29.2	23.3	3.85	30.2
		96	7.6	1.05	26.3	9.2	1.26	26.5	12.3	1.66	27.1	14.1	1.89	27.4	15.8	2.15	27.7	19.4	2.86	28.3	23.3	3.71	29.0
		125	7.6	1.05	26.0	9.2	1.26	26.2	12.3	1.66	26.6	14.1	1.88	26.8	15.8	2.13	27.0	19.4	2.78	27.5	23.3	3.62	28.1
		150	7.6	1.05	25.8	9.2	1.26	26.0	12.3	1.66	26.3	14.1	1.88	26.5	15.8	2.11	26.7	19.4	2.77	27.1	23.3	3.59	27.6
	30	50	7.7	1.33	32.6	9.1	1.56	33.0	12.3	2.09	34.1	14.0	2.39	34.7	15.8	2.81	35.3	19.4	3.71	36.6	23.2	4.85	38.0
		75	7.7	1.33	31.7	9.2	1.56	32.0	12.3	2.04	32.7	14.0	2.32	33.1	15.8	2.69	33.5	19.3	3.51	34.3	23.2	4.54	35.3
		96	7.7	1.33	31.3	9.2	1.56	31.6	12.3	2.03	32.1	14.0	2.29	32.4	15.8	2.65	32.7	19.4	3.45	33.4	23.2	4.43	34.1
		125	7.7	1.33	31.0	9.2	1.56	31.2	12.3	2.03	31.6	14.0	2.27	31.9	15.8	2.62	32.1	19.4	3.41	32.6	23.2	4.35	33.1
		150	7.7	1.33	30.9	9.2	1.56	31.0	12.3	2.03	31.4	14.0	2.26	31.5	15.8	2.60	31.7	19.4	3.36	32.2	23.3	4.30	32.6
	35	50	7.7	1.63	37.7	9.1	1.88	38.1	12.3	2.49	39.2	14.0	2.87	39.8	15.7	3.33	40.4	19.3	4.39	41.7	23.1	5.78	43.2
		75	7.7	1.63	36.8	9.1	1.88	37.1	12.3	2.44	37.8	14.0	2.78	38.2	15.7	3.21	38.6	19.3	4.19	39.5	23.1	5.41	40.4
		96	7.7	1.63	36.4	9.1	1.88	36.6	12.3	2.41	37.2	14.0	2.75	37.5	15.7	3.14	37.8	19.3	4.08	38.5	23.1	5.26	39.2
		125	7.7	1.63	36.1	9.1	1.88	36.3	12.3	2.40	36.7	14.0	2.71	36.9	15.7	3.12	37.1	19.3	4.03	37.7	23.2	5.18	38.2
		150	7.7	1.63	35.9	9.1	1.88	36.0	12.3	2.40	36.4	14.0	2.71	36.6	15.7	3.11	36.8	19.3	4.01	37.2	23.2	5.10	37.7

TC : Total capacity (kW)
PC : Power consumption (kW)

Model FDC335KXZWE1

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																				
			21℃DB 14℃WB			23℃DB 16℃WB			26℃DB 18℃WB			27℃DB 19℃WB			28℃DB 20℃WB			31℃DB 22℃WB			33℃DB 24℃WB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
150%	20	50	27.5	4.70	29.1	33.6	6.64	31.4	37.6	7.67	32.8	38.8	7.84	33.2	40.1	8.00	33.6	42.6	8.33	34.4	45.3	8.67	35.3
		75	27.5	4.37	26.0	33.7	6.13	27.5	38.5	7.36	28.7	39.8	7.48	28.9	41.1	7.62	29.2	43.8	7.88	29.8	46.6	8.15	30.4
		96	27.5	4.24	24.7	33.7	5.94	25.9	38.9	7.22	26.8	40.2	7.33	27.0	41.4	7.46	27.2	44.2	7.69	27.7	47.1	7.91	28.1
		125	27.5	4.18	23.6	33.7	5.77	24.5	39.1	7.10	25.2	40.4	7.20	25.4	41.8	7.30	25.6	44.6	7.51	25.9	47.5	7.72	26.3
		150	27.5	4.17	23.0	33.7	5.71	23.7	39.3	7.03	24.4	40.6	7.12	24.5	42.0	7.23	24.7	44.8	7.42	24.9	47.8	7.60	25.2
	25	50	27.4	5.54	34.3	33.5	7.85	36.7	36.2	8.19	37.6	37.4	8.32	37.9	38.6	8.50	38.3	41.0	8.88	39.1	43.6	9.27	40.0
		75	27.4	5.21	31.2	33.5	7.10	32.7	37.0	7.88	33.5	38.3	8.04	33.8	39.5	8.20	34.0	42.1	8.53	34.6	44.8	8.85	35.2
		96	27.5	5.13	29.8	33.6	6.94	31.0	37.3	7.77	31.7	38.6	7.91	31.9	39.9	8.07	32.1	42.5	8.37	32.5	45.3	8.67	33.0
		125	27.5	5.06	28.7	33.6	6.78	29.6	37.7	7.67	30.1	38.9	7.82	30.3	40.2	7.96	30.5	42.9	8.23	30.8	45.8	8.50	31.2
		150	27.5	5.02	28.1	33.6	6.74	28.8	37.8	7.62	29.3	39.0	7.76	29.4	40.4	7.90	29.6	43.1	8.16	29.9	46.0	8.40	30.2
	30	50	27.3	6.58	39.6	32.3	8.58	41.6	34.6	8.88	42.3	35.7	9.03	42.7	36.9	9.18	43.1	39.3	9.48	43.8	41.8	9.80	44.6
		75	27.4	6.17	36.3	33.1	8.27	37.8	35.4	8.51	38.3	36.6	8.63	38.6	37.9	8.76	38.8	40.4	9.06	39.4	43.0	9.44	39.9
		96	27.4	6.01	34.9	33.4	8.13	36.1	35.8	8.36	36.5	37.0	8.47	36.7	38.3	8.59	36.9	40.8	8.93	37.4	43.5	9.29	37.8
		125	27.4	5.93	33.8	33.6	8.02	34.7	36.1	8.24	35.0	37.3	8.33	35.2	38.6	8.49	35.3	41.2	8.83	35.7	43.9	9.16	36.0
		150	27.4	5.86	33.1	33.6	7.93	33.9	36.2	8.16	34.2	37.5	8.27	34.3	38.7	8.44	34.5	41.4	8.77	34.7	44.1	9.10	35.0
	35	50	27.3	7.83	44.9	30.9	9.33	46.4	32.9	9.57	47.0	34.0	9.69	47.4	35.1	9.85	47.8	37.5	10.20	48.5	39.9	10.55	49.3
		75	27.3	7.33	41.6	31.5	8.96	42.7	33.8	9.20	43.1	34.9	9.34	43.4	36.1	9.49	43.6	38.5	9.78	44.1	41.1	10.08	44.7
		96	27.4	7.18	40.1	31.8	8.80	41.0	34.1	9.06	41.4	35.3	9.20	41.6	36.4	9.34	41.8	39.0	9.61	42.2	41.6	9.88	42.6
		125	27.4	7.06	38.9	32.0	8.71	39.6	34.3	8.97	39.9	35.5	9.09	40.1	36.8	9.21	40.2	39.4	9.45	40.5	42.0	9.71	40.9
		150	27.4	7.01	38.3	32.2	8.66	38.9	34.5	8.91	39.1	35.7	9.03	39.2	36.9	9.14	39.4	39.5	9.38	39.6	42.2	9.66	39.9
140%	20	50	25.7	4.18	28.5	31.5	5.94	30.6	37.1	7.60	32.7	38.3	7.76	33.0	39.5	7.92	33.4	42.0	8.25	34.2	44.7	8.59	35.1
		75	25.7	3.92	25.6	31.5	5.48	27.0	37.9	7.29	28.5	39.1	7.42	28.8	40.5	7.55	29.1	43.1	7.82	29.6	45.9	8.10	30.2
		96	25.7	3.82	24.4	31.5	5.30	25.4	38.2	7.15	26.7	39.5	7.27	26.9	40.8	7.39	27.1	43.5	7.63	27.6	46.4	7.85	28.0
		125	25.7	3.78	23.3	31.6	5.19	24.2	38.5	7.04	25.2	39.8	7.15	25.3	41.1	7.26	25.5	43.9	7.46	25.8	46.8	7.65	26.2
		150	25.7	3.77	22.8	31.5	5.13	23.5	38.6	6.97	24.3	39.9	7.08	24.4	41.3	7.17	24.6	44.1	7.37	24.9	47.0	7.55	25.2
	25	50	25.6	4.98	33.7	31.4	6.91	35.9	35.6	8.13	37.4	36.8	8.26	37.8	38.0	8.41	38.2	40.5	8.78	39.0	43.0	9.18	39.8
		75	25.6	4.73	30.8	31.4	6.42	32.2	36.5	7.80	33.4	37.7	7.96	33.6	38.9	8.13	33.9	41.5	8.45	34.4	44.2	8.77	35.0
		96	25.6	4.63	29.5	31.5	6.26	30.6	36.8	7.69	31.6	38.0	7.85	31.8	39.3	7.99	32.0	41.9	8.29	32.4	44.7	8.60	32.9
		125	25.6	4.58	28.4	31.5	6.15	29.3	37.1	7.60	30.1	38.3	7.75	30.2	39.6	7.89	30.4	42.3	8.17	30.7	45.1	8.43	31.1
		150	25.7	4.56	27.9	31.5	6.10	28.6	37.2	7.56	29.2	38.5	7.70	29.4	39.7	7.83	29.5	42.4	8.09	29.8	45.3	8.34	30.1
	30	50	25.6	5.93	38.9	31.4	8.39	41.3	34.1	8.81	42.2	35.2	8.96	42.5	36.4	9.11	42.9	38.7	9.41	43.7	41.3	9.73	44.5
		75	25.6	5.57	35.9	31.4	7.61	37.4	34.9	8.46	38.2	36.1	8.58	38.4	37.3	8.70	38.7	39.8	8.97	39.2	42.4	9.35	39.8
		96	25.6	5.49	34.6	31.4	7.38	35.7	35.2	8.31	36.4	36.5	8.42	36.6	37.7	8.53	36.8	40.2	8.84	37.3	42.9	9.21	37.7
		125	25.6	5.39	33.5	31.5	7.23	34.4	35.5	8.19	35.0	36.7	8.29	35.1	38.0	8.41	35.3	40.6	8.75	35.6	43.3	9.09	36.0
		150	25.6	5.36	32.9	31.5	7.15	33.7	35.7	8.12	34.1	36.9	8.22	34.3	38.2	8.36	34.4	40.7	8.70	34.7	43.5	9.02	35.0
	35	50	25.6	7.08	44.3	30.4	9.28	46.2	32.5	9.52	46.9	33.6	9.64	47.2	34.7	9.78	47.6	37.0	10.12	48.4	39.4	10.47	49.1
		75	25.6	6.66	41.1	31.1	8.92	42.6	33.3	9.14	43.0	34.4	9.28	43.3	35.6	9.43	43.5	38.0	9.73	44.0	40.5	10.02	44.6
		96	25.6	6.54	39.8	31.4	8.76	40.9	33.6	9.01	41.3	34.8	9.14	41.5	36.0	9.28	41.7	38.4	9.54	42.1	41.0	9.82	42.5
		125	25.6	6.44	38.6	31.4	8.60	39.5	33.8	8.91	39.9	35.0	9.03	40.0	36.3	9.16	40.2	38.8	9.40	40.5	41.4	9.65	40.8
		150	25.6	6.41	38.0	31.4	8.54	38.8	34.0	8.85	39.1	35.2	8.97	39.2	36.4	9.09	39.3	38.9	9.33	39.6	41.6	9.57	39.9
130%	20	50	23.9	3.72	27.8	29.4	5.26	29.8	36.5	7.51	32.5	37.7	7.67	32.8	38.9	7.84	33.2	41.4	8.16	34.0	44.0	8.50	34.9
		75	23.9	3.52	25.2	29.5	4.90	26.5	37.3	7.22	28.4	38.5	7.35	28.7	39.7	7.49	28.9	42.4	7.74	29.5	45.2	8.02	30.1
		96	23.9	3.43	24.0	29.5	4.74	25.1	37.6	7.08	26.6	38.9	7.20	26.8	40.1	7.32	27.0	42.8	7.56	27.4	45.6	7.80	27.9
		125	23.9	3.41	23.1	29.5	4.64	23.9	37.8	6.98	25.1	39.1	7.09	25.2	40.4	7.20	25.4	43.2	7.40	25.7	46.0	7.61	26.1
		150	23.9	3.39	22.6	29.5	4.61	23.2	38.0	6.92	24.2	39.2	7.03	24.4	40.6	7.13	24.5	43.3	7.32	24.8	46.2	7.51	25.1
	25	50	23.9	4.50	33.1	29.4	6.17	35.1	35.1	8.06	37.2	36.2	8.19	37.6	37.4	8.33	38.0	39.8	8.69	38.8	42.4	9.08	39.6
		75	23.9	4.25	30.3	29.5	5.83	31.7	35.9	7.71	33.2	37.1	7.88	33.5	38.3	8.04	33.8	40.8	8.37	34.3	43.5	8.69	34.9
		96	23.9	4.20	29.2	29.5	5.68	30.2	36.2	7.61	31.5	37.4	7.77	31.7	38.7	7.91	31.9	41.2	8.22	32.3	43.9	8.52	32.8
		125	23.9	4.16	28.2	29.5	5.58	29.0	36.4	7.53	30.0	37.7	7.67	30.1	38.9	7.81	30.3	41.5	8.09	30.6	44.3	8.36	31.0
		150	23.9	4.15	27.7	29.5	5.54	28.3	36.5	7.49	29.2	37.8	7.62	29.3	39.1	7.76	29.4	41.7	8.02	29.7	44.5	8.29	30.0
	30	50	23.8	5.32	38.3	29.4	7.40	40.4	33.6	8.74	42.0	34.7	8.89	42.3	35.8	9.04	42.7	38.2	9.34	43.5	40.6	9.65	44.3
		75	23.9	5.06	35.5	29.4	6.87	36.9	34.4	8.39	38.1	35.5	8.52	38.3	36.7	8.64	38.6	39.2	8.89	39.1	41.8	9.26	39.7
		96	23.9	4.96	34.3	29.4	6.69	35.3	34.7	8.25	36.3	35.9	8.36	36.5	37.1	8.47	36.7	39.6	8.75	37.2	42.2	9.12	37.6
		125	23.9	4.90	33.3	29.4	6.53	34.1	34.9	8.14	34.9	36.2	8.23	35.0	37.4	8.34	35.2	39.9	8.66	35.5	42.6	9.00	35.9
		150	23.9	4.90	32.7	29.4	6.48	33.4	35.0	8.08	34.1	36.3	8.17	34.2	37.5	8.28	34.3	40.1	8.61	34.6	42.8	8.94	34.9
	35	50	23.8	6.34	43.6	29.2	8.77	45.8	32.0	9.46	46.8	33.1	9.58	47.1	34.2	9.70	47.4	36.4	10.04	48.2	38.8	10.39	49.0
		75	23.8	6.02	40.6	29.3	8.13	42.1	32.7	9.07	42.9	33.9	9.21	43.2	35.0	9.36	43.4	37.4	9.65	43.9	39.9	9.95	44.4
		96	23.8	5.91	39.4	29.3	7.91	40.5	33.1	8.94	41.2	34.2	9.08	41.4	35.4	9.21	41.6	37.8	9.48	42.0	40.4	9.75	42.4
		125	23.8	5.85	38.4	29.3	7.75	39.2	33.3	8.85	39.8	34.5	8.97	39.9	35.7	9.09	40.1	38.2	9.34	40.4	40.8	9.59	40.7
		150	23.8	5.84	37.8	29.3	7.70	38.5	33.4	8.80	39.0	34.6	8.91	39.1	35.8	9.04	39.2	38.3	9.27	39.5	41.0	9.51	39.8
120%	20	50	22.1	3.30	27.2	27.3	4.62	29.0	35.6	7.38	32.2	36.9	7.57	32.6	38.1	7.73	33.0	40.6	8.05	33.8	43.2	8.39	34.6
		75	22.1	3.13	24.8	27.3	4.30	26.0	35.6	6.74	28.0	37.7	7.27	28.5	39.0	7.40	28.8	41.5	7.66	29.3	44.2	7.93	29.9
		96	22.1	3.11	23.7	27.3	4.21	24.7	35.6	6.52	26.2	38.0	7.13	26.7	39.3	7.25	26.9	41.9	7.49	27.3	44.7	7.73	27.7
		125	22.1	3.08	22.9	27.3	4.12	23.6	35.6	6.32	24.8	38.3	7.02	25.1	39.6	7.12	25.3	42.2	7.33	25.6	45.1	7.54	26.0
		150	22.1	3.07	22.4	27.3	4.09	23.0	35.6	6.23	24.0	38.4	6.97	24.3	39.7	7.06	24.4	42.4	7.25	24.7	45.2	7.45	25.0
	25	50	22.0	3.98	32.4	27.3	5.49	34.3	34.4	7.98	37.0	35.5	8.12	37.4	36.7	8.25	37.7	39.1	8.57	38.5	41.6	8.96	39.3
		75	22.1	3.82	29.9	27.3	5.17	31.1	35.2	7.61	33.1	36.3	7.78	33.3	37.6	7.94	33.6	40.0	8.27	34.1	42.7	8.59	34.7
		96	22.1	3.77	28.8	27.3	5.07	29.8	35.5	7.52	31.3	36.6	7.67	31.5	37.9	7.82	31.8	40.4	8.12	32.2	43.1	8.42	32.6
		125	22.1	3.76	27.9	27.3	4.98	28.7	35.7	7.44	29.9	36.9	7.58	30.0	38.2	7.73	30.2	40.7	8.01	30.5	43.5	8.28	30.9
		150	22.1	3.75	27.5	27.3	4.96	28.1	35.8	7.39	29.1	37.0	7.54	29.2	38.3	7.67	29.3	40.9	7.94	29.6	43.6	8.20	29.9
	30	50	22.0	4.73	37.6	27.2	6.53	39.6	33.0	8.65	41.8	34.1	8.80	42.1	35.2	8.96	42.5	37.5	9.25	43.3	40.0	9.56	44.0
		75	22.0	4.51	35.0	27.2	6.10	36.3	33.7	8.33	37.9	34.8	8.44	38.2	36.0	8.57	38.4	38.5	8.81	38.9	41.0	9.14	39.5
		96	22.0	4.46	33.9	27.2	5.93	34.9	34.0	8.18	36.2	35.2	8.29	36.4	36.4	8.40	36.6	38.9	8.65	37.0	41.5	9.01	37.5
		125	22.0	4.45	33.0	27.2	5.86	33.8	34.2	8.08	34.8	35.4	8.18	34.9	36.6	8.27	35.1	39.2	8.56	35.4	41.8	8.90	35.8
		150	22.0	4.42	32.5	27.2	5.81	33.1	34.3	8.02	34.0	35.5	8.12	34.1	36.8	8.21	34.3	39.3	8.51	34.5	42.0	8.84	34.8
	35	50	22.0	5.64	42.8	27.2	7.77	44.9	31.5	9.39	46.6	32.6	9.51	46.9	33.6	9.64	47.2	35.8	9.95	48.0	38.2	10.29	48.7
		75	22.0	5.44	40.2	27.2	7.26	41.5	32.1	9.01	42.8	33.3	9.13	43.0	34.4	9.27	43.3	36.7	9.57	43.8	39.2	9.86	44.3
		96	22.0	5.34	39.0	27.2	7.09	40.1	32.4	8.87	41.1	33.6	9.00	41.3	34.7	9.13	41.5	37.1	9.41	41.9	39.7	9.68	42.3
		125	22.0	5.30	38.1	27.2	6.98	38.9	32.7	8.77	39.7	33.8	8.90	39.8	35.0	9.03	40.0	37.4	9.27	40.3	40.1	9.51	40.6
		150	22.0	5.28	37.6	27.2	6.93	38.2	32.8	8.72	38.9	33.9	8.85	39.0	35.1	8.97	39.2	37.6	9.20	39.4	40.2	9.44	39.7

TC : Total capacity (kW)
PC : Power consumption (kW)

(FDC335KXZWE1)

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																				
			21℃DB 14℃WB			23℃DB 16℃WB			26℃DB 18℃WB			27℃DB 19℃WB			28℃DB 20℃WB			31℃DB 22℃WB			33℃DB 24℃WB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
110%	20	50	20.3	2.90	26.6	25.2	4.04	28.3	32.8	6.35	31.1	36.1	7.46	32.3	37.3	7.62	32.7	39.7	7.95	33.5	42.3	8.28	34.3
		75	20.3	2.78	24.4	25.2	3.79	25.5	32.8	5.86	27.3	36.9	7.17	28.3	38.1	7.31	28.6	40.6	7.56	29.1	43.3	7.83	29.7
		96	20.3	2.77	23.4	25.2	3.73	24.3	32.8	5.67	25.7	37.2	7.04	26.5	38.4	7.16	26.7	41.0	7.40	27.1	43.7	7.64	27.6
		125	20.3	2.76	22.6	25.2	3.66	23.3	32.8	5.53	24.4	37.4	6.94	25.0	38.7	7.05	25.2	41.3	7.27	25.5	44.1	7.47	25.8
		150	20.3	2.76	22.2	25.2	3.64	22.7	32.9	5.47	23.6	37.4	6.73	24.2	38.8	6.99	24.3	41.4	7.19	24.6	44.2	7.38	24.9
	25	50	20.3	3.55	31.8	25.2	4.86	33.5	32.7	7.38	36.4	34.8	8.03	37.1	35.9	8.16	37.5	38.3	8.45	38.3	40.8	8.83	39.1
		75	20.3	3.42	29.5	25.2	4.60	30.6	32.8	6.84	32.5	35.6	7.67	33.2	36.8	7.83	33.4	39.2	8.15	34.0	41.8	8.48	34.5
		96	20.3	3.40	28.5	25.2	4.50	29.4	32.8	6.68	30.8	35.9	7.57	31.4	37.1	7.72	31.6	39.5	8.02	32.0	42.2	8.31	32.5
		125	20.3	3.40	27.7	25.2	4.45	28.4	32.8	6.53	29.5	36.1	7.49	29.9	37.3	7.63	30.1	39.8	7.91	30.4	42.5	8.18	30.8
		150	20.3	3.39	27.2	25.2	4.44	27.8	32.8	6.44	28.7	36.2	7.44	29.1	37.4	7.59	29.3	39.9	7.85	29.5	42.7	8.10	29.8
	30	50	20.3	4.21	37.0	25.1	5.75	38.8	32.3	8.56	41.6	33.4	8.70	41.9	34.5	8.85	42.3	36.8	9.16	43.0	39.1	9.46	43.8
		75	20.3	4.06	34.6	25.1	5.43	35.8	32.8	8.20	37.8	34.1	8.37	38.0	35.3	8.49	38.3	37.7	8.73	38.8	40.2	9.02	39.3
		96	20.3	4.03	33.6	25.1	5.33	34.5	32.8	8.00	36.0	34.4	8.22	36.3	35.6	8.33	36.5	38.0	8.56	36.9	40.6	8.89	37.3
		125	20.3	4.02	32.8	25.1	5.25	33.5	32.8	7.66	34.6	34.6	8.11	34.9	35.8	8.21	35.0	38.3	8.44	35.3	40.9	8.79	35.6
		150	20.3	4.02	32.3	25.1	5.21	32.9	32.8	7.56	33.8	34.8	8.05	34.0	36.0	8.15	34.2	38.5	8.40	34.4	41.1	8.72	34.7
	35	50	20.3	5.04	42.2	25.1	6.84	44.1	30.9	9.32	46.4	31.9	9.44	46.7	32.9	9.56	47.0	35.1	9.84	47.7	37.4	10.19	48.5
		75	20.3	4.87	39.8	25.1	6.47	41.0	31.5	8.95	42.6	32.6	9.05	42.9	33.7	9.18	43.1	36.0	9.47	43.6	38.4	9.77	44.1
		96	20.3	4.82	38.7	25.1	6.37	39.7	31.8	8.79	41.0	32.9	8.92	41.2	34.0	9.04	41.4	36.3	9.32	41.8	38.9	9.59	42.2
		125	20.3	4.79	37.9	25.1	6.27	38.6	32.0	8.69	39.6	33.1	8.82	39.8	34.3	8.94	39.9	36.7	9.19	40.2	39.2	9.43	40.5
		150	20.3	4.79	37.4	25.1	6.25	38.0	32.0	8.65	38.8	33.2	8.77	39.0	34.4	8.89	39.1	36.8	9.13	39.3	39.4	9.36	39.6
100%	20	50	18.5	2.52	26.0	22.9	3.47	27.5	30.0	5.43	30.0	33.6	6.62	31.4	36.3	7.49	32.4	38.7	7.80	33.2	41.2	8.14	34.0
		75	18.5	2.49	24.0	22.9	3.29	25.0	30.0	5.01	26.6	33.6	6.11	27.5	37.1	7.19	28.4	39.5	7.46	28.9	42.2	7.72	29.4
		96	18.5	2.46	23.1	22.9	3.24	23.9	30.0	4.87	25.2	33.7	5.92	25.9	37.4	7.06	26.6	39.9	7.30	27.0	42.5	7.54	27.4
		125	18.5	2.46	22.4	22.9	3.23	23.0	30.0	4.76	23.9	33.7	5.75	24.5	37.6	6.96	25.1	40.1	7.17	25.4	42.8	7.37	25.7
		150	18.5	2.46	22.0	22.9	3.21	22.5	30.0	4.73	23.3	33.7	5.68	23.7	37.7	6.90	24.2	40.3	7.10	24.5	43.0	7.29	24.8
	25	50	18.5	3.11	31.1	22.9	4.20	32.7	29.9	6.32	35.3	33.6	7.86	36.7	35.1	8.05	37.2	37.3	8.31	37.9	39.8	8.67	38.7
		75	18.5	3.04	29.1	22.9	4.01	30.1	29.9	5.93	31.8	33.6	7.10	32.7	35.8	7.69	33.2	38.2	8.01	33.7	40.7	8.35	34.3
		96	18.5	3.03	28.2	22.9	3.94	29.0	29.9	5.77	30.3	33.6	6.93	31.0	36.0	7.59	31.4	38.5	7.89	31.9	41.1	8.19	32.3
		125	18.5	3.03	27.4	22.9	3.93	28.1	29.9	5.68	29.0	33.6	6.77	29.6	36.3	7.50	30.0	38.7	7.79	30.3	41.3	8.07	30.6
		150	18.5	3.03	27.0	22.9	3.92	27.5	29.9	5.63	28.4	33.6	6.70	28.8	36.4	7.46	29.1	38.9	7.73	29.4	41.5	8.00	29.7
	30	50	18.5	3.72	36.3	22.9	5.01	37.9	29.8	7.56	40.6	32.5	8.59	41.6	33.6	8.74	42.0	35.8	9.04	42.7	38.2	9.34	43.5
		75	18.5	3.64	34.2	22.9	4.77	35.3	29.8	6.98	37.0	33.2	8.27	37.8	34.3	8.40	38.1	36.7	8.63	38.6	39.2	8.88	39.1
		96	18.5	3.62	33.3	22.9	4.69	34.1	29.8	6.80	35.4	33.5	8.13	36.1	34.6	8.24	36.3	37.0	8.47	36.7	39.6	8.74	37.1
		125	18.5	3.61	32.5	22.9	4.66	33.1	29.8	6.66	34.1	33.6	8.00	34.7	34.9	8.13	34.9	37.3	8.32	35.2	39.9	8.64	35.5
		150	18.5	3.61	32.1	22.9	4.63	32.6	29.8	6.58	33.4	33.6	7.92	33.9	35.0	8.07	34.1	37.4	8.26	34.3	40.0	8.59	34.6
	35	50	18.5	4.46	41.5	22.9	5.98	43.2	29.8	9.14	46.0	31.1	9.35	46.5	32.2	9.47	46.8	34.3	9.71	47.5	34.9	9.81	47.7
		75	18.5	4.35	39.3	22.9	5.70	40.4	29.8	8.32	42.2	31.8	8.97	42.7	32.8	9.08	42.9	35.1	9.36	43.4	37.5	9.66	43.9
		96	18.5	4.33	38.4	22.9	5.63	39.2	29.8	8.07	40.6	32.0	8.81	41.0	33.1	8.95	41.2	35.5	9.21	41.6	37.9	9.48	42.0
		125	18.5	4.31	37.6	22.9	5.55	38.2	29.8	7.94	39.3	32.2	8.72	39.6	33.4	8.85	39.8	35.7	9.09	40.1	38.2	9.34	40.4
		150	18.5	4.30	37.2	22.9	5.54	37.7	29.8	7.84	38.6	32.3	8.67	38.9	33.5	8.80	39.0	35.8	9.03	39.2	38.4	9.27	39.5
90%	20	50	16.5	2.18	25.3	20.6	2.95	26.7	26.9	4.53	28.9	30.2	5.51	30.1	33.7	6.68	31.4	37.4	7.61	32.7	39.8	7.94	33.5
		75	16.5	2.16	23.5	20.6	2.83	24.4	26.9	4.20	25.9	30.3	5.11	26.7	33.7	6.13	27.5	38.1	7.29	28.6	40.7	7.55	29.1
		96	16.5	2.15	22.8	20.6	2.81	23.5	26.9	4.11	24.6	30.3	4.94	25.2	33.7	5.94	25.9	38.4	7.14	26.7	41.0	7.39	27.1
		125	16.5	2.15	22.1	20.6	2.81	22.7	26.9	4.02	23.5	30.3	4.87	24.0	33.7	5.77	24.5	38.6	7.03	25.2	41.3	7.25	25.5
		150	16.5	2.15	21.8	20.6	2.81	22.2	26.9	4.01	22.9	30.3	4.80	23.3	33.7	5.71	23.7	38.8	6.97	24.3	41.4	7.17	24.6
	25	50	16.5	2.69	30.5	20.6	3.61	31.9	26.8	5.35	34.1	30.2	6.43	35.4	33.6	7.85	36.7	36.1	8.15	37.5	38.4	8.46	38.3
		75	16.5	2.66	28.6	20.6	3.48	29.6	26.8	5.05	31.0	30.2	6.04	31.9	33.6	7.09	32.7	36.8	7.82	33.4	39.3	8.15	34.0
		96	16.5	2.66	27.8	20.6	3.45	28.6	26.9	4.96	29.7	30.3	5.91	30.4	33.6	6.93	31.0	37.1	7.71	31.6	39.6	8.01	32.0
		125	16.5	2.66	27.2	20.6	3.45	27.7	26.9	4.88	28.6	30.3	5.79	29.1	33.6	6.78	29.6	37.4	7.61	30.1	39.9	7.90	30.4
		150	16.5	2.66	26.8	20.6	3.44	27.3	26.9	4.86	28.0	30.3	5.76	28.4	33.7	6.72	28.8	37.5	7.57	29.3	40.0	7.84	29.5
	30	50	16.5	3.23	35.6	20.6	4.31	37.1	26.8	6.37	39.4	30.1	7.67	40.7	32.5	8.56	41.6	34.6	8.86	42.3	36.9	9.16	43.1
		75	16.5	3.19	33.7	20.6	4.15	34.7	26.8	5.97	36.2	30.1	7.12	37.0	33.1	8.24	37.8	35.4	8.48	38.3	37.8	8.73	38.8
		96	16.5	3.19	32.9	20.6	4.10	33.7	26.8	5.83	34.8	30.2	6.93	35.5	33.4	8.10	36.1	35.7	8.33	36.5	38.2	8.55	36.9
		125	16.5	3.19	32.2	20.6	4.09	32.8	26.9	5.76	33.7	30.2	6.78	34.2	33.6	8.00	34.7	36.0	8.20	35.0	38.5	8.45	35.3
		150	16.5	3.19	31.9	20.6	4.08	32.3	26.9	5.71	33.1	30.2	6.70	33.5	33.7	7.94	33.9	36.1	8.14	34.2	38.6	8.39	34.5
	35	50	16.5	3.89	40.8	20.6	5.14	42.3	26.7	7.57	44.7	30.1	9.21	46.1	31.1	9.32	46.5	33.2	9.57	47.1	35.4	9.85	47.8
		75	16.5	3.83	38.9	20.6	4.95	39.8	26.8	7.11	41.4	30.1	8.49	42.3	31.7	8.95	42.7	33.9	9.19	43.2	36.3	9.48	43.7
		96	16.5	3.83	38.0	20.6	4.90	38.8	26.8	6.97	40.0	30.1	8.18	40.7	32.0	8.78	41.0	34.2	9.05	41.4	36.6	9.32	41.8
		125	16.5	3.81	37.3	20.6	4.89	37.9	26.8	6.84	38.8	30.1	8.02	39.3	32.2	8.69	39.6	34.5	8.94	39.9	36.9	9.19	40.2
		150	16.5	3.81	36.9	20.6	4.88	37.4	26.8	6.81	38.2	30.1	7.96	38.6	32.3	8.65	38.9	34.6	8.88	39.1	37.0	9.13	39.4
80%	20	50	14.6	1.91	24.7	18.3	2.50	25.9	23.9	3.74	27.9	26.9	4.54	28.9	29.9	5.44	30.0	35.7	7.36	32.2	38.1	7.68	33.0
		75	14.6	1.91	23.1	18.3	2.45	23.9	23.9	3.52	25.2	26.9	4.23	25.9	29.9	5.05	26.6	36.2	7.04	28.2	38.8	7.34	28.7
		96	14.6	1.91	22.4	18.3	2.45	23.1	23.9	3.44	24.0	26.9	4.11	24.6	29.9	4.89	25.1	36.2	6.75	26.3	39.1	7.17	26.8
		125	14.6	1.91	21.9	18.3	2.42	22.4	23.9	3.41	23.1	26.9	4.06	23.5	29.9	4.77	23.9	36.2	6.56	24.9	39.3	7.05	25.3
		150	14.6	1.91	21.6	18.3	2.43	22.0	23.9	3.40	22.6	26.9	4.02	22.9	29.9	4.74	23.3	36.3	6.49	24.0	39.5	6.99	24.4
	25	50	14.6	2.34	29.8	18.3	3.09	31.1	23.8	4.48	33.0	26.8	5.36	34.1	29.8	6.35	35.3	34.5	7.94	37.0	36.8	8.19	37.7
		75	14.6	2.33	28.2	18.3	3.01	29.0	23.8	4.25	30.3	26.8	5.06	31.0	29.8	5.95	31.8	35.2	7.57	33.1	37.5	7.89	33.6
		96	14.6	2.33	27.5	18.3	2.99	28.1	23.8	4.19	29.1	26.8	4.95	29.7	29.8	5.80	30.3	35.4	7.47	31.3	37.9	7.77	31.7
		125	14.6	2.33	26.9	18.3	2.99	27.4	23.8	4.14	28.2	26.9	4.89	28.6	29.8	5.70	29.0	35.6	7.39	29.9	38.1	7.67	30.2
		150	14.6	2.33	26.6	18.3	2.99	27.0	23.8	4.13	27.6	26.9	4.87	28.0	29.8	5.65	28.4	35.7	7.34	29.1	38.2	7.61	29.3
	30	50	14.6	2.80	35.0	18.3	3.69	36.3	23.8	5.34	38.3	26.8	6.37	39.4	29.8	7.57	40.6	33.2	8.62	41.8	35.4	8.92	42.6
		75	14.6	2.78	33.3	18.3	3.59	34.1	23.8	5.04	35.5	26.8	6.00	36.2	29.8	7.05	37.0	33.9	8.27	38.0	36.2	8.51	38.5
		96	14.6	2.78	32.6	18.3	3.59	33.2	23.8	4.96	34.3	26.8	5.83	34.8	29.8	6.84	35.4	34.1	8.12	36.2	36.5	8.35	36.6
		125	14.6	2.78	32.0	18.3	3.56	32.5	23.8	4.90	33.3	26.8	5.74	33.7	29.8	6.71	34.1	34.3	8.01	34.8	36.8	8.21	35.1
		150	14.6	2.78	31.6	18.3	3.56	32.1	23.8	4.87	32.7	26.8	5.70	33.1	29.9	6.64	33.5	34.4	7.96	34.0	36.9	8.14	34.3
	35	50	14.6	3.37	40.1	18.3	4.41	41.4	23.8	6.34	43.6	26.7	7.60	44.7	29.7	9.08	46.0	31.8	9.35	46.7	33.9	9.60	47.3
		75	14.6	3.34	38.4	18.3	4.29	39.3	23.8	6.03	40.6	26.7	7.12	41.4	29.7	8.34	42.2	32.4	8.96	42.8	34.7	9.24	43.3
		96	14.6	3.34	37.7	18.3	4.28	38.3	23.8	5.91	39.4	26.7	6.93	40.0	29.7	8.08	40.6	32.7	8.83	41.1	35.0	9.10	41.5
		125	14.6	3.34	37.0	18.3	4.27	37.6	23.8	5.86	38.4	26.8	6.86	38.8	29.8	7.94	39.3	32.9	8.73	39.7	35.3	8.97	40.0
		150	14.6	3.34	36.7	18.3	4.27	37.1	23.8	5.84	37.8	26.8	6.80	38.2	29.8	7.88	38.6	33.0	8.68	38.9	35.4	8.91	39.2

TC : Total capacity (kW)
PC : Power consumption (kW)

(FDC335KXZWE1)

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																				
			21℃DB 14℃WB			23℃DB 16℃WB			26℃DB 18℃WB			27℃DB 19℃WB			28℃DB 20℃WB			31℃DB 22℃WB			33℃DB 24℃WB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
70%	20	50	12.8	1.68	24.1	16.0	2.10	25.1	20.9	3.04	26.8	23.5	3.64	27.7	26.1	4.33	28.6	31.6	6.01	30.7	36.2	7.42	32.3
		75	12.8	1.68	22.7	16.0	2.07	23.4	20.9	2.91	24.5	23.5	3.42	25.1	26.2	4.05	25.7	31.6	5.55	27.0	36.8	7.11	28.3
		96	12.8	1.68	22.1	16.0	2.07	22.7	20.9	2.87	23.5	23.5	3.36	24.0	26.2	3.94	24.5	31.7	5.37	25.5	37.1	6.97	26.5
		125	12.8	1.68	21.6	16.0	2.07	22.1	20.9	2.87	22.7	23.5	3.34	23.1	26.2	3.89	23.4	31.7	5.26	24.2	37.3	6.87	25.0
		150	12.8	1.68	21.4	16.0	2.07	21.7	20.9	2.87	22.3	23.5	3.34	22.5	26.2	3.88	22.8	31.7	5.19	23.5	37.4	6.81	24.2
	25	50	12.8	2.08	29.2	15.9	2.58	30.3	20.9	3.70	32.0	23.4	4.37	32.9	26.1	5.17	33.9	31.6	7.04	36.0	35.0	7.98	37.2
		75	12.8	2.08	27.8	16.0	2.57	28.5	20.9	3.55	29.6	23.5	4.16	30.2	26.1	4.87	30.9	31.6	6.50	32.2	35.7	7.63	33.2
		96	12.8	2.08	27.2	16.0	2.56	27.7	20.9	3.51	28.6	23.5	4.11	29.1	26.1	4.77	29.6	31.6	6.34	30.6	35.9	7.52	31.4
		125	12.8	2.08	26.7	16.0	2.56	27.1	20.9	3.51	27.8	23.5	4.07	28.1	26.1	4.71	28.5	31.6	6.21	29.3	36.2	7.43	29.9
		150	12.8	2.08	26.4	16.0	2.56	26.8	20.9	3.50	27.3	23.5	4.05	27.6	26.1	4.67	27.9	31.6	6.15	28.6	36.2	7.39	29.1
	30	50	12.8	2.48	34.3	15.9	3.09	35.4	20.8	4.37	37.2	23.4	5.21	38.1	26.0	6.11	39.1	31.6	8.39	41.3	33.7	8.68	42.0
		75	12.8	2.48	32.9	16.0	3.08	33.6	20.8	4.20	34.7	23.4	4.92	35.4	26.1	5.75	36.0	31.6	7.70	37.4	34.4	8.32	38.1
		96	12.8	2.48	32.3	16.0	3.07	32.8	20.8	4.16	33.7	23.5	4.85	34.2	26.1	5.63	34.7	31.6	7.46	35.8	34.7	8.16	36.3
		125	12.8	2.48	31.7	16.0	3.07	32.2	20.8	4.15	32.8	23.5	4.81	33.2	26.1	5.52	33.6	31.6	7.29	34.4	34.9	8.04	34.9
		150	12.8	2.48	31.4	16.0	3.07	31.8	20.8	4.15	32.4	23.5	4.79	32.7	26.1	5.50	33.0	31.6	7.22	33.7	35.0	7.98	34.1
	35	50	12.8	2.93	39.5	15.9	3.72	40.6	20.7	5.21	42.4	23.3	6.17	43.4	26.0	7.28	44.4	30.4	9.16	46.2	32.4	9.40	46.8
		75	12.8	2.93	38.0	15.9	3.67	38.7	20.8	5.02	39.9	23.4	5.90	40.5	26.0	6.84	41.2	30.9	8.79	42.5	33.1	9.01	43.0
		96	12.8	2.93	37.3	15.9	3.66	37.9	20.8	4.99	38.8	23.4	5.79	39.3	26.0	6.71	39.8	31.1	8.63	40.9	33.3	8.88	41.2
		125	12.8	2.93	36.8	15.9	3.65	37.2	20.8	4.95	37.9	23.4	5.73	38.3	26.0	6.58	38.7	31.3	8.52	39.5	33.5	8.78	39.8
		150	12.8	2.93	36.5	15.9	3.66	36.9	20.8	4.95	37.4	23.4	5.72	37.8	26.0	6.56	38.1	31.4	8.48	38.8	33.7	8.72	39.0
60%	20	50	10.9	1.46	23.5	13.7	1.79	24.4	17.9	2.43	25.8	20.1	2.88	26.5	22.4	3.39	27.3	27.2	4.66	29.0	32.3	6.28	30.9
		75	10.9	1.45	22.4	13.7	1.78	22.9	17.9	2.38	23.8	20.1	2.75	24.3	22.4	3.21	24.9	27.2	4.33	26.0	32.3	5.80	27.2
		96	10.9	1.45	21.8	13.7	1.78	22.3	17.9	2.37	23.0	20.1	2.74	23.4	22.4	3.15	23.8	27.2	4.21	24.6	32.3	5.60	25.6
		125	10.9	1.45	21.4	13.7	1.78	21.8	17.9	2.37	22.3	20.1	2.74	22.6	22.4	3.13	22.9	27.2	4.15	23.6	32.3	5.46	24.3
		150	10.9	1.45	21.2	13.7	1.78	21.5	17.9	2.37	21.9	20.1	2.74	22.2	22.4	3.13	22.4	27.2	4.12	23.0	32.3	5.38	23.6
	25	50	10.9	1.80	28.6	13.7	2.20	29.5	17.9	2.99	30.9	20.1	3.52	31.7	22.4	4.10	32.5	27.1	5.48	34.2	32.2	7.31	36.2
		75	10.9	1.80	27.4	13.7	2.20	28.0	17.9	2.93	28.9	20.1	3.40	29.5	22.4	3.93	30.0	27.2	5.18	31.1	32.3	6.74	32.4
		96	10.9	1.80	26.9	13.7	2.20	27.4	17.9	2.92	28.1	20.1	3.37	28.5	22.4	3.85	28.9	27.2	5.08	29.8	32.3	6.58	30.7
		125	10.9	1.80	26.4	13.7	2.20	26.8	17.9	2.91	27.4	20.1	3.36	27.7	22.4	3.83	28.0	27.2	4.99	28.7	32.3	6.44	29.4
		150	10.9	1.80	26.2	13.7	2.20	26.5	17.9	2.91	27.0	20.1	3.35	27.2	22.4	3.81	27.5	27.2	4.97	28.0	32.3	6.36	28.7
	30	50	10.9	2.18	33.7	13.7	2.62	34.6	17.9	3.58	36.1	20.1	4.17	36.9	22.4	4.87	37.7	27.1	6.55	39.5	31.7	8.37	41.4
		75	10.9	2.18	32.5	13.7	2.62	33.1	17.9	3.50	34.1	20.1	4.01	34.6	22.4	4.64	35.1	27.1	6.10	36.3	32.2	8.03	37.6
		96	10.9	2.18	31.9	13.7	2.61	32.4	17.9	3.48	33.2	20.1	3.99	33.6	22.4	4.56	34.0	27.1	5.96	34.9	32.2	7.83	35.9
		125	10.9	2.18	31.5	13.7	2.61	31.9	17.9	3.48	32.4	20.1	3.99	32.7	22.4	4.53	33.1	27.1	5.86	33.7	32.2	7.52	34.5
		150	10.9	2.18	31.2	13.7	2.61	31.5	17.9	3.48	32.0	20.1	3.99	32.3	22.4	4.52	32.5	27.1	5.79	33.1	32.2	7.46	33.8
	35	50	10.9	2.58	38.8	13.7	3.13	39.8	17.8	4.28	41.3	20.1	4.98	42.1	22.4	5.82	43.0	27.1	7.82	44.9	30.5	9.13	46.2
		75	10.9	2.58	37.5	13.7	3.10	38.2	17.8	4.17	39.2	20.1	4.83	39.7	22.4	5.56	40.3	27.1	7.26	41.5	31.1	8.76	42.5
		96	10.9	2.58	37.0	13.7	3.10	37.5	17.8	4.16	38.3	20.1	4.76	38.7	22.4	5.48	39.1	27.1	7.10	40.1	31.3	8.60	40.9
		125	10.9	2.57	36.5	13.7	3.10	36.9	17.9	4.16	37.5	20.1	4.75	37.8	22.4	5.42	38.2	27.1	6.98	38.9	31.5	8.50	39.5
		150	10.9	2.57	36.3	13.7	3.10	36.6	17.9	4.16	37.1	20.1	4.73	37.3	22.4	5.41	37.6	27.1	6.93	38.2	31.6	8.46	38.8
50%	20	50	9.1	1.21	22.9	11.3	1.50	23.7	14.9	1.93	24.8	16.8	2.24	25.4	18.7	2.58	26.0	22.7	3.44	27.4	27.0	4.58	29.0
		75	9.1	1.21	21.9	11.3	1.49	22.4	14.9	1.93	23.2	16.8	2.20	23.6	18.7	2.52	24.0	22.7	3.26	24.9	27.0	4.26	25.9
		96	9.1	1.21	21.5	11.3	1.49	21.9	14.9	1.93	22.5	16.8	2.20	22.8	18.7	2.51	23.1	22.7	3.21	23.8	27.0	4.18	24.6
		125	9.1	1.21	21.2	11.3	1.49	21.5	14.9	1.93	21.9	16.8	2.20	22.2	18.7	2.51	22.4	22.7	3.20	22.9	27.0	4.08	23.5
		150	9.1	1.21	21.0	11.3	1.49	21.2	14.9	1.93	21.6	16.8	2.20	21.8	18.7	2.51	22.0	22.7	3.19	22.5	27.0	4.06	22.9
	25	50	9.1	1.53	28.0	11.4	1.86	28.8	14.9	2.39	29.9	16.8	2.76	30.6	18.7	3.18	31.2	22.7	4.17	32.6	27.0	5.44	34.2
		75	9.1	1.53	27.0	11.4	1.86	27.5	14.9	2.37	28.3	16.8	2.71	28.7	18.7	3.09	29.1	22.7	3.98	30.1	27.0	5.14	31.1
		96	9.1	1.53	26.6	11.4	1.86	27.0	14.9	2.37	27.6	16.8	2.71	27.9	18.7	3.08	28.2	22.7	3.92	28.9	27.0	5.02	29.7
		125	9.1	1.53	26.2	11.4	1.86	26.5	14.9	2.37	27.0	16.8	2.71	27.2	18.7	3.07	27.5	22.7	3.88	28.0	27.0	4.93	28.6
		150	9.1	1.53	26.0	11.4	1.86	26.3	14.9	2.36	26.6	16.8	2.71	26.8	18.7	3.07	27.1	22.7	3.87	27.5	27.0	4.90	28.0
	30	50	9.1	1.87	33.1	11.4	2.24	33.9	14.9	2.87	35.1	16.7	3.28	35.7	18.7	3.79	36.4	22.6	4.94	37.8	26.9	6.48	39.5
		75	9.1	1.87	32.1	11.4	2.24	32.6	14.9	2.85	33.4	16.7	3.24	33.8	18.7	3.68	34.2	22.6	4.70	35.2	26.9	6.04	36.2
		96	9.1	1.87	31.6	11.4	2.24	32.0	14.9	2.85	32.6	16.8	3.23	33.0	18.7	3.67	33.3	22.6	4.63	34.0	26.9	5.90	34.9
		125	9.1	1.87	31.2	11.4	2.24	31.5	14.9	2.85	32.0	16.8	3.23	32.3	18.7	3.67	32.5	22.6	4.60	33.1	26.9	5.80	33.7
		150	9.1	1.87	31.0	11.4	2.24	31.3	14.9	2.85	31.7	16.8	3.23	31.9	18.7	3.65	32.1	22.7	4.59	32.6	26.9	5.75	33.1
	35	50	9.1	2.24	38.2	11.4	2.68	39.0	14.9	3.44	40.2	16.7	3.93	40.9	18.7	4.53	41.6	22.6	5.90	43.1	26.9	7.69	44.8
		75	9.1	2.24	37.1	11.4	2.68	37.7	14.9	3.42	38.5	16.8	3.89	38.9	18.7	4.41	39.4	22.6	5.63	40.3	26.9	7.17	41.4
		96	9.1	2.24	36.7	11.4	2.68	37.1	14.9	3.42	37.7	16.8	3.89	38.1	18.7	4.37	38.4	22.6	5.56	39.2	26.9	7.01	40.0
		125	9.1	2.24	36.3	11.4	2.68	36.6	14.9	3.39	37.1	16.8	3.88	37.4	18.7	4.36	37.6	22.6	5.50	38.2	26.9	6.89	38.8
		150	9.1	2.24	36.1	11.4	2.68	36.3	14.9	3.39	36.7	16.8	3.86	37.0	18.7	4.36	37.2	22.6	5.47	37.7	26.9	6.85	38.2

TC : Total capacity (kW)
PC : Power consumption (kW)

(b) Heating mode

Model FDC224KXZWE1

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																	
			16℃CDB			18℃CDB			20℃CDB			21℃CDB			22℃CDB			24℃CDB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
150%	20	50	24.5	3.32	13.8	24.2	3.45	14.0	24.0	3.57	14.0	23.8	3.63	14.1	23.8	3.69	14.1	23.6	3.84	14.2
		75	25.8	3.40	15.7	25.6	3.55	15.7	25.3	3.68	15.8	25.2	3.75	15.8	25.1	3.81	15.9	24.8	3.93	15.9
		96	26.5	3.44	16.5	26.2	3.59	16.6	26.1	3.74	16.6	25.9	3.80	16.6	25.7	3.87	16.7	25.4	3.99	16.7
		125	27.1	3.48	17.3	26.8	3.63	17.3	26.6	3.78	17.3	26.5	3.85	17.4	26.3	3.91	17.4	26.0	4.04	17.4
		150	27.5	3.50	17.7	27.2	3.66	17.7	26.9	3.80	17.8	26.8	3.87	17.8	26.6	3.93	17.8	26.4	4.07	17.8
	25	50	27.3	3.49	18.1	27.0	3.64	18.2	26.8	3.79	18.3	26.7	3.87	18.3	26.6	3.93	18.4	26.3	4.07	18.5
		75	28.8	3.57	20.1	28.7	3.75	20.2	28.3	3.90	20.2	28.2	3.98	20.3	28.1	4.06	20.3	27.8	4.21	20.4
		96	28.8	3.57	21.2	28.7	3.75	21.2	28.3	3.90	21.3	28.2	3.98	21.3	28.1	4.06	21.3	27.8	4.21	21.4
		125	28.8	3.57	22.1	28.7	3.75	22.1	28.3	3.90	22.1	28.2	3.98	22.2	28.1	4.06	22.2	27.8	4.21	22.2
		150	28.8	3.57	22.5	28.7	3.75	22.6	28.3	3.90	22.6	28.2	3.98	22.6	28.1	4.06	22.7	27.8	4.21	22.7
	30	50	28.8	3.57	22.6	28.7	3.75	22.7	28.3	3.90	22.9	28.2	3.98	22.9	28.1	4.06	23.0	27.8	4.21	23.1
		75	28.8	3.57	25.1	28.7	3.75	25.1	28.3	3.90	25.2	28.2	3.98	25.3	28.1	4.06	25.3	27.8	4.21	25.4
		96	28.8	3.57	26.2	28.7	3.75	26.2	28.3	3.90	26.3	28.2	3.98	26.3	28.1	4.06	26.3	27.8	4.21	26.4
		125	28.8	3.57	27.1	28.7	3.75	27.1	28.3	3.90	27.1	28.2	3.98	27.2	28.1	4.06	27.2	27.8	4.21	27.2
		150	28.8	3.57	27.5	28.7	3.75	27.6	28.3	3.90	27.6	28.2	3.98	27.6	28.1	4.06	27.7	27.8	4.21	27.7
	35	50	28.8	3.57	27.6	28.7	3.75	27.7	28.3	3.90	27.8	28.2	3.98	27.9	28.1	4.06	28.0	27.8	4.21	28.1
		75	28.8	3.57	30.1	28.7	3.75	30.1	28.3	3.90	30.2	28.2	3.98	30.3	28.1	4.06	30.3	27.8	4.21	30.4
		96	28.8	3.57	31.2	28.7	3.75	31.2	28.3	3.90	31.3	28.2	3.98	31.3	28.1	4.06	31.3	27.8	4.21	31.4
		125	28.8	3.57	32.0	28.7	3.75	32.1	28.3	3.90	32.1	28.2	3.98	32.2	28.1	4.06	32.2	27.8	4.21	32.2
		150	28.8	3.57	32.5	28.7	3.75	32.6	28.3	3.90	32.6	28.2	3.98	32.6	28.1	4.06	32.7	27.8	4.21	32.7
140%	20	50	24.3	3.38	13.9	24.1	3.51	14.0	23.8	3.63	14.1	23.8	3.69	14.1	23.7	3.76	14.2	23.5	3.92	14.3
		75	25.7	3.48	15.7	25.5	3.62	15.8	25.2	3.75	15.8	25.1	3.81	15.9	25.0	3.87	15.9	24.7	4.00	16.0
		96	26.4	3.52	16.5	26.1	3.67	16.6	25.9	3.80	16.7	25.7	3.87	16.7	25.5	3.93	16.7	25.3	4.05	16.8
		125	26.9	3.56	17.3	26.7	3.71	17.3	26.4	3.85	17.4	26.3	3.92	17.4	26.1	3.98	17.4	25.8	4.10	17.5
		150	27.3	3.59	17.7	27.0	3.74	17.7	26.7	3.88	17.8	26.6	3.94	17.8	26.5	4.01	17.8	26.2	4.14	17.9
	25	50	27.1	3.57	18.1	26.9	3.73	18.2	26.7	3.87	18.3	26.6	3.94	18.4	26.4	4.00	18.5	26.2	4.14	18.6
		75	28.7	3.68	20.1	28.5	3.84	20.2	28.3	4.00	20.3	28.1	4.07	20.3	27.9	4.14	20.4	27.7	4.29	20.4
		96	28.7	3.68	21.2	28.5	3.84	21.3	28.3	4.00	21.3	28.1	4.07	21.3	27.9	4.14	21.4	27.7	4.29	21.4
		125	28.7	3.68	22.1	28.5	3.84	22.1	28.3	4.00	22.2	28.1	4.07	22.2	27.9	4.14	22.2	27.7	4.29	22.3
		150	28.7	3.68	22.6	28.5	3.84	22.6	28.3	4.00	22.6	28.1	4.07	22.7	27.9	4.14	22.7	27.7	4.29	22.7
	30	50	28.7	3.68	22.7	28.5	3.84	22.8	28.3	4.00	22.9	28.1	4.07	23.0	27.9	4.14	23.0	27.7	4.29	23.1
		75	28.7	3.68	25.1	28.5	3.84	25.2	28.3	4.00	25.3	28.1	4.07	25.3	27.9	4.14	25.4	27.7	4.29	25.4
		96	28.7	3.68	26.2	28.5	3.84	26.3	28.3	4.00	26.3	28.1	4.07	26.3	27.9	4.14	26.4	27.7	4.29	26.4
		125	28.7	3.68	27.1	28.5	3.84	27.1	28.3	4.00	27.2	28.1	4.07	27.2	27.9	4.14	27.2	27.7	4.29	27.3
		150	28.7	3.68	27.6	28.5	3.84	27.6	28.3	4.00	27.6	28.1	4.07	27.7	27.9	4.14	27.7	27.7	4.29	27.7
	35	50	28.7	3.68	27.7	28.5	3.84	27.8	28.3	4.00	27.9	28.1	4.07	28.0	27.9	4.14	28.0	27.7	4.29	28.1
		75	28.7	3.68	30.1	28.5	3.84	30.2	28.3	4.00	30.3	28.1	4.07	30.3	27.9	4.14	30.4	27.7	4.29	30.4
		96	28.7	3.68	31.2	28.5	3.84	31.2	28.3	4.00	31.3	28.1	4.07	31.3	27.9	4.14	31.4	27.7	4.29	31.4
		125	28.7	3.68	32.1	28.5	3.84	32.1	28.3	4.00	32.2	28.1	4.07	32.2	27.9	4.14	32.2	27.7	4.29	32.3
		150	28.7	3.68	32.6	28.5	3.84	32.6	28.3	4.00	32.6	28.1	4.07	32.7	27.9	4.14	32.7	27.7	4.29	32.7
130%	20	50	24.2	3.46	14.0	24.0	3.58	14.1	23.7	3.70	14.2	23.7	3.77	14.2	23.6	3.85	14.2	23.5	4.01	14.3
		75	25.6	3.57	15.7	25.3	3.69	15.8	25.1	3.83	15.9	24.9	3.89	15.9	24.8	3.94	15.9	24.6	4.11	16.0
		96	26.2	3.62	16.6	26.0	3.76	16.6	25.7	3.88	16.7	25.5	3.94	16.7	25.4	4.00	16.7	25.2	4.15	16.8
		125	26.8	3.66	17.3	26.5	3.80	17.3	26.2	3.93	17.4	26.0	3.99	17.4	25.9	4.06	17.4	25.7	4.19	17.5
		150	27.2	3.69	17.7	26.8	3.83	17.8	26.6	3.97	17.8	26.4	4.03	17.8	26.3	4.09	17.8	25.9	4.21	17.9
	25	50	26.9	3.67	18.2	26.7	3.82	18.3	26.5	3.96	18.4	26.3	4.02	18.5	26.3	4.09	18.5	26.0	4.22	18.6
		75	28.6	3.79	20.2	28.3	3.95	20.3	28.0	4.10	20.3	27.8	4.17	20.4	27.8	4.24	20.4	26.3	4.05	20.7
		96	28.6	3.79	21.2	28.3	3.95	21.3	28.0	4.10	21.4	27.8	4.17	21.4	27.8	4.24	21.4	26.3	4.05	21.6
		125	28.6	3.79	22.1	28.3	3.95	22.2	28.0	4.10	22.2	27.8	4.17	22.2	27.8	4.24	22.2	26.3	4.05	22.4
		150	28.6	3.79	22.6	28.3	3.95	22.6	28.0	4.10	22.7	27.8	4.17	22.7	27.8	4.24	22.7	26.3	4.05	22.8
	30	50	28.6	3.79	22.8	28.3	3.95	22.9	28.0	4.10	23.0	27.8	4.17	23.1	27.8	4.24	23.1	26.3	4.05	23.5
		75	28.6	3.79	25.2	28.3	3.95	25.3	28.0	4.10	25.3	27.8	4.17	25.4	27.8	4.24	25.4	26.3	4.05	25.7
		96	28.6	3.79	26.2	28.3	3.95	26.3	28.0	4.10	26.4	27.8	4.17	26.4	27.8	4.24	26.4	26.3	4.05	26.6
		125	28.6	3.79	27.1	28.3	3.95	27.2	28.0	4.10	27.2	27.8	4.17	27.2	27.8	4.24	27.2	26.3	4.05	27.4
		150	28.6	3.79	27.6	28.3	3.95	27.6	28.0	4.10	27.7	27.8	4.17	27.7	27.8	4.24	27.7	26.3	4.05	27.8
	35	50	28.6	3.79	27.8	28.3	3.95	27.9	28.0	4.10	28.0	27.8	4.17	28.1	27.8	4.24	28.1	26.3	4.05	28.5
		75	28.6	3.79	30.2	28.3	3.95	30.2	28.0	4.10	30.3	27.8	4.17	30.4	27.8	4.24	30.4	26.3	4.05	30.6
		96	28.6	3.79	31.2	28.3	3.95	31.3	28.0	4.10	31.3	27.8	4.17	31.4	27.8	4.24	31.4	26.3	4.05	31.6
		125	28.6	3.79	32.1	28.3	3.95	32.1	28.0	4.10	32.2	27.8	4.17	32.2	27.8	4.24	32.2	26.3	4.05	32.4
		150	28.6	3.79	32.6	28.3	3.95	32.6	28.0	4.10	32.7	27.8	4.17	32.7	27.8	4.24	32.7	26.3	4.05	32.8
120%	20	50	24.1	3.54	14.0	23.8	3.65	14.1	23.6	3.79	14.2	23.5	3.87	14.3	23.5	3.95	14.3	23.3	4.10	14.4
		75	25.4	3.66	15.8	25.1	3.78	15.9	24.9	3.90	15.9	24.7	3.96	16.0	24.6	4.05	16.0	24.4	4.21	16.1
		96	26.1	3.72	16.6	25.7	3.85	16.7	25.5	3.97	16.7	25.4	4.03	16.8	25.2	4.10	16.8	24.4	4.12	16.9
		125	26.6	3.77	17.3	26.3	3.90	17.4	26.0	4.03	17.4	25.9	4.08	17.5	25.8	4.15	17.5	24.4	4.02	17.6
		150	26.9	3.80	17.8	26.6	3.93	17.8	26.3	4.06	17.8	26.2	4.12	17.9	26.0	4.18	17.9	24.4	3.96	18.0
	25	50	26.8	3.78	18.3	26.6	3.93	18.4	26.3	4.06	18.5	26.2	4.12	18.5	26.0	4.18	18.6	24.4	3.92	19.0
		75	28.4	3.92	20.2	28.1	4.07	20.3	27.8	4.21	20.4	27.7	4.28	20.4	26.9	4.17	20.6	24.4	3.68	21.0
		96	28.4	3.92	21.3	28.1	4.07	21.3	27.8	4.21	21.4	27.7	4.28	21.4	26.9	4.17	21.5	24.4	3.68	21.8
		125	28.4	3.92	22.1	28.1	4.07	22.2	27.8	4.21	22.2	27.7	4.28	22.3	26.9	4.17	22.3	24.4	3.68	22.6
		150	28.4	3.92	22.6	28.1	4.07	22.7	27.8	4.21	22.7	27.7	4.28	22.7	26.9	4.17	22.8	24.4	3.68	23.0
	30	50	28.4	3.92	22.9	28.1	4.07	23.0	27.8	4.21	23.1	27.7	4.28	23.2	26.9	4.17	23.3	24.4	3.68	23.9
		75	28.4	3.92	25.2	28.1	4.07	25.3	27.8	4.21	25.4	27.7	4.28	25.4	26.9	4.17	25.6	24.4	3.68	26.0
		96	28.4	3.92	26.3	28.1	4.07	26.3	27.8	4.21	26.4	27.7	4.28	26.4	26.9	4.17	26.5	24.4	3.68	26.8
		125	28.4	3.92	27.1	28.1	4.07	27.2	27.8	4.21	27.2	27.7	4.28	27.3	26.9	4.17	27.3	24.4	3.68	27.6
		150	28.4	3.92	27.6	28.1	4.07	27.7	27.8	4.21	27.7	27.7	4.28	27.7	26.9	4.17	27.8	24.4	3.68	28.0
	35	50	28.4	3.92	27.8	28.1	4.07	28.0	27.8	4.21	28.1	27.7	4.28	28.1	26.9	4.17	28.3	24.4	3.68	28.9
		75	28.4	3.92	30.2	28.1	4.07	30.3	27.8	4.21	30.4	27.7	4.28	30.4	26.9	4.17	30.6	24.4	3.68	31.0
		96	28.4	3.92	31.3	28.1	4.07	31.3	27.8	4.21	31.4	27.7	4.28	31.4	26.9	4.17	31.5	24.4	3.68	31.8
		125	28.4	3.92	32.1	28.1	4.07	32.2	27.8	4.21	32.2	27.7	4.28	32.3	26.9	4.17	32.3	24.4	3.68	32.6
		150	28.4	3.92	32.6	28.1	4.07	32.7	27.8	4.21	32.7	27.7	4.28	32.7	26.9	4.17	32.8	24.4	3.68	33.0

TC : Total capacity (kW)
PC : Power consumption (kW)

(FDC224KXZWE1)

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																	
			16℃CDB			18℃CDB			20℃CDB			21℃CDB			22℃CDB			24℃CDB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
110%	20	50	23.8	3.63	14.1	23.7	3.76	14.2	23.5	3.92	14.3	23.4	3.99	14.3	23.3	4.07	14.4	22.6	4.09	14.6
		75	25.2	3.77	15.8	24.9	3.89	15.9	24.7	4.03	16.0	24.6	4.11	16.0	24.5	4.19	16.0	22.6	3.85	16.3
		96	25.8	3.83	16.7	25.5	3.96	16.7	25.3	4.08	16.8	25.1	4.16	16.8	25.0	4.24	16.8	22.6	3.76	17.1
		125	26.3	3.88	17.4	26.0	4.01	17.4	25.8	4.14	17.5	25.6	4.21	17.5	25.0	4.12	17.6	22.6	3.67	17.8
		150	26.6	3.91	17.8	26.4	4.05	17.8	26.1	4.17	17.9	25.9	4.23	17.9	25.0	4.06	18.0	22.6	3.62	18.2
	25	50	26.6	3.91	18.4	26.3	4.04	18.5	26.1	4.17	18.6	26.0	4.24	18.6	25.0	4.05	18.9	22.6	3.57	19.4
		75	28.1	4.06	20.3	27.8	4.20	20.4	27.1	4.22	20.5	25.9	3.99	20.7	25.0	3.81	20.9	22.6	3.38	21.2
		96	28.1	4.06	21.3	27.8	4.20	21.4	27.1	4.22	21.5	25.9	3.99	21.7	25.0	3.81	21.8	22.6	3.38	22.1
		125	28.1	4.06	22.2	27.8	4.20	22.2	27.1	4.22	22.3	25.9	3.99	22.4	25.0	3.81	22.5	22.6	3.38	22.7
		150	28.1	4.06	22.7	27.8	4.20	22.7	27.1	4.22	22.8	25.9	3.99	22.9	25.0	3.81	22.9	22.6	3.38	23.1
	30	50	28.1	4.06	23.0	27.8	4.20	23.1	27.1	4.22	23.3	25.9	3.99	23.6	25.0	3.81	23.8	22.6	3.38	24.4
		75	28.1	4.06	25.3	27.8	4.20	25.4	27.1	4.22	25.5	25.9	3.99	25.7	25.0	3.81	25.9	22.6	3.38	26.2
		96	28.1	4.06	26.3	27.8	4.20	26.4	27.1	4.22	26.5	25.9	3.99	26.7	25.0	3.81	26.8	22.6	3.38	27.1
		125	28.1	4.06	27.2	27.8	4.20	27.2	27.1	4.22	27.3	25.9	3.99	27.4	25.0	3.81	27.5	22.6	3.38	27.7
		150	28.1	4.06	27.7	27.8	4.20	27.7	27.1	4.22	27.8	25.9	3.99	27.9	25.0	3.81	27.9	22.6	3.38	28.1
	35	50	28.1	4.06	28.0	27.8	4.20	28.1	27.1	4.22	28.3	25.9	3.99	28.6	25.0	3.81	28.8	22.6	3.38	29.4
		75	28.1	4.06	30.3	27.8	4.20	30.4	27.1	4.22	30.5	25.9	3.99	30.7	25.0	3.81	30.9	22.6	3.38	31.2
		96	28.1	4.06	31.3	27.8	4.20	31.4	27.1	4.22	31.5	25.9	3.99	31.6	25.0	3.81	31.8	22.6	3.38	32.1
		125	28.1	4.06	32.2	27.8	4.20	32.2	27.1	4.22	32.3	25.9	3.99	32.4	25.0	3.81	32.5	22.6	3.38	32.7
		150	28.1	4.06	32.7	27.8	4.20	32.7	27.1	4.22	32.8	25.9	3.99	32.9	25.0	3.81	32.9	22.6	3.38	33.1
100%	20	50	23.7	3.75	14.2	23.4	3.90	14.3	23.3	4.06	14.4	23.2	4.14	14.4	22.6	4.08	14.6	20.8	3.68	15.0
		75	24.9	3.89	15.9	24.7	4.02	16.0	24.5	4.18	16.0	23.8	4.11	16.2	22.6	3.87	16.4	20.8	3.48	16.6
		96	25.5	3.96	16.7	25.3	4.08	16.8	25.0	4.24	16.8	23.8	3.99	17.0	22.6	3.75	17.1	20.8	3.41	17.4
		125	26.0	4.01	17.4	25.8	4.14	17.5	25.0	4.13	17.6	23.8	3.90	17.7	22.6	3.68	17.8	20.8	3.32	18.0
		150	26.4	4.06	17.8	26.0	4.17	17.9	25.0	4.07	18.0	23.8	3.83	18.1	22.6	3.63	18.2	20.8	3.29	18.3
	25	50	26.3	4.05	18.5	26.0	4.17	18.6	25.0	4.04	18.9	23.8	3.80	19.1	22.6	3.57	19.4	20.8	3.21	19.9
		75	27.8	4.22	20.4	26.8	4.15	20.6	25.0	3.80	20.9	23.8	3.58	21.1	22.6	3.36	21.2	20.8	3.21	21.6
		96	27.8	4.22	21.4	26.8	4.15	21.5	25.0	3.80	21.8	23.8	3.58	21.9	22.6	3.36	22.1	20.8	3.21	22.3
		125	27.8	4.22	22.2	26.8	4.15	22.3	25.0	3.80	22.5	23.8	3.58	22.6	22.6	3.36	22.7	20.8	3.21	22.9
		150	27.8	4.22	22.7	26.8	4.15	22.8	25.0	3.80	22.9	23.8	3.58	23.0	22.6	3.36	23.1	20.8	3.21	23.3
	30	50	27.8	4.22	23.1	26.8	4.15	23.4	25.0	3.80	23.8	23.8	3.58	24.1	22.6	3.36	24.4	20.8	3.21	24.9
		75	27.8	4.22	25.4	26.8	4.15	25.6	25.0	3.80	25.9	23.8	3.58	26.1	22.6	3.36	26.2	20.8	3.21	26.6
		96	27.8	4.22	26.4	26.8	4.15	26.5	25.0	3.80	26.8	23.8	3.58	26.9	22.6	3.36	27.1	20.8	3.21	27.3
		125	27.8	4.22	27.2	26.8	4.15	27.3	25.0	3.80	27.5	23.8	3.58	27.6	22.6	3.36	27.7	20.8	3.21	27.9
		150	27.8	4.22	27.7	26.8	4.15	27.8	25.0	3.80	27.9	23.8	3.58	28.0	22.6	3.36	28.1	20.8	3.21	28.3
	35	50	27.8	4.22	28.1	26.8	4.15	28.3	25.0	3.80	28.8	23.8	3.58	29.1	22.6	3.36	29.3	20.8	3.21	29.9
		75	27.8	4.22	30.4	26.8	4.15	30.6	25.0	3.80	30.9	23.8	3.58	31.1	22.6	3.36	31.2	20.8	3.21	31.6
		96	27.8	4.22	31.4	26.8	4.15	31.5	25.0	3.80	31.8	23.8	3.58	31.9	22.6	3.36	32.1	20.8	3.21	32.3
		125	27.8	4.22	32.2	26.8	4.15	32.3	25.0	3.80	32.5	23.8	3.58	32.6	22.6	3.36	32.7	20.8	3.21	32.9
		150	27.8	4.22	32.7	26.8	4.15	32.8	25.0	3.80	32.9	23.8	3.58	33.0	22.6	3.36	33.1	20.8	3.21	33.3
90%	20	50	23.3	3.91	14.3	23.2	4.06	14.4	22.5	4.06	14.6	21.5	3.84	14.8	20.5	3.63	15.1	18.6	3.22	15.5
		75	24.5	4.03	16.0	24.3	4.19	16.1	22.5	3.84	16.4	21.5	3.64	16.5	20.5	3.44	16.7	18.6	3.06	17.0
		96	25.0	4.09	16.8	24.3	4.10	16.9	22.5	3.74	17.1	21.5	3.55	17.3	20.5	3.35	17.4	18.6	3.00	17.6
		125	25.5	4.15	17.5	24.3	4.00	17.6	22.5	3.65	17.8	21.5	3.46	17.9	20.5	3.28	18.0	18.6	2.94	18.2
		150	25.8	4.18	17.9	24.3	3.94	18.0	22.5	3.61	18.2	21.5	3.42	18.2	20.5	3.25	18.3	18.6	2.91	18.5
	25	50	25.8	4.18	18.7	24.3	3.92	19.0	22.5	3.55	19.5	21.5	3.36	19.7	20.5	3.15	19.9	18.6	2.79	20.4
		75	26.2	4.04	20.7	24.3	3.68	21.0	22.5	3.55	21.3	21.5	3.36	21.5	20.5	3.15	21.6	18.6	2.79	21.9
		96	26.2	4.04	21.6	24.3	3.68	21.9	22.5	3.55	22.1	21.5	3.36	22.2	20.5	3.15	22.4	18.6	2.79	22.6
		125	26.2	4.04	22.4	24.3	3.68	22.6	22.5	3.55	22.8	21.5	3.36	22.9	20.5	3.15	23.0	18.6	2.79	23.2
		150	26.2	4.04	22.8	24.3	3.68	23.0	22.5	3.55	23.2	21.5	3.36	23.2	20.5	3.15	23.3	18.6	2.79	23.5
	30	50	26.2	4.04	23.5	24.3	3.68	24.0	22.5	3.55	24.5	21.5	3.36	24.7	20.5	3.15	24.9	18.6	2.79	25.4
		75	26.2	4.04	25.7	24.3	3.68	26.0	22.5	3.55	26.3	21.5	3.36	26.5	20.5	3.15	26.6	18.6	2.79	26.9
		96	26.2	4.04	26.6	24.3	3.68	26.9	22.5	3.55	27.1	21.5	3.36	27.2	20.5	3.15	27.4	18.6	2.79	27.6
		125	26.2	4.04	27.4	24.3	3.68	27.6	22.5	3.55	27.8	21.5	3.36	27.9	20.5	3.15	28.0	18.6	2.79	28.2
		150	26.2	4.04	27.8	24.3	3.68	28.0	22.5	3.55	28.2	21.5	3.36	28.2	20.5	3.15	28.3	18.6	2.79	28.5
	35	50	26.2	4.04	28.5	24.3	3.68	29.0	22.5	3.55	29.4	21.5	3.36	29.7	20.5	3.15	29.9	18.6	2.79	30.4
		75	26.2	4.04	30.7	24.3	3.68	31.0	22.5	3.55	31.3	21.5	3.36	31.5	20.5	3.15	31.6	18.6	2.79	31.9
		96	26.2	4.04	31.6	24.3	3.68	31.9	22.5	3.55	32.1	21.5	3.36	32.2	20.5	3.15	32.4	18.6	2.79	32.6
		125	26.2	4.04	32.4	24.3	3.68	32.6	22.5	3.55	32.8	21.5	3.36	32.9	20.5	3.15	33.0	18.6	2.79	33.2
		150	26.2	4.04	32.8	24.3	3.68	33.0	22.5	3.55	33.1	21.5	3.36	33.2	20.5	3.15	33.3	18.6	2.79	33.5
80%	20	50	22.8	4.08	14.5	21.6	3.88	14.8	20.0	3.53	15.2	19.0	3.32	15.4	18.1	3.14	15.6	16.5	2.79	16.0
		75	23.2	3.98	16.3	21.6	3.67	16.5	20.0	3.33	16.8	19.0	3.16	16.9	18.1	2.99	17.1	16.5	2.67	17.3
		96	23.2	3.88	17.1	21.6	3.56	17.3	20.0	3.27	17.5	19.0	3.07	17.6	18.1	2.90	17.7	16.5	2.61	17.9
		125	23.2	3.81	17.7	21.6	3.49	17.9	20.0	3.20	18.0	19.0	3.02	18.1	18.1	2.85	18.2	16.5	2.58	18.4
		150	23.2	3.73	18.1	21.6	3.45	18.2	20.0	3.17	18.4	19.0	2.99	18.4	18.1	2.84	18.5	16.5	2.55	18.6
	25	50	23.2	3.69	19.3	21.6	3.39	19.7	20.0	3.06	20.1	19.0	2.89	20.3	18.1	2.71	20.5	16.5	2.55	20.9
		75	23.2	3.48	21.2	21.6	3.39	21.4	20.0	3.06	21.7	19.0	2.89	21.9	18.1	2.71	22.0	16.5	2.55	22.3
		96	23.2	3.48	22.0	21.6	3.39	22.2	20.0	3.06	22.4	19.0	2.89	22.5	18.1	2.71	22.7	16.5	2.55	22.9
		125	23.2	3.48	22.7	21.6	3.39	22.9	20.0	3.06	23.0	19.0	2.89	23.1	18.1	2.71	23.2	16.5	2.55	23.4
		150	23.2	3.48	23.1	21.6	3.39	23.2	20.0	3.06	23.4	19.0	2.89	23.4	18.1	2.71	23.5	16.5	2.55	23.6
	30	50	23.2	3.48	24.2	21.6	3.39	24.7	20.0	3.06	25.0	19.0	2.89	25.3	18.1	2.71	25.5	16.5	2.55	25.9
		75	23.2	3.48	26.2	21.6	3.39	26.4	20.0	3.06	26.7	19.0	2.89	26.9	18.1	2.71	27.0	16.5	2.55	27.3
		96	23.2	3.48	27.0	21.6	3.39	27.2	20.0	3.06	27.4	19.0	2.89	27.5	18.1	2.71	27.7	16.5	2.55	27.9
		125	23.2	3.48	27.7	21.6	3.39	27.9	20.0	3.06	28.0	19.0	2.89	28.1	18.1	2.71	28.2	16.5	2.55	28.4
		150	23.2	3.48	28.1	21.6	3.39	28.2	20.0	3.06	28.3	19.0	2.89	28.4	18.1	2.71	28.5	16.5	2.55	28.6
	35	50	23.2	3.48	29.2	21.6	3.39	29.7	20.0	3.06	30.0	19.0	2.89	30.3	18.1	2.71	30.5	16.5	2.55	30.9
		75	23.2	3.48	31.2	21.6	3.39	31.4	20.0	3.06	31.7	19.0	2.89	31.8	18.1	2.71	32.0	16.5	2.55	32.3
		96	23.2	3.48	32.0	21.6	3.39	32.2	20.0	3.06	32.4	19.0	2.89	32.5	18.1	2.71	32.7	16.5	2.55	32.9
		125	23.2	3.48	32.7	21.6	3.39	32.9	20.0	3.06	33.0	19.0	2.89	33.1	18.1	2.71	33.2	16.5	2.55	33.4
		150	23.2	3.48	33.1	21.6	3.39	33.2	20.0	3.06	33.3	19.0	2.89	33.4	18.1	2.71	33.5	16.5	2.55	33.6

TC : Total capacity (kW)
PC : Power consumption (kW)

(FDC224KXZWE1)

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																	
			16℃CDB			18℃CDB			20℃CDB			21℃CDB			22℃CDB			24℃CDB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
70%	20	50	20.5	3.63	15.1	19.0	3.33	15.4	17.5	3.01	15.8	16.7	2.84	15.9	16.0	2.70	16.1	14.6	2.46	16.5
		75	20.5	3.44	16.7	19.0	3.16	16.9	17.5	2.86	17.1	16.7	2.72	17.3	16.0	2.58	17.4	14.6	2.38	17.6
		96	20.5	3.36	17.4	19.0	3.07	17.6	17.5	2.80	17.8	16.7	2.66	17.9	16.0	2.53	18.0	14.6	2.35	18.1
		125	20.5	3.28	18.0	19.0	3.01	18.1	17.5	2.75	18.3	16.7	2.62	18.4	16.0	2.50	18.4	14.6	2.31	18.6
		150	20.5	3.25	18.3	19.0	2.98	18.4	17.5	2.71	18.6	16.7	2.59	18.6	16.0	2.49	18.7	14.6	2.31	18.8
	25	50	20.5	3.17	19.9	19.0	2.88	20.3	17.5	2.71	20.7	16.7	2.59	20.9	16.0	2.49	21.1	14.6	2.31	21.4
		75	20.5	3.17	21.6	19.0	2.88	21.9	17.5	2.71	22.1	16.7	2.59	22.2	16.0	2.49	22.4	14.6	2.31	22.6
		96	20.5	3.17	22.4	19.0	2.88	22.6	17.5	2.71	22.8	16.7	2.59	22.8	16.0	2.49	22.9	14.6	2.31	23.1
		125	20.5	3.17	23.0	19.0	2.88	23.1	17.5	2.71	23.3	16.7	2.59	23.3	16.0	2.49	23.4	14.6	2.31	23.6
		150	20.5	3.17	23.3	19.0	2.88	23.4	17.5	2.71	23.6	16.7	2.59	23.6	16.0	2.49	23.7	14.6	2.31	23.8
	30	50	20.5	3.17	24.9	19.0	2.88	25.3	17.5	2.71	25.7	16.7	2.59	25.9	16.0	2.49	26.0	14.6	2.31	26.4
		75	20.5	3.17	26.6	19.0	2.88	26.9	17.5	2.71	27.1	16.7	2.59	27.2	16.0	2.49	27.4	14.6	2.31	27.6
		96	20.5	3.17	27.4	19.0	2.88	27.5	17.5	2.71	27.8	16.7	2.59	27.8	16.0	2.49	27.9	14.6	2.31	28.1
		125	20.5	3.17	28.0	19.0	2.88	28.1	17.5	2.71	28.3	16.7	2.59	28.3	16.0	2.49	28.4	14.6	2.31	28.6
		150	20.5	3.17	28.3	19.0	2.88	28.4	17.5	2.71	28.6	16.7	2.59	28.6	16.0	2.49	28.7	14.6	2.31	28.8
	35	50	20.5	3.17	29.9	19.0	2.88	30.3	17.5	2.71	30.7	16.7	2.59	30.9	16.0	2.49	31.0	14.6	2.31	31.4
		75	20.5	3.17	31.6	19.0	2.88	31.9	17.5	2.71	32.1	16.7	2.59	32.2	16.0	2.49	32.4	14.6	2.31	32.6
		96	20.5	3.17	32.4	19.0	2.88	32.5	17.5	2.71	32.7	16.7	2.59	32.8	16.0	2.49	32.9	14.6	2.31	33.1
		125	20.5	3.17	33.0	19.0	2.88	33.1	17.5	2.71	33.3	16.7	2.59	33.3	16.0	2.49	33.4	14.6	2.31	33.6
		150	20.5	3.17	33.3	19.0	2.88	33.4	17.5	2.71	33.6	16.7	2.59	33.6	16.0	2.49	33.7	14.6	2.31	33.8
60%	20	50	17.6	3.01	15.7	16.3	2.77	16.0	15.0	2.52	16.4	14.4	2.43	16.5	13.8	2.34	16.6	12.6	2.16	16.9
		75	17.6	2.89	17.1	16.3	2.62	17.3	15.0	2.42	17.6	14.4	2.34	17.7	13.8	2.25	17.8	12.6	2.09	17.9
		96	17.6	2.81	17.8	16.3	2.58	17.9	15.0	2.39	18.1	14.4	2.32	18.2	13.8	2.23	18.2	12.6	2.05	18.4
		125	17.6	2.79	18.3	16.3	2.55	18.4	15.0	2.38	18.5	14.4	2.29	18.6	13.8	2.19	18.6	12.6	2.04	18.8
		150	17.6	2.75	18.6	16.3	2.54	18.7	15.0	2.38	18.8	14.4	2.29	18.8	13.8	2.19	18.9	12.6	2.04	19.0
	25	50	17.6	2.75	20.6	16.3	2.54	21.0	15.0	2.38	21.3	14.4	2.29	21.5	13.8	2.19	21.6	12.6	2.04	21.9
		75	17.6	2.75	22.1	16.3	2.54	22.3	15.0	2.38	22.5	14.4	2.29	22.6	13.8	2.19	22.7	12.6	2.04	22.9
		96	17.6	2.75	22.7	16.3	2.54	22.9	15.0	2.38	23.1	14.4	2.29	23.2	13.8	2.19	23.2	12.6	2.04	23.4
		125	17.6	2.75	23.3	16.3	2.54	23.4	15.0	2.38	23.5	14.4	2.29	23.6	13.8	2.19	23.6	12.6	2.04	23.8
		150	17.6	2.75	23.5	16.3	2.54	23.7	15.0	2.38	23.8	14.4	2.29	23.8	13.8	2.19	23.9	12.6	2.04	24.0
	30	50	17.6	2.75	25.6	16.3	2.54	26.0	15.0	2.38	26.3	14.4	2.29	26.4	13.8	2.19	26.6	12.6	2.04	26.9
		75	17.6	2.75	27.1	16.3	2.54	27.3	15.0	2.38	27.5	14.4	2.29	27.6	13.8	2.19	27.7	12.6	2.04	27.9
		96	17.6	2.75	27.7	16.3	2.54	27.9	15.0	2.38	28.1	14.4	2.29	28.2	13.8	2.19	28.2	12.6	2.04	28.4
		125	17.6	2.75	28.3	16.3	2.54	28.4	15.0	2.38	28.5	14.4	2.29	28.6	13.8	2.19	28.6	12.6	2.04	28.8
		150	17.6	2.75	28.5	16.3	2.54	28.7	15.0	2.38	28.8	14.4	2.29	28.8	13.8	2.19	28.9	12.6	2.04	29.0
	35	50	17.6	2.75	30.6	16.3	2.54	31.0	15.0	2.38	31.3	14.4	2.29	31.4	13.8	2.19	31.6	12.6	2.04	31.9
		75	17.6	2.75	32.1	16.3	2.54	32.3	15.0	2.38	32.5	14.4	2.29	32.6	13.8	2.19	32.7	12.6	2.04	32.9
		96	17.6	2.75	32.7	16.3	2.54	32.9	15.0	2.38	33.1	14.4	2.29	33.1	13.8	2.19	33.2	12.6	2.04	33.4
		125	17.6	2.75	33.3	16.3	2.54	33.4	15.0	2.38	33.5	14.4	2.29	33.6	13.8	2.19	33.6	12.6	2.04	33.8
		150	17.6	2.75	33.5	16.3	2.54	33.7	15.0	2.38	33.8	14.4	2.29	33.8	13.8	2.19	33.9	12.6	2.04	34.0
50%	20	50	14.7	2.47	16.4	13.7	2.32	16.7	12.5	2.12	17.0	12.1	2.06	17.1	11.5	1.97	17.2	10.5	1.80	17.5
		75	14.7	2.38	17.6	13.7	2.24	17.8	12.5	2.07	18.0	12.1	2.00	18.0	11.5	1.92	18.1	10.5	1.75	18.3
		96	14.7	2.36	18.1	13.7	2.21	18.3	12.5	2.03	18.4	12.1	1.98	18.5	11.5	1.89	18.5	10.5	1.74	18.7
		125	14.7	2.33	18.6	13.7	2.19	18.7	12.5	2.03	18.8	12.1	1.98	18.8	11.5	1.89	18.9	10.5	1.74	19.0
		150	14.7	2.33	18.8	13.7	2.19	18.9	12.5	2.03	19.0	12.1	1.98	19.0	11.5	1.89	19.1	10.5	1.74	19.1
	25	50	14.7	2.33	21.4	13.7	2.19	21.6	12.5	2.03	21.9	12.1	1.98	22.0	11.5	1.89	22.2	10.5	1.74	22.4
		75	14.7	2.33	22.6	13.7	2.19	22.8	12.5	2.03	23.0	12.1	1.98	23.0	11.5	1.89	23.1	10.5	1.74	23.3
		96	14.7	2.33	23.1	13.7	2.19	23.3	12.5	2.03	23.4	12.1	1.98	23.5	11.5	1.89	23.5	10.5	1.74	23.7
		125	14.7	2.33	23.6	13.7	2.19	23.7	12.5	2.03	23.8	12.1	1.98	23.8	11.5	1.89	23.9	10.5	1.74	24.0
		150	14.7	2.33	23.8	13.7	2.19	23.9	12.5	2.03	24.0	12.1	1.98	24.0	11.5	1.89	24.1	10.5	1.74	24.1
	30	50	14.7	2.33	26.4	13.7	2.19	26.6	12.5	2.03	26.9	12.1	1.98	27.0	11.5	1.89	27.2	10.5	1.74	27.4
		75	14.7	2.33	27.6	13.7	2.19	27.8	12.5	2.03	28.0	12.1	1.98	28.0	11.5	1.89	28.1	10.5	1.74	28.3
		96	14.7	2.33	28.1	13.7	2.19	28.2	12.5	2.03	28.4	12.1	1.98	28.5	11.5	1.89	28.5	10.5	1.74	28.7
		125	14.7	2.33	28.6	13.7	2.19	28.7	12.5	2.03	28.8	12.1	1.98	28.8	11.5	1.89	28.9	10.5	1.74	29.0
		150	14.7	2.33	28.8	13.7	2.19	28.9	12.5	2.03	29.0	12.1	1.98	29.0	11.5	1.89	29.1	10.5	1.74	29.1
	35	50	14.7	2.33	31.4	13.7	2.19	31.6	12.5	2.03	31.9	12.1	1.98	32.0	11.5	1.89	32.2	10.5	1.74	32.4
		75	14.7	2.33	32.6	13.7	2.19	32.8	12.5	2.03	33.0	12.1	1.98	33.0	11.5	1.89	33.1	10.5	1.74	33.3
		96	14.7	2.33	33.1	13.7	2.19	33.2	12.5	2.03	33.4	12.1	1.98	33.5	11.5	1.89	33.5	10.5	1.74	33.7
		125	14.7	2.33	33.6	13.7	2.19	33.7	12.5	2.03	33.8	12.1	1.98	33.8	11.5	1.89	33.9	10.5	1.74	34.0
		150	14.7	2.33	33.8	13.7	2.19	33.9	12.5	2.03	34.0	12.1	1.98	34.0	11.5	1.89	34.1	10.5	1.74	34.1

TC : Total capacity (kW)
PC : Power consumption (kW)

Model FDC280KXZWE1

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																	
			16℃CDB			18℃CDB			20℃CDB			21℃CDB			22℃CDB			24℃CDB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
150%	20	50	30.9	3.85	12.1	30.8	4.05	12.2	30.5	4.24	12.4	30.4	4.33	12.4	30.2	4.41	12.5	29.9	4.59	12.6
		75	32.7	3.92	14.4	32.4	4.13	14.5	32.1	4.33	14.6	32.0	4.43	14.7	31.8	4.53	14.7	31.5	4.71	14.8
		96	33.5	3.95	15.5	33.2	4.17	15.6	32.8	4.37	15.7	32.7	4.48	15.7	32.6	4.58	15.8	32.2	4.76	15.8
		125	34.2	3.98	16.5	33.9	4.20	16.5	33.6	4.42	16.6	33.4	4.52	16.6	33.2	4.62	16.7	32.9	4.81	16.7
		150	34.6	3.99	17.0	34.3	4.22	17.1	34.0	4.44	17.1	33.8	4.54	17.2	33.5	4.64	17.2	33.3	4.84	17.2
	25	50	34.3	3.98	16.2	34.1	4.21	16.3	33.8	4.43	16.4	33.7	4.54	16.5	33.5	4.64	16.6	33.3	4.84	16.7
		75	36.4	4.06	18.7	36.0	4.30	18.8	35.7	4.53	18.9	35.6	4.64	19.0	35.4	4.76	19.0	35.0	4.96	19.1
		96	36.4	4.06	20.1	36.0	4.30	20.2	35.7	4.53	20.3	35.6	4.64	20.3	35.4	4.76	20.3	35.0	4.96	20.4
		125	36.4	4.06	21.2	36.0	4.30	21.3	35.7	4.53	21.4	35.6	4.64	21.4	35.4	4.76	21.4	35.0	4.96	21.5
		150	36.4	4.06	21.9	36.0	4.30	21.9	35.7	4.53	22.0	35.6	4.64	22.0	35.4	4.76	22.0	35.0	4.96	22.1
	30	50	36.4	4.06	20.6	36.0	4.30	20.7	35.7	4.53	20.9	35.6	4.64	21.0	35.4	4.76	21.0	35.0	4.96	21.2
		75	36.4	4.06	23.7	36.0	4.30	23.8	35.7	4.53	23.9	35.6	4.64	24.0	35.4	4.76	24.0	35.0	4.96	24.1
		96	36.4	4.06	25.1	36.0	4.30	25.2	35.7	4.53	25.3	35.6	4.64	25.3	35.4	4.76	25.3	35.0	4.96	25.4
		125	36.4	4.06	26.2	36.0	4.30	26.3	35.7	4.53	26.4	35.6	4.64	26.4	35.4	4.76	26.4	35.0	4.96	26.5
		150	36.4	4.06	26.9	36.0	4.30	26.9	35.7	4.53	27.0	35.6	4.64	27.0	35.4	4.76	27.0	35.0	4.96	27.1
	35	50	36.4	4.06	25.6	36.0	4.30	25.7	35.7	4.53	25.9	35.6	4.64	26.0	35.4	4.76	26.0	35.0	4.96	26.2
		75	36.4	4.06	28.7	36.0	4.30	28.8	35.7	4.53	28.9	35.6	4.64	29.0	35.4	4.76	29.0	35.0	4.96	29.1
		96	36.4	4.06	30.1	36.0	4.30	30.2	35.7	4.53	30.3	35.6	4.64	30.3	35.4	4.76	30.3	35.0	4.96	30.4
		125	36.4	4.06	31.2	36.0	4.30	31.3	35.7	4.53	31.4	35.6	4.64	31.4	35.4	4.76	31.4	35.0	4.96	31.5
		150	36.4	4.06	31.9	36.0	4.30	31.9	35.7	4.53	32.0	35.6	4.64	32.0	35.4	4.76	32.0	35.0	4.96	32.1
140%	20	50	30.8	3.95	12.2	30.6	4.15	12.3	30.3	4.33	12.4	30.1	4.42	12.5	30.0	4.51	12.6	29.7	4.67	12.7
		75	32.6	4.04	14.5	32.2	4.24	14.6	32.0	4.44	14.7	31.7	4.54	14.7	31.6	4.63	14.8	31.3	4.81	14.9
		96	33.3	4.08	15.6	33.0	4.29	15.7	32.7	4.50	15.7	32.5	4.59	15.8	32.3	4.68	15.8	32.0	4.87	15.9
		125	34.0	4.11	16.5	33.7	4.33	16.6	33.4	4.54	16.6	33.2	4.64	16.7	33.0	4.73	16.7	32.6	4.92	16.8
		150	34.4	4.13	17.1	34.1	4.36	17.1	33.7	4.56	17.2	33.6	4.66	17.2	33.3	4.76	17.2	33.0	4.95	17.3
	25	50	34.2	4.12	16.3	34.0	4.35	16.4	33.6	4.55	16.5	33.5	4.66	16.6	33.3	4.76	16.7	33.0	4.95	16.8
		75	36.1	4.21	18.8	35.8	4.45	18.9	35.5	4.67	19.0	35.4	4.78	19.1	35.1	4.89	19.1	34.8	5.09	19.2
		96	36.1	4.21	20.2	35.8	4.45	20.2	35.5	4.67	20.3	35.4	4.78	20.4	35.1	4.89	20.4	34.8	5.09	20.5
		125	36.1	4.21	21.3	35.8	4.45	21.3	35.5	4.67	21.4	35.4	4.78	21.4	35.1	4.89	21.5	34.8	5.09	21.5
		150	36.1	4.21	21.9	35.8	4.45	22.0	35.5	4.67	22.0	35.4	4.78	22.0	35.1	4.89	22.1	34.8	5.09	22.1
	30	50	36.1	4.21	20.7	35.8	4.45	20.8	35.5	4.67	21.0	35.4	4.78	21.1	35.1	4.89	21.2	34.8	5.09	21.3
		75	36.1	4.21	23.8	35.8	4.45	23.9	35.5	4.67	24.0	35.4	4.78	24.0	35.1	4.89	24.1	34.8	5.09	24.2
		96	36.1	4.21	25.2	35.8	4.45	25.2	35.5	4.67	25.3	35.4	4.78	25.3	35.1	4.89	25.4	34.8	5.09	25.5
		125	36.1	4.21	26.3	35.8	4.45	26.3	35.5	4.67	26.4	35.4	4.78	26.4	35.1	4.89	26.5	34.8	5.09	26.5
		150	36.1	4.21	26.9	35.8	4.45	26.9	35.5	4.67	27.0	35.4	4.78	27.0	35.1	4.89	27.1	34.8	5.09	27.1
	35	50	36.1	4.21	25.7	35.8	4.45	25.8	35.5	4.67	26.0	35.4	4.78	26.1	35.1	4.89	26.1	34.8	5.09	26.3
		75	36.1	4.21	28.8	35.8	4.45	28.9	35.5	4.67	29.0	35.4	4.78	29.0	35.1	4.89	29.1	34.8	5.09	29.2
		96	36.1	4.21	30.1	35.8	4.45	30.2	35.5	4.67	30.3	35.4	4.78	30.3	35.1	4.89	30.4	34.8	5.09	30.5
		125	36.1	4.21	31.3	35.8	4.45	31.3	35.5	4.67	31.4	35.4	4.78	31.4	35.1	4.89	31.5	34.8	5.09	31.5
		150	36.1	4.21	31.9	35.8	4.45	31.9	35.5	4.67	32.0	35.4	4.78	32.0	35.1	4.89	32.0	34.8	5.09	32.1
130%	20	50	30.7	4.08	12.3	30.4	4.26	12.4	30.1	4.44	12.5	30.0	4.52	12.6	29.8	4.61	12.6	29.5	4.76	12.8
		75	32.3	4.18	14.5	32.0	4.37	14.6	31.7	4.56	14.7	31.6	4.66	14.8	31.4	4.75	14.8	31.0	4.91	14.9
		96	33.1	4.22	15.6	32.7	4.42	15.7	32.5	4.62	15.8	32.3	4.71	15.8	32.1	4.81	15.9	31.8	4.98	15.9
		125	33.7	4.26	16.6	33.5	4.48	16.6	33.1	4.67	16.7	32.9	4.76	16.7	32.7	4.86	16.7	32.4	5.04	16.8
		150	34.2	4.29	17.1	33.8	4.50	17.2	33.4	4.69	17.2	33.3	4.79	17.2	33.1	4.89	17.3	32.7	5.06	17.3
	25	50	34.0	4.27	16.3	33.7	4.49	16.5	33.4	4.69	16.6	33.3	4.79	16.7	33.1	4.89	16.8	32.8	5.08	16.9
		75	35.9	4.38	18.9	35.5	4.61	19.0	35.2	4.83	19.1	35.1	4.93	19.1	34.9	5.04	19.2	33.5	4.91	19.4
		96	35.9	4.38	20.2	35.5	4.61	20.3	35.2	4.83	20.4	35.1	4.93	20.4	34.9	5.04	20.5	33.5	4.91	20.7
		125	35.9	4.38	21.3	35.5	4.61	21.4	35.2	4.83	21.5	35.1	4.93	21.5	34.9	5.04	21.5	33.5	4.91	21.7
		150	35.9	4.38	21.9	35.5	4.61	22.0	35.2	4.83	22.0	35.1	4.93	22.1	34.9	5.04	22.1	33.5	4.91	22.2
	30	50	35.9	4.38	20.8	35.5	4.61	21.0	35.2	4.83	21.1	35.1	4.93	21.2	34.9	5.04	21.3	33.5	4.91	21.6
		75	35.9	4.38	23.9	35.5	4.61	24.0	35.2	4.83	24.1	35.1	4.93	24.1	34.9	5.04	24.2	33.5	4.91	24.4
		96	35.9	4.38	25.2	35.5	4.61	25.3	35.2	4.83	25.4	35.1	4.93	25.4	34.9	5.04	25.4	33.5	4.91	25.7
		125	35.9	4.38	26.3	35.5	4.61	26.4	35.2	4.83	26.4	35.1	4.93	26.5	34.9	5.04	26.5	33.5	4.91	26.7
		150	35.9	4.38	26.9	35.5	4.61	27.0	35.2	4.83	27.0	35.1	4.93	27.1	34.9	5.04	27.1	33.5	4.91	27.2
	35	50	35.9	4.38	25.8	35.5	4.61	26.0	35.2	4.83	26.1	35.1	4.93	26.2	34.9	5.04	26.2	33.5	4.91	26.6
		75	35.9	4.38	28.9	35.5	4.61	29.0	35.2	4.83	29.1	35.1	4.93	29.1	34.9	5.04	29.2	33.5	4.91	29.4
		96	35.9	4.38	30.2	35.5	4.61	30.3	35.2	4.83	30.4	35.1	4.93	30.4	34.9	5.04	30.4	33.5	4.91	30.6
		125	35.9	4.38	31.3	35.5	4.61	31.4	35.2	4.83	31.4	35.1	4.93	31.5	34.9	5.04	31.5	33.5	4.91	31.7
		150	35.9	4.38	31.9	35.5	4.61	32.0	35.2	4.83	32.0	35.1	4.93	32.1	34.9	5.04	32.1	33.5	4.91	32.2
120%	20	50	30.5	4.21	12.3	30.2	4.39	12.5	30.0	4.56	12.6	29.8	4.64	12.7	29.6	4.72	12.7	29.3	4.87	12.9
		75	32.1	4.33	14.6	31.8	4.52	14.7	31.5	4.70	14.8	31.3	4.79	14.8	31.1	4.87	14.9	30.8	5.04	15.0
		96	32.8	4.38	15.7	32.5	4.58	15.8	32.2	4.77	15.8	32.0	4.85	15.9	31.9	4.94	15.9	31.1	5.01	16.0
		125	33.5	4.43	16.6	33.2	4.63	16.7	32.8	4.82	16.7	32.7	4.91	16.8	32.5	5.00	16.8	31.1	4.91	16.9
		150	33.8	4.45	17.2	33.6	4.66	17.2	33.2	4.85	17.2	33.0	4.94	17.3	32.8	5.03	17.3	31.1	4.86	17.4
	25	50	33.7	4.44	16.5	33.5	4.65	16.6	33.2	4.85	16.7	33.0	4.94	16.8	32.9	5.04	16.9	31.1	4.80	17.3
		75	35.6	4.57	19.0	35.3	4.80	19.1	35.0	5.01	19.2	34.8	5.10	19.2	33.9	5.01	19.4	31.1	4.48	19.8
		96	36.5	4.63	20.2	36.2	4.86	20.2	35.0	5.01	20.4	34.8	5.10	20.5	33.9	5.01	20.6	31.1	4.48	20.9
		125	36.5	4.63	21.3	36.2	4.86	21.3	35.0	5.01	21.5	34.8	5.10	21.5	33.9	5.01	21.6	31.1	4.48	21.9
		150	36.5	4.63	21.9	36.2	4.86	22.0	35.0	5.01	22.1	34.8	5.10	22.1	33.9	5.01	22.2	31.1	4.48	22.4
	30	50	36.5	4.63	20.7	36.2	4.86	20.8	35.0	5.01	21.2	34.8	5.10	21.3	33.9	5.01	21.5	31.1	4.48	22.2
		75	36.5	4.63	23.8	36.2	4.86	23.9	35.0	5.01	24.2	34.8	5.10	24.2	33.9	5.01	24.4	31.1	4.48	24.8
		96	36.5	4.63	25.2	36.2	4.86	25.2	35.0	5.01	25.4	34.8	5.10	25.5	33.9	5.01	25.6	31.1	4.48	25.9
		125	36.5	4.63	26.3	36.2	4.86	26.3	35.0	5.01	26.5	34.8	5.10	26.5	33.9	5.01	26.6	31.1	4.48	26.9
		150	36.5	4.63	26.9	36.2	4.86	26.9	35.0	5.01	27.1	34.8	5.10	27.1	33.9	5.01	27.2	31.1	4.48	27.4
	35	50	36.5	4.63	25.7	36.2	4.86	25.8	35.0	5.01	26.2	34.8	5.10	26.3	33.9	5.01	26.5	31.1	4.48	27.2
		75	36.5	4.63	28.8	36.2	4.86	28.9	35.0	5.01	29.1	34.8	5.10	29.2	33.9	5.01	29.3	31.1	4.48	29.8
		96	36.5	4.63	30.1	36.2	4.86	30.2	35.0	5.01	30.4	34.8	5.10	30.5	33.9	5.01	30.6	31.1	4.48	30.9
		125	36.5	4.63	31.3	36.2	4.86	31.3	35.0	5.01	31.5	34.8	5.10	31.5	33.9	5.01	31.6	31.1	4.48	31.9
		150	36.5	4.63	31.9	36.2	4.86	31.9	35.0	5.01	32.1	34.8	5.10	32.1	33.9	5.01	32.2	31.1	4.48	32.4

TC : Total capacity (kW)
PC : Power consumption (kW)

(FDC280KXZWE1)

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																	
			16℃CDB			18℃CDB			20℃CDB			21℃CDB			22℃CDB			24℃CDB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
110%	20	50	30.3	4.36	12.5	29.9	4.53	12.6	29.6	4.69	12.7	29.6	4.78	12.8	29.4	4.85	12.8	28.6	4.93	13.1
		75	31.8	4.50	14.7	31.5	4.68	14.8	31.1	4.85	14.9	31.0	4.93	14.9	30.9	5.02	15.0	28.6	4.64	15.3
		96	32.6	4.56	15.7	32.2	4.74	15.8	31.9	4.92	15.9	31.7	5.01	15.9	31.3	5.06	16.0	28.6	4.53	16.3
		125	33.2	4.61	16.7	32.8	4.80	16.7	32.5	4.98	16.8	32.3	5.07	16.8	31.3	4.94	16.9	28.6	4.45	17.2
		150	33.5	4.64	17.2	33.2	4.84	17.2	32.8	5.02	17.3	32.6	5.11	17.3	31.3	4.90	17.4	28.6	4.38	17.6
	25	50	33.5	4.64	16.6	33.2	4.84	16.7	32.9	5.02	16.9	32.6	5.10	17.0	31.3	4.85	17.3	28.6	4.31	17.9
		75	35.3	4.79	19.1	35.0	5.00	19.2	34.2	5.06	19.3	32.6	4.75	19.6	31.3	4.49	19.8	28.6	4.01	20.2
		96	35.3	4.79	20.4	35.0	5.00	20.4	34.2	5.06	20.6	32.6	4.75	20.8	31.3	4.49	20.9	28.6	4.01	21.3
		125	35.3	4.79	21.4	35.0	5.00	21.5	34.2	5.06	21.6	32.6	4.75	21.7	31.3	4.49	21.9	28.6	4.01	22.1
		150	35.3	4.79	22.0	35.0	5.00	22.1	34.2	5.06	22.2	32.6	4.75	22.3	31.3	4.49	22.4	28.6	4.01	22.6
	30	50	35.3	4.79	21.1	35.0	5.00	21.2	34.2	5.06	21.5	32.6	4.75	21.8	31.3	4.49	22.2	28.6	4.01	22.8
		75	35.3	4.79	24.1	35.0	5.00	24.2	34.2	5.06	24.3	32.6	4.75	24.6	31.3	4.49	24.8	28.6	4.01	25.2
		96	35.3	4.79	25.4	35.0	5.00	25.4	34.2	5.06	25.6	32.6	4.75	25.8	31.3	4.49	25.9	28.6	4.01	26.3
		125	35.3	4.79	26.4	35.0	5.00	26.5	34.2	5.06	26.6	32.6	4.75	26.7	31.3	4.49	26.9	28.6	4.01	27.1
		150	35.3	4.79	27.0	35.0	5.00	27.1	34.2	5.06	27.2	32.6	4.75	27.3	31.3	4.49	27.4	28.6	4.01	27.6
	35	50	35.3	4.79	26.1	35.0	5.00	26.2	34.2	5.06	26.5	32.6	4.75	26.8	31.3	4.49	27.2	28.6	4.01	27.8
		75	35.3	4.79	29.0	35.0	5.00	29.1	34.2	5.06	29.3	32.6	4.75	29.6	31.3	4.49	29.8	28.6	4.01	30.2
		96	35.3	4.79	30.3	35.0	5.00	30.4	34.2	5.06	30.6	32.6	4.75	30.7	31.3	4.49	30.9	28.6	4.01	31.2
		125	35.3	4.79	31.4	35.0	5.00	31.5	34.2	5.06	31.6	32.6	4.75	31.7	31.3	4.49	31.9	28.6	4.01	32.1
		150	35.3	4.79	32.0	35.0	5.00	32.1	34.2	5.06	32.2	32.6	4.75	32.3	31.3	4.49	32.4	28.6	4.01	32.6
100%	20	50	29.9	4.53	12.6	29.6	4.69	12.7	29.4	4.85	12.8	29.2	4.92	12.9	28.7	4.95	13.1	26.3	4.43	13.6
		75	31.5	4.69	14.8	31.1	4.85	14.9	30.8	5.02	15.0	29.9	4.92	15.1	28.7	4.67	15.3	26.3	4.21	15.7
		96	32.2	4.76	15.8	31.9	4.94	15.9	31.5	5.10	16.0	29.9	4.80	16.2	28.7	4.54	16.3	26.3	4.08	16.6
		125	32.8	4.82	16.7	32.4	5.00	16.8	31.5	4.98	16.9	29.9	4.68	17.1	28.7	4.46	17.2	26.3	4.01	17.4
		150	33.2	4.86	17.2	32.7	5.03	17.3	31.5	4.91	17.4	29.9	4.62	17.5	28.7	4.40	17.6	26.3	3.99	17.8
	25	50	33.2	4.86	16.7	32.9	5.05	16.9	31.5	4.89	17.2	29.9	4.55	17.6	28.7	4.32	17.9	26.3	3.85	18.4
		75	34.9	5.03	19.2	33.7	4.97	19.4	31.5	4.54	19.8	29.9	4.25	20.0	28.7	4.03	20.2	26.3	3.85	20.6
		96	34.9	5.03	20.5	33.7	4.97	20.6	31.5	4.54	20.9	29.9	4.25	21.1	28.7	4.03	21.3	26.3	3.85	21.6
		125	34.9	5.03	21.5	33.7	4.97	21.6	31.5	4.54	21.9	29.9	4.25	22.0	28.7	4.03	22.1	26.3	3.85	22.4
		150	34.9	5.03	22.1	33.7	4.97	22.2	31.5	4.54	22.4	29.9	4.25	22.5	28.7	4.03	22.6	26.3	3.85	22.8
	30	50	34.9	5.03	21.3	33.7	4.97	21.6	31.5	4.54	22.1	29.9	4.25	22.5	28.7	4.03	22.8	26.3	3.85	23.4
		75	34.9	5.03	24.2	33.7	4.97	24.4	31.5	4.54	24.7	29.9	4.25	25.0	28.7	4.03	25.2	26.3	3.85	25.6
		96	34.9	5.03	25.4	33.7	4.97	25.6	31.5	4.54	25.9	29.9	4.25	26.1	28.7	4.03	26.2	26.3	3.85	26.6
		125	34.9	5.03	26.5	33.7	4.97	26.6	31.5	4.54	26.8	29.9	4.25	27.0	28.7	4.03	27.1	26.3	3.85	27.4
		150	34.9	5.03	27.1	33.7	4.97	27.2	31.5	4.54	27.4	29.9	4.25	27.5	28.7	4.03	27.6	26.3	3.85	27.8
	35	50	34.9	5.03	26.2	33.7	4.97	26.6	31.5	4.54	27.1	29.9	4.25	27.5	28.7	4.03	27.8	26.3	3.85	28.4
		75	34.9	5.03	29.2	33.7	4.97	29.4	31.5	4.54	29.7	29.9	4.25	30.0	28.7	4.03	30.2	26.3	3.85	30.6
		96	34.9	5.03	30.4	33.7	4.97	30.6	31.5	4.54	30.9	29.9	4.25	31.1	28.7	4.03	31.2	26.3	3.85	31.6
		125	34.9	5.03	31.5	33.7	4.97	31.6	31.5	4.54	31.8	29.9	4.25	32.0	28.7	4.03	32.1	26.3	3.85	32.4
		150	34.9	5.03	32.1	33.7	4.97	32.2	31.5	4.54	32.4	29.9	4.25	32.5	28.7	4.03	32.6	26.3	3.85	32.8
90%	20	50	29.4	4.69	12.8	29.1	4.84	12.9	28.4	4.89	13.1	27.0	4.57	13.4	25.8	4.33	13.7	23.7	3.91	14.2
		75	30.8	4.86	15.0	30.4	5.01	15.1	28.4	4.61	15.4	27.0	4.35	15.6	25.8	4.11	15.8	23.7	3.72	16.1
		96	31.5	4.95	16.0	30.4	4.88	16.1	28.4	4.51	16.4	27.0	4.25	16.5	25.8	4.03	16.7	23.7	3.62	17.0
		125	32.1	5.01	16.8	30.4	4.77	17.0	28.4	4.40	17.2	27.0	4.16	17.3	25.8	3.94	17.5	23.7	3.55	17.7
		150	32.4	5.05	17.3	30.4	4.73	17.5	28.4	4.34	17.7	27.0	4.11	17.8	25.8	3.89	17.9	23.7	3.52	18.0
	25	50	32.5	5.06	17.0	30.4	4.68	17.5	28.4	4.26	17.9	27.0	3.99	18.3	25.8	3.77	18.6	23.7	3.38	19.1
		75	32.7	4.80	19.6	30.4	4.37	19.9	28.4	3.95	20.2	27.0	3.99	20.5	25.8	3.77	20.7	23.7	3.38	21.1
		96	32.7	4.80	20.8	30.4	4.37	21.0	28.4	3.95	21.3	27.0	3.99	21.5	25.8	3.77	21.6	23.7	3.38	21.9
		125	32.7	4.80	21.7	30.4	4.37	22.0	28.4	3.95	22.1	27.0	3.99	22.3	25.8	3.77	22.4	23.7	3.38	22.6
		150	32.7	4.80	22.3	30.4	4.37	22.5	28.4	3.95	22.6	27.0	3.99	22.8	25.8	3.77	22.9	23.7	3.38	23.0
	30	50	32.7	4.80	21.8	30.4	4.37	22.4	28.4	3.95	22.9	27.0	3.99	23.3	25.8	3.77	23.5	23.7	3.38	24.1
		75	32.7	4.80	24.6	30.4	4.37	24.9	28.4	3.95	25.2	27.0	3.99	25.5	25.8	3.77	25.7	23.7	3.38	26.0
		96	32.7	4.80	25.7	30.4	4.37	26.0	28.4	3.95	26.3	27.0	3.99	26.5	25.8	3.77	26.6	23.7	3.38	26.9
		125	32.7	4.80	26.7	30.4	4.37	27.0	28.4	3.95	27.1	27.0	3.99	27.3	25.8	3.77	27.4	23.7	3.38	27.6
		150	32.7	4.80	27.3	30.4	4.37	27.5	28.4	3.95	27.6	27.0	3.99	27.8	25.8	3.77	27.8	23.7	3.38	28.0
	35	50	32.7	4.80	26.8	30.4	4.37	27.4	28.4	3.95	27.8	27.0	3.99	28.3	25.8	3.77	28.5	23.7	3.38	29.1
		75	32.7	4.80	29.5	30.4	4.37	29.9	28.4	3.95	30.2	27.0	3.99	30.5	25.8	3.77	30.7	23.7	3.38	31.0
		96	32.7	4.80	30.7	30.4	4.37	31.0	28.4	3.95	31.3	27.0	3.99	31.5	25.8	3.77	31.6	23.7	3.38	31.9
		125	32.7	4.80	31.7	30.4	4.37	31.9	28.4	3.95	32.1	27.0	3.99	32.3	25.8	3.77	32.4	23.7	3.38	32.6
		150	32.7	4.80	32.3	30.4	4.37	32.5	28.4	3.95	32.6	27.0	3.99	32.8	25.8	3.77	32.8	23.7	3.38	33.0
80%	20	50	28.9	4.92	13.0	27.3	4.65	13.4	25.2	4.21	13.9	24.1	3.98	14.1	23.2	3.81	14.3	21.1	3.40	14.8
		75	29.2	4.77	15.2	27.3	4.41	15.5	25.2	4.01	15.9	24.1	3.80	16.1	23.2	3.60	16.2	21.1	3.28	16.5
		96	29.2	4.66	16.3	27.3	4.29	16.5	25.2	3.90	16.8	24.1	3.71	16.9	23.2	3.53	17.0	21.1	3.22	17.3
		125	29.2	4.56	17.1	27.3	4.22	17.3	25.2	3.83	17.5	24.1	3.64	17.6	23.2	3.46	17.7	21.1	3.17	17.9
		150	29.2	4.51	17.6	27.3	4.15	17.7	25.2	3.78	17.9	24.1	3.59	18.0	23.2	3.44	18.1	21.1	3.13	18.3
	25	50	29.2	4.44	17.8	27.3	4.05	18.2	25.2	3.63	18.7	24.1	3.44	19.0	23.2	3.31	19.2	21.1	3.13	19.8
		75	29.2	4.14	20.1	27.3	4.05	20.5	25.2	3.63	20.8	24.1	3.44	21.0	23.2	3.31	21.1	21.1	3.13	21.5
		96	29.2	4.14	21.2	27.3	4.05	21.5	25.2	3.63	21.7	24.1	3.44	21.9	23.2	3.31	22.0	21.1	3.13	22.3
		125	29.2	4.14	22.1	27.3	4.05	22.3	25.2	3.63	22.5	24.1	3.44	22.6	23.2	3.31	22.7	21.1	3.13	22.9
		150	29.2	4.14	22.6	27.3	4.05	22.7	25.2	3.63	22.9	24.1	3.44	23.0	23.2	3.31	23.1	21.1	3.13	23.3
	30	50	29.2	4.14	22.7	27.3	4.05	23.2	25.2	3.63	23.7	24.1	3.44	24.0	23.2	3.31	24.2	21.1	3.13	24.8
		75	29.2	4.14	25.1	27.3	4.05	25.5	25.2	3.63	25.8	24.1	3.44	26.0	23.2	3.31	26.1	21.1	3.13	26.5
		96	29.2	4.14	26.2	27.3	4.05	26.5	25.2	3.63	26.7	24.1	3.44	26.9	23.2	3.31	27.0	21.1	3.13	27.3
		125	29.2	4.14	27.1	27.3	4.05	27.3	25.2	3.63	27.5	24.1	3.44	27.6	23.2	3.31	27.7	21.1	3.13	27.9
		150	29.2	4.14	27.6	27.3	4.05	27.7	25.2	3.63	27.9	24.1	3.44	28.0	23.2	3.31	28.1	21.1	3.13	28.3
	35	50	29.2	4.14	27.7	27.3	4.05	28.2	25.2	3.63	28.7	24.1	3.44	29.0	23.2	3.31	29.2	21.1	3.13	29.7
		75	29.2	4.14	30.1	27.3	4.05	30.5	25.2	3.63	30.8	24.1	3.44	31.0	23.2	3.31	31.1	21.1	3.13	31.5
		96	29.2	4.14	31.2	27.3	4.05	31.5	25.2	3.63	31.7	24.1	3.44	31.9	23.2	3.31	32.0	21.1	3.13	32.3
		125	29.2	4.14	32.1	27.3	4.05	32.3	25.2	3.63	32.5	24.1	3.44	32.6	23.2	3.31	32.7	21.1	3.13	32.9
		150	29.2	4.14	32.6	27.3	4.05	32.7	25.2	3.63	32.9	24.1	3.44	33.0	23.2	3.31	33.1	21.1	3.13	33.2

TC : Total capacity (kW)
PC : Power consumption (kW)

(FDC280KXZWE1)

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																	
			16℃CDB			18℃CDB			20℃CDB			21℃CDB			22℃CDB			24℃CDB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
70%	20	50	25.5	4.30	13.8	23.7	3.93	14.2	22.1	3.60	14.6	21.1	3.40	14.8	20.1	3.24	15.1	18.3	2.97	15.5
		75	25.5	4.06	15.8	23.7	3.74	16.1	22.1	3.43	16.4	21.1	3.28	16.5	20.1	3.13	16.7	18.3	2.86	17.0
		96	25.6	4.00	16.7	23.7	3.63	17.0	22.1	3.35	17.2	21.1	3.22	17.3	20.1	3.07	17.4	18.3	2.81	17.6
		125	25.5	3.88	17.5	23.7	3.56	17.7	22.1	3.30	17.8	21.1	3.16	17.9	20.1	3.01	18.0	18.3	2.76	18.2
		150	25.5	3.85	17.9	23.7	3.51	18.0	22.1	3.28	18.2	21.1	3.15	18.3	20.1	3.01	18.3	18.3	2.76	18.5
	25	50	25.5	3.71	18.6	23.7	3.39	19.1	22.1	3.28	19.5	21.1	3.15	19.7	20.1	3.01	20.0	18.3	2.76	20.5
		75	25.5	3.71	20.8	23.7	3.39	21.1	22.1	3.28	21.3	21.1	3.15	21.5	20.1	3.01	21.7	18.3	2.76	22.0
		96	25.5	3.71	21.7	23.7	3.39	21.9	22.1	3.28	22.1	21.1	3.15	22.3	20.1	3.01	22.4	18.3	2.76	22.6
		125	25.5	3.71	22.5	23.7	3.39	22.6	22.1	3.28	22.8	21.1	3.15	22.9	20.1	3.01	23.0	18.3	2.76	23.2
		150	25.5	3.71	22.9	23.7	3.39	23.0	22.1	3.28	23.2	21.1	3.15	23.2	20.1	3.01	23.3	18.3	2.76	23.5
	30	50	25.5	3.71	23.6	23.7	3.39	24.1	22.1	3.28	24.5	21.1	3.15	24.7	20.1	3.01	25.0	18.3	2.76	25.4
		75	25.5	3.71	25.8	23.7	3.39	26.0	22.1	3.28	26.3	21.1	3.15	26.5	20.1	3.01	26.7	18.3	2.76	27.0
		96	25.5	3.71	26.7	23.7	3.39	26.9	22.1	3.28	27.1	21.1	3.15	27.3	20.1	3.01	27.4	18.3	2.76	27.6
		125	25.5	3.71	27.5	23.7	3.39	27.6	22.1	3.28	27.8	21.1	3.15	27.9	20.1	3.01	28.0	18.3	2.76	28.2
		150	25.5	3.71	27.9	23.7	3.39	28.0	22.1	3.28	28.2	21.1	3.15	28.2	20.1	3.01	28.3	18.3	2.76	28.5
	35	50	25.5	3.71	28.6	23.7	3.39	29.1	22.1	3.28	29.5	21.1	3.15	29.7	20.1	3.01	30.0	18.3	2.76	30.4
		75	25.5	3.71	30.8	23.7	3.39	31.0	22.1	3.28	31.3	21.1	3.15	31.5	20.1	3.01	31.7	18.3	2.76	32.0
		96	25.5	3.71	31.7	23.7	3.39	31.9	22.1	3.28	32.1	21.1	3.15	32.3	20.1	3.01	32.4	18.3	2.76	32.6
		125	25.5	3.71	32.5	23.7	3.39	32.6	22.1	3.28	32.8	21.1	3.15	32.9	20.1	3.01	33.0	18.3	2.76	33.2
		150	25.5	3.71	32.9	23.7	3.39	33.0	22.1	3.28	33.2	21.1	3.15	33.2	20.1	3.01	33.3	18.3	2.76	33.5
60%	20	50	22.1	3.60	14.6	20.6	3.32	15.0	18.9	3.05	15.4	18.2	2.94	15.5	17.4	2.82	15.7	16.0	2.59	16.1
		75	22.1	3.42	16.4	20.6	3.19	16.6	18.9	2.95	16.9	18.2	2.85	17.0	17.4	2.71	17.1	16.0	2.50	17.4
		96	22.1	3.35	17.2	20.6	3.15	17.4	18.9	2.89	17.6	18.2	2.81	17.7	17.4	2.68	17.8	16.0	2.49	17.9
		125	22.1	3.30	17.8	20.6	3.10	18.0	18.9	2.86	18.1	18.2	2.76	18.2	17.4	2.64	18.3	16.0	2.49	18.4
		150	22.1	3.30	18.2	20.6	3.08	18.3	18.9	2.86	18.4	18.2	2.76	18.5	17.4	2.64	18.6	16.0	2.49	18.7
	25	50	22.1	3.30	19.5	20.6	3.08	19.9	18.9	2.86	20.3	18.2	2.76	20.5	17.4	2.64	20.7	16.0	2.49	21.0
		75	22.1	3.30	21.3	20.6	3.08	21.6	18.9	2.86	21.9	18.2	2.76	22.0	17.4	2.64	22.1	16.0	2.49	22.4
		96	22.1	3.30	22.1	20.6	3.08	22.3	18.9	2.86	22.6	18.2	2.76	22.6	17.4	2.64	22.7	16.0	2.49	22.9
		125	22.1	3.30	22.8	20.6	3.08	23.0	18.9	2.86	23.1	18.2	2.76	23.2	17.4	2.64	23.3	16.0	2.49	23.4
		150	22.1	3.30	23.2	20.6	3.08	23.3	18.9	2.86	23.4	18.2	2.76	23.5	17.4	2.64	23.6	16.0	2.49	23.7
	30	50	22.1	3.30	24.5	20.6	3.08	24.9	18.9	2.86	25.3	18.2	2.76	25.5	17.4	2.64	25.7	16.0	2.49	26.0
		75	22.1	3.30	26.3	20.6	3.08	26.6	18.9	2.86	26.9	18.2	2.76	27.0	17.4	2.64	27.1	16.0	2.49	27.4
		96	22.1	3.30	27.1	20.6	3.08	27.3	18.9	2.86	27.6	18.2	2.76	27.6	17.4	2.64	27.7	16.0	2.49	27.9
		125	22.1	3.30	27.8	20.6	3.08	28.0	18.9	2.86	28.1	18.2	2.76	28.2	17.4	2.64	28.3	16.0	2.49	28.4
		150	22.1	3.30	28.2	20.6	3.08	28.3	18.9	2.86	28.4	18.2	2.76	28.5	17.4	2.64	28.6	16.0	2.49	28.7
	35	50	22.1	3.30	29.5	20.6	3.08	29.9	18.9	2.86	30.3	18.2	2.76	30.5	17.4	2.64	30.7	16.0	2.49	31.0
		75	22.1	3.30	31.3	20.6	3.08	31.6	18.9	2.86	31.9	18.2	2.76	32.0	17.4	2.64	32.1	16.0	2.49	32.4
		96	22.1	3.30	32.1	20.6	3.08	32.3	18.9	2.86	32.6	18.2	2.76	32.6	17.4	2.64	32.7	16.0	2.49	32.9
		125	22.1	3.30	32.8	20.6	3.08	32.9	18.9	2.86	33.1	18.2	2.76	33.2	17.4	2.64	33.3	16.0	2.49	33.4
		150	22.1	3.30	33.2	20.6	3.08	33.3	18.9	2.86	33.4	18.2	2.76	33.5	17.4	2.64	33.6	16.0	2.49	33.7
50%	20	50	18.5	2.98	15.5	17.2	2.78	15.8	15.8	2.56	16.1	15.2	2.47	16.3	14.6	2.37	16.4	13.3	2.17	16.7
		75	18.5	2.89	17.0	17.2	2.70	17.2	15.8	2.48	17.4	15.2	2.38	17.5	14.6	2.29	17.6	13.3	2.09	17.8
		96	18.5	2.83	17.6	17.2	2.65	17.8	15.8	2.43	18.0	15.2	2.35	18.0	14.6	2.28	18.1	13.3	2.07	18.3
		125	18.5	2.81	18.2	17.2	2.63	18.3	15.8	2.43	18.4	15.2	2.35	18.5	14.6	2.28	18.6	13.3	2.07	18.7
		150	18.5	2.81	18.5	17.2	2.63	18.6	15.8	2.43	18.7	15.2	2.35	18.7	14.6	2.28	18.8	13.3	2.07	18.9
	25	50	18.5	2.81	20.4	17.2	2.63	20.7	15.8	2.43	21.1	15.2	2.35	21.2	14.6	2.28	21.4	13.3	2.07	21.7
		75	18.5	2.81	21.9	17.2	2.63	22.2	15.8	2.43	22.4	15.2	2.35	22.5	14.6	2.28	22.6	13.3	2.07	22.8
		96	18.5	2.81	22.6	17.2	2.63	22.8	15.8	2.43	23.0	15.2	2.35	23.0	14.6	2.28	23.1	13.3	2.07	23.3
		125	18.5	2.81	23.2	17.2	2.63	23.3	15.8	2.43	23.4	15.2	2.35	23.5	14.6	2.28	23.6	13.3	2.07	23.7
		150	18.5	2.81	23.5	17.2	2.63	23.6	15.8	2.43	23.7	15.2	2.35	23.7	14.6	2.28	23.8	13.3	2.07	23.9
	30	50	18.5	2.81	25.4	17.2	2.63	25.7	15.8	2.43	26.1	15.2	2.35	26.2	14.6	2.28	26.4	13.3	2.07	26.7
		75	18.5	2.81	26.9	17.2	2.63	27.2	15.8	2.43	27.4	15.2	2.35	27.5	14.6	2.28	27.6	13.3	2.07	27.8
		96	18.5	2.81	27.6	17.2	2.63	27.8	15.8	2.43	28.0	15.2	2.35	28.0	14.6	2.28	28.1	13.3	2.07	28.3
		125	18.5	2.81	28.2	17.2	2.63	28.3	15.8	2.43	28.4	15.2	2.35	28.5	14.6	2.28	28.6	13.3	2.07	28.7
		150	18.5	2.81	28.5	17.2	2.63	28.6	15.8	2.43	28.7	15.2	2.35	28.7	14.6	2.28	28.8	13.3	2.07	28.9
	35	50	18.5	2.81	30.4	17.2	2.63	30.7	15.8	2.43	31.1	15.2	2.35	31.2	14.6	2.28	31.4	13.3	2.07	31.7
		75	18.5	2.81	31.9	17.2	2.63	32.1	15.8	2.43	32.4	15.2	2.35	32.5	14.6	2.28	32.6	13.3	2.07	32.8
		96	18.5	2.81	32.6	17.2	2.63	32.8	15.8	2.43	33.0	15.2	2.35	33.0	14.6	2.28	33.1	13.3	2.07	33.3
		125	18.5	2.81	33.2	17.2	2.63	33.3	15.8	2.43	33.4	15.2	2.35	33.5	14.6	2.28	33.5	13.3	2.07	33.7
		150	18.5	2.81	33.5	17.2	2.63	33.6	15.8	2.43	33.7	15.2	2.35	33.7	14.6	2.28	33.8	13.3	2.07	33.9

TC : Total capacity (kW)
PC : Power consumption (kW)

Model FDC335KXZWE1

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																	
			16℃CDB			18℃CDB			20℃CDB			21℃CDB			22℃CDB			24℃CDB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
150%	20	50	36.6	4.89	10.8	36.4	5.11	10.9	36.1	5.31	11.0	35.9	5.40	11.1	35.8	5.50	11.2	35.4	5.68	11.3
		75	38.7	5.02	13.5	38.5	5.25	13.6	38.1	5.47	13.7	38.0	5.58	13.7	37.7	5.67	13.8	37.4	5.87	13.9
		96	39.7	5.07	14.8	39.4	5.31	14.8	39.1	5.55	14.9	38.9	5.65	15.0	38.7	5.75	15.0	38.3	5.96	15.1
		125	40.6	5.13	15.9	40.3	5.37	15.9	39.9	5.61	16.0	39.7	5.72	16.0	39.5	5.82	16.1	39.2	6.04	16.1
		150	41.0	5.15	16.5	40.7	5.40	16.6	40.3	5.64	16.6	40.2	5.75	16.7	40.0	5.87	16.7	39.5	6.07	16.7
	25	50	40.5	5.12	14.7	40.2	5.37	14.8	39.9	5.61	15.0	39.7	5.72	15.1	39.6	5.84	15.1	39.3	6.05	15.3
		75	42.9	5.25	17.7	42.5	5.52	17.8	42.3	5.78	17.9	42.2	5.90	17.9	41.9	6.02	18.0	41.5	6.24	18.1
		96	44.0	5.31	19.1	43.7	5.59	19.2	43.4	5.86	19.3	43.1	5.98	19.4	43.0	6.11	19.4	42.6	6.34	19.5
		125	45.1	5.37	20.4	44.7	5.65	20.4	44.2	5.92	20.5	44.1	6.05	20.6	43.0	6.11	20.7	42.6	6.34	20.8
		150	45.1	5.37	21.1	44.7	5.65	21.2	44.2	5.92	21.3	44.1	6.05	21.3	43.0	6.11	21.4	42.6	6.34	21.5
	30	50	45.1	5.37	18.4	44.7	5.65	18.6	44.2	5.92	18.8	44.1	6.05	18.9	43.0	6.11	19.2	42.6	6.34	19.4
		75	45.1	5.37	22.3	44.7	5.65	22.4	44.2	5.92	22.5	44.1	6.05	22.6	43.0	6.11	22.8	42.6	6.34	22.9
		96	45.1	5.37	24.0	44.7	5.65	24.1	44.2	5.92	24.2	44.1	6.05	24.2	43.0	6.11	24.4	42.6	6.34	24.5
		125	45.1	5.37	25.4	44.7	5.65	25.4	44.2	5.92	25.5	44.1	6.05	25.5	43.0	6.11	25.7	42.6	6.34	25.8
		150	45.1	5.37	26.1	44.7	5.65	26.2	44.2	5.92	26.3	44.1	6.05	26.3	43.0	6.11	26.4	42.6	6.34	26.5
	35	50	45.1	5.37	23.4	44.7	5.65	23.6	44.2	5.92	23.8	44.1	6.05	23.9	43.0	6.11	24.2	42.6	6.34	24.4
		75	45.1	5.37	27.3	44.7	5.65	27.4	44.2	5.92	27.5	44.1	6.05	27.6	43.0	6.11	27.8	42.6	6.34	27.9
		96	45.1	5.37	29.0	44.7	5.65	29.1	44.2	5.92	29.2	44.1	6.05	29.2	43.0	6.11	29.4	42.6	6.34	29.5
		125	45.1	5.37	30.4	44.7	5.65	30.4	44.2	5.92	30.5	44.1	6.05	30.5	43.0	6.11	30.7	42.6	6.34	30.7
		150	45.1	5.37	31.1	44.7	5.65	31.2	44.2	5.92	31.3	44.1	6.05	31.3	43.0	6.11	31.4	42.6	6.34	31.5
140%	20	50	36.5	5.01	10.8	36.1	5.21	11.0	35.9	5.41	11.1	35.8	5.51	11.2	35.6	5.60	11.2	35.2	5.77	11.4
		75	38.5	5.15	13.5	38.2	5.37	13.6	37.9	5.59	13.7	37.7	5.69	13.8	37.5	5.78	13.8	37.2	5.97	13.9
		96	39.5	5.22	14.8	39.2	5.45	14.9	38.9	5.67	15.0	38.7	5.77	15.0	38.5	5.88	15.0	38.0	6.06	15.1
		125	40.4	5.27	15.9	40.0	5.51	16.0	39.7	5.74	16.0	39.4	5.84	16.1	39.3	5.95	16.1	38.9	6.15	16.2
		150	40.8	5.30	16.6	40.5	5.54	16.6	40.0	5.77	16.7	40.0	5.89	16.7	39.7	5.99	16.7	39.3	6.19	16.8
	25	50	40.3	5.27	14.8	40.0	5.51	14.9	39.7	5.74	15.1	39.6	5.85	15.2	39.4	5.96	15.2	39.0	6.16	15.4
		75	42.8	5.43	17.7	42.4	5.68	17.9	42.0	5.92	18.0	41.8	6.05	18.0	41.7	6.17	18.1	41.3	6.39	18.2
		96	43.8	5.49	19.2	43.5	5.76	19.3	43.1	6.02	19.4	43.0	6.14	19.4	42.7	6.26	19.5	42.2	6.48	19.6
		125	44.9	5.56	20.4	44.5	5.84	20.5	43.1	6.02	20.7	43.0	6.14	20.7	42.7	6.26	20.7	42.2	6.48	20.8
		150	44.9	5.56	21.2	44.5	5.84	21.2	43.1	6.02	21.4	43.0	6.14	21.4	42.7	6.26	21.5	42.2	6.48	21.5
	30	50	44.9	5.56	18.5	44.5	5.84	18.7	43.1	6.02	19.1	43.0	6.14	19.2	42.7	6.26	19.3	42.2	6.48	19.5
		75	44.9	5.56	22.4	44.5	5.84	22.5	43.1	6.02	22.8	43.0	6.14	22.8	42.7	6.26	22.9	42.2	6.48	23.0
		96	44.9	5.56	24.0	44.5	5.84	24.1	43.1	6.02	24.3	43.0	6.14	24.4	42.7	6.26	24.4	42.2	6.48	24.5
		125	44.9	5.56	25.4	44.5	5.84	25.5	43.1	6.02	25.7	43.0	6.14	25.7	42.7	6.26	25.7	42.2	6.48	25.8
		150	44.9	5.56	26.2	44.5	5.84	26.2	43.1	6.02	26.4	43.0	6.14	26.4	42.7	6.26	26.4	42.2	6.48	26.5
	35	50	44.9	5.56	23.5	44.5	5.84	23.7	43.1	6.02	24.1	43.0	6.14	24.2	42.7	6.26	24.3	42.2	6.48	24.5
		75	44.9	5.56	27.3	44.5	5.84	27.5	43.1	6.02	27.8	43.0	6.14	27.8	42.7	6.26	27.9	42.2	6.48	28.0
		96	44.9	5.56	29.0	44.5	5.84	29.1	43.1	6.02	29.3	43.0	6.14	29.4	42.7	6.26	29.4	42.2	6.48	29.5
		125	44.9	5.56	30.4	44.5	5.84	30.5	43.1	6.02	30.7	43.0	6.14	30.7	42.7	6.26	30.7	42.2	6.48	30.8
		150	44.9	5.56	31.2	44.5	5.84	31.2	43.1	6.02	31.4	43.0	6.14	31.4	42.7	6.26	31.4	42.2	6.48	31.5
130%	20	50	36.3	5.16	10.9	36.0	5.36	11.1	35.7	5.54	11.2	35.5	5.63	11.3	35.4	5.72	11.3	35.1	5.92	11.5
		75	38.3	5.32	13.6	38.0	5.54	13.7	37.6	5.73	13.8	37.5	5.83	13.8	37.2	5.92	13.9	36.9	6.11	14.0
		96	39.2	5.39	14.9	38.9	5.61	15.0	38.5	5.82	15.0	38.4	5.92	15.1	38.1	6.01	15.1	37.8	6.21	15.2
		125	40.1	5.46	16.0	39.7	5.68	16.0	39.4	5.91	16.1	39.2	6.00	16.1	39.0	6.11	16.2	38.6	6.29	16.2
		150	40.5	5.49	16.6	40.1	5.72	16.7	39.8	5.95	16.7	39.5	6.04	16.7	39.4	6.14	16.8	38.9	6.33	16.8
	25	50	40.1	5.46	14.9	39.8	5.69	15.0	39.4	5.91	15.2	39.3	6.02	15.3	39.1	6.11	15.4	38.8	6.31	15.5
		75	42.5	5.64	17.8	42.0	5.88	18.0	41.7	6.13	18.1	41.5	6.23	18.1	41.3	6.34	18.2	39.4	6.08	18.5
		96	43.6	5.73	19.2	43.1	5.98	19.4	42.8	6.22	19.4	42.6	6.34	19.5	42.3	6.45	19.5	39.4	5.87	19.9
		125	44.5	5.80	20.5	44.1	6.06	20.6	42.8	6.22	20.7	42.6	6.34	20.8	42.3	6.45	20.8	39.4	5.87	21.1
		150	44.5	5.80	21.2	44.1	6.06	21.3	42.8	6.22	21.4	42.6	6.34	21.5	42.3	6.45	21.5	39.4	5.87	21.7
	30	50	44.5	5.80	18.7	44.1	6.06	18.9	42.8	6.22	19.3	42.6	6.34	19.4	42.3	6.45	19.5	39.4	5.87	20.2
		75	44.5	5.80	22.5	44.1	6.06	22.6	42.8	6.22	22.9	42.6	6.34	22.9	42.3	6.45	23.0	39.4	5.87	23.5
		96	44.5	5.80	24.1	44.1	6.06	24.2	42.8	6.22	24.4	42.6	6.34	24.5	42.3	6.45	24.5	39.4	5.87	24.9
		125	44.5	5.80	25.5	44.1	6.06	25.6	42.8	6.22	25.7	42.6	6.34	25.8	42.3	6.45	25.8	39.4	5.87	26.1
		150	44.5	5.80	26.2	44.1	6.06	26.3	42.8	6.22	26.4	42.6	6.34	26.5	42.3	6.45	26.5	39.4	5.87	26.7
	35	50	44.5	5.80	23.7	44.1	6.06	23.9	42.8	6.22	24.3	42.6	6.34	24.4	42.3	6.45	24.5	39.4	5.87	25.2
		75	44.5	5.80	27.5	44.1	6.06	27.6	42.8	6.22	27.9	42.6	6.34	27.9	42.3	6.45	28.0	39.4	5.87	28.5
		96	44.5	5.80	29.1	44.1	6.06	29.2	42.8	6.22	29.4	42.6	6.34	29.5	42.3	6.45	29.5	39.4	5.87	29.9
		125	44.5	5.80	30.5	44.1	6.06	30.5	42.8	6.22	30.7	42.6	6.34	30.8	42.3	6.45	30.8	39.4	5.87	31.1
		150	44.5	5.80	31.2	44.1	6.06	31.3	42.8	6.22	31.4	42.6	6.34	31.5	42.3	6.45	31.5	39.4	5.87	31.7
120%	20	50	36.1	5.28	11.0	35.8	5.47	11.1	35.5	5.65	11.3	35.3	5.74	11.4	35.1	5.81	11.5	34.9	6.06	11.6
		75	38.1	5.45	13.7	37.8	5.67	13.8	37.4	5.85	13.9	37.3	5.95	13.9	37.0	6.04	14.0	36.7	6.23	14.1
		96	39.1	5.54	14.9	38.6	5.75	15.0	38.2	5.95	15.1	38.1	6.05	15.1	37.9	6.13	15.2	37.0	6.21	15.3
		125	39.8	5.61	16.0	39.4	5.83	16.1	39.1	6.04	16.1	38.9	6.13	16.2	38.7	6.23	16.2	37.0	6.05	16.4
		150	40.2	5.65	16.6	39.9	5.88	16.7	39.5	6.08	16.7	39.4	6.19	16.8	39.1	6.27	16.8	37.0	5.99	17.0
	25	50	39.9	5.61	15.0	39.6	5.84	15.2	39.2	6.05	15.3	39.1	6.16	15.4	38.9	6.25	15.5	37.0	5.99	15.9
		75	42.2	5.82	17.9	41.8	6.05	18.0	41.5	6.29	18.1	41.2	6.39	18.2	40.4	6.31	18.4	37.0	5.57	18.9
		96	43.3	5.91	19.3	42.9	6.16	19.4	42.5	6.39	19.5	42.2	6.49	19.6	40.4	6.08	19.8	37.0	5.57	20.2
		125	44.2	5.99	20.5	42.9	6.16	20.7	42.5	6.39	20.8	42.2	6.49	20.8	40.4	6.08	21.0	37.0	5.57	21.3
		150	44.2	5.99	21.3	42.9	6.16	21.4	42.5	6.39	21.5	42.2	6.49	21.5	40.4	6.08	21.7	37.0	5.57	21.9
	30	50	44.2	5.99	18.8	42.9	6.16	19.3	42.5	6.39	19.4	42.2	6.49	19.5	40.4	6.08	19.9	37.0	5.57	20.8
		75	44.2	5.99	22.6	42.9	6.16	22.8	42.5	6.39	23.0	42.2	6.49	23.0	40.4	6.08	23.3	37.0	5.57	23.9
		96	44.2	5.99	24.2	42.9	6.16	24.4	42.5	6.39	24.5	42.2	6.49	24.6	40.4	6.08	24.8	37.0	5.57	25.2
		125	44.2	5.99	25.5	42.9	6.16	25.7	42.5	6.39	25.8	42.2	6.49	25.8	40.4	6.08	26.0	37.0	5.57	26.3
		150	44.2	5.99	26.3	42.9	6.16	26.4	42.5	6.39	26.5	42.2	6.49	26.5	40.4	6.08	26.6	37.0	5.57	26.9
	35	50	44.2	5.99	23.8	42.9	6.16	24.2	42.5	6.39	24.4	42.2	6.49	24.5	40.4	6.08	24.9	37.0	5.57	25.8
		75	44.2	5.99	27.5	42.9	6.16	27.8	42.5	6.39	28.0	42.2	6.49	28.0	40.4	6.08	28.3	37.0	5.57	28.9
		96	44.2	5.99	29.2	42.9	6.16	29.4	42.5	6.39	29.5	42.2	6.49	29.5	40.4	6.08	29.8	37.0	5.57	30.2
		125	44.2	5.99	30.5	42.9	6.16	30.7	42.5	6.39	30.8	42.2	6.49	30.8	40.4	6.08	31.0	37.0	5.57	31.3
		150	44.2	5.99	31.3	42.9	6.16	31.4	42.5	6.39	31.5	42.2	6.49	31.5	40.4	6.08	31.6	37.0	5.57	31.9

TC : Total capacity (kW)
PC : Power consumption (kW)

(FDC335KXZWE1)

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																		
			16℃CDB			18℃CDB			20℃CDB			21℃CDB			22℃CDB			24℃CDB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
110%	20	50	35.9	5.44	11.1	35.5	5.61	11.3	35.2	5.78	11.4	35.0	5.89	11.5	35.0	6.01	11.5	34.3	6.17	11.8
		75	37.8	5.63	13.8	37.5	5.83	13.8	37.0	6.01	14.0	36.9	6.10	14.0	37.5	6.32	13.9	34.3	5.78	14.4
		96	38.7	5.73	15.0	38.3	5.93	15.1	38.0	6.12	15.2	37.8	6.21	15.2	37.5	6.29	15.2	34.3	5.63	15.6
		125	39.5	5.81	16.1	39.1	6.01	16.1	38.7	6.20	16.2	38.5	6.30	16.2	37.5	6.26	16.3	34.3	5.51	16.6
		150	39.9	5.84	16.7	39.5	6.06	16.7	39.1	6.24	16.8	38.9	6.35	16.8	37.5	6.08	16.9	34.3	5.43	17.2
	25	50	39.6	5.81	15.1	39.2	6.02	15.3	38.9	6.22	15.5	38.7	6.32	15.5	37.5	6.11	15.8	34.3	5.39	16.5
		75	41.8	6.04	18.0	41.5	6.27	18.1	40.6	6.35	18.3	39.1	6.03	18.6	37.5	5.68	18.8	34.3	5.02	19.3
		96	42.9	6.15	19.4	42.5	6.38	19.5	40.6	6.12	19.8	39.1	5.81	19.9	37.5	5.68	20.2	34.3	5.02	20.5
		125	42.9	6.15	20.7	42.5	6.38	20.8	40.6	6.12	21.0	39.1	5.81	21.1	37.5	5.68	21.3	34.3	5.02	21.6
		150	42.9	6.15	21.4	42.5	6.38	21.5	40.6	6.12	21.6	39.1	5.81	21.8	37.5	5.68	21.9	34.3	5.02	22.2
	30	50	42.9	6.15	19.3	42.5	6.38	19.4	40.6	6.12	19.9	39.1	5.81	20.3	37.5	5.68	20.7	34.3	5.02	21.4
		75	42.9	6.15	22.8	42.5	6.38	23.0	40.6	6.12	23.3	39.1	5.81	23.5	37.5	5.68	23.8	34.3	5.02	24.3
		96	42.9	6.15	24.4	42.5	6.38	24.5	40.6	6.12	24.7	39.1	5.81	24.9	37.5	5.68	25.1	34.3	5.02	25.5
		125	42.9	6.15	25.7	42.5	6.38	25.8	40.6	6.12	26.0	39.1	5.81	26.1	37.5	5.68	26.3	34.3	5.02	26.6
		150	42.9	6.15	26.4	42.5	6.38	26.5	40.6	6.12	26.6	39.1	5.81	26.8	37.5	5.68	26.9	34.3	5.02	27.1
	35	50	42.9	6.15	24.2	42.5	6.38	24.4	40.6	6.12	24.9	39.1	5.81	25.2	37.5	5.68	25.7	34.3	5.02	26.4
		75	42.9	6.15	27.8	42.5	6.38	27.9	40.6	6.12	28.3	39.1	5.81	28.5	37.5	5.68	28.8	34.3	5.02	29.3
		96	42.9	6.15	29.4	42.5	6.38	29.5	40.6	6.12	29.7	39.1	5.81	29.9	37.5	5.68	30.1	34.3	5.02	30.5
		125	42.9	6.15	30.7	42.5	6.38	30.8	40.6	6.12	31.0	39.1	5.81	31.1	37.5	5.68	31.3	34.3	5.02	31.6
		150	42.9	6.15	31.4	42.5	6.38	31.5	40.6	6.12	31.6	39.1	5.81	31.7	37.5	5.68	31.9	34.3	5.02	32.1
100%	20	50	35.5	5.61	11.3	35.1	5.78	11.4	34.9	6.01	11.5	34.8	6.13	11.6	34.3	6.17	11.8	31.3	5.46	12.4
		75	37.4	5.84	13.9	37.1	6.02	14.0	36.6	6.19	14.1	35.9	6.15	14.2	34.3	5.77	14.4	31.3	5.13	14.9
		96	38.3	5.94	15.1	38.0	6.13	15.2	37.5	6.30	15.3	35.9	5.96	15.4	34.3	5.63	15.6	31.3	5.01	16.0
		125	39.1	6.03	16.1	38.7	6.22	16.2	37.5	6.18	16.3	35.9	5.84	16.5	34.3	5.50	16.6	31.3	4.90	16.9
		150	39.5	6.08	16.8	39.0	6.27	16.8	37.5	6.08	16.9	35.9	5.72	17.1	34.3	5.44	17.2	31.3	4.84	17.4
	25	50	39.2	6.05	15.3	38.9	6.25	15.5	37.5	6.10	15.8	35.9	5.72	16.2	34.3	5.38	16.5	31.3	4.77	17.2
		75	41.4	6.30	18.2	40.2	6.27	18.4	37.5	5.65	18.8	35.9	5.35	19.1	34.3	5.03	19.3	31.3	4.46	19.8
		96	42.5	6.43	19.5	40.2	6.05	19.8	37.5	5.65	20.2	35.9	5.35	20.4	34.3	5.03	20.5	31.3	4.46	20.9
		125	42.5	6.43	20.8	40.2	6.05	21.0	37.5	5.65	21.3	35.9	5.35	21.4	34.3	5.03	21.6	31.3	4.46	21.9
		150	42.5	6.43	21.5	40.2	6.05	21.7	37.5	5.65	21.9	35.9	5.35	22.0	34.3	5.03	22.2	31.3	4.46	22.4
	30	50	42.5	6.43	19.5	40.2	6.05	20.0	37.5	5.65	20.7	35.9	5.35	21.1	34.3	5.03	21.4	31.3	4.46	22.1
		75	42.5	6.43	23.0	40.2	6.05	23.3	37.5	5.65	23.8	35.9	5.35	24.0	34.3	5.03	24.3	31.3	4.46	24.8
		96	42.5	6.43	24.5	40.2	6.05	24.8	37.5	5.65	25.1	35.9	5.35	25.3	34.3	5.03	25.5	31.3	4.46	25.9
		125	42.5	6.43	25.8	40.2	6.05	26.0	37.5	5.65	26.3	35.9	5.35	26.4	34.3	5.03	26.6	31.3	4.46	26.9
		150	42.5	6.43	26.5	40.2	6.05	26.7	37.5	5.65	26.9	35.9	5.35	27.0	34.3	5.03	27.1	31.3	4.46	27.4
	35	50	42.5	6.43	24.4	40.2	6.05	25.0	37.5	5.65	25.7	35.9	5.35	26.0	34.3	5.03	26.4	31.3	4.46	27.1
		75	42.5	6.43	28.0	40.2	6.05	28.3	37.5	5.65	28.8	35.9	5.35	29.0	34.3	5.03	29.3	31.3	4.46	29.8
		96	42.5	6.43	29.5	40.2	6.05	29.8	37.5	5.65	30.1	35.9	5.35	30.3	34.3	5.03	30.5	31.3	4.46	30.9
		125	42.5	6.43	30.8	40.2	6.05	31.0	37.5	5.65	31.3	35.9	5.35	31.4	34.3	5.03	31.6	31.3	4.46	31.9
		150	42.5	6.43	31.5	40.2	6.05	31.7	37.5	5.65	31.9	35.9	5.35	32.0	34.3	5.03	32.1	31.3	4.46	32.4
90%	20	50	35.0	5.79	11.5	34.7	6.02	11.6	33.8	6.07	11.9	32.3	5.73	12.2	31.0	5.39	12.5	28.4	4.81	13.1
		75	36.8	6.04	14.0	36.2	6.19	14.2	33.8	5.66	14.5	32.3	5.34	14.8	31.0	5.07	15.0	28.4	4.54	15.4
		96	37.6	6.15	15.2	36.2	6.05	15.4	33.8	5.50	15.7	32.3	5.22	15.9	31.0	4.96	16.0	28.4	4.43	16.4
		125	38.3	6.24	16.3	36.2	5.92	16.5	33.8	5.39	16.7	32.3	5.10	16.8	31.0	4.86	16.9	28.4	4.34	17.2
		150	38.7	6.30	16.8	36.2	5.83	17.0	33.8	5.33	17.2	32.3	5.06	17.4	31.0	4.79	17.5	28.4	4.30	17.7
	25	50	38.5	6.27	15.6	36.2	5.83	16.1	33.8	5.30	16.7	32.3	4.98	17.0	31.0	4.72	17.3	28.4	4.20	17.9
		75	39.1	6.02	18.6	36.2	5.41	19.0	33.8	4.95	19.4	32.3	4.67	19.6	31.0	4.42	19.8	28.4	4.20	20.3
		96	39.1	5.84	19.9	36.2	5.41	20.3	33.8	4.95	20.6	32.3	4.67	20.8	31.0	4.42	21.0	28.4	4.20	21.3
		125	39.1	5.84	21.1	36.2	5.41	21.4	33.8	4.95	21.6	32.3	4.67	21.8	31.0	4.42	21.9	28.4	4.20	22.2
		150	39.1	5.84	21.8	36.2	5.41	22.0	33.8	4.95	22.2	32.3	4.67	22.3	31.0	4.42	22.4	28.4	4.20	22.6
	30	50	39.1	5.84	20.3	36.2	5.41	21.0	33.8	4.95	21.6	32.3	4.67	21.9	31.0	4.42	22.2	28.4	4.20	22.9
		75	39.1	5.84	23.5	36.2	5.41	24.0	33.8	4.95	24.4	32.3	4.67	24.6	31.0	4.42	24.8	28.4	4.20	25.3
		96	39.1	5.84	24.9	36.2	5.41	25.3	33.8	4.95	25.6	32.3	4.67	25.8	31.0	4.42	25.9	28.4	4.20	26.3
		125	39.1	5.84	26.1	36.2	5.41	26.4	33.8	4.95	26.6	32.3	4.67	26.8	31.0	4.42	26.9	28.4	4.20	27.2
		150	39.1	5.84	26.8	36.2	5.41	27.0	33.8	4.95	27.2	32.3	4.67	27.3	31.0	4.42	27.4	28.4	4.20	27.6
	35	50	39.1	5.84	25.3	36.2	5.41	26.0	33.8	4.95	26.5	32.3	4.67	26.9	31.0	4.42	27.2	28.4	4.20	27.9
		75	39.1	5.84	28.5	36.2	5.41	29.0	33.8	4.95	29.4	32.3	4.67	29.6	31.0	4.42	29.8	28.4	4.20	30.3
		96	39.1	5.84	29.9	36.2	5.41	30.3	33.8	4.95	30.6	32.3	4.67	30.8	31.0	4.42	30.9	28.4	4.20	31.3
		125	39.1	5.84	31.1	36.2	5.41	31.4	33.8	4.95	31.6	32.3	4.67	31.8	31.0	4.42	31.9	28.4	4.20	32.2
		150	39.1	5.84	31.8	36.2	5.41	32.0	33.8	4.95	32.2	32.3	4.67	32.3	31.0	4.42	32.4	28.4	4.20	32.6
80%	20	50	34.3	6.07	11.8	32.2	5.70	12.2	30.0	5.18	12.7	28.8	4.91	13.0	27.6	4.66	13.3	25.2	4.14	13.9
		75	34.7	5.89	14.4	32.2	5.36	14.8	30.0	4.88	15.1	28.8	4.64	15.3	27.6	4.41	15.5	25.2	3.95	15.9
		96	34.7	5.75	15.6	32.2	5.21	15.9	30.0	4.76	16.2	28.8	4.53	16.3	27.6	4.29	16.5	25.2	3.84	16.8
		125	34.7	5.62	16.6	32.2	5.10	16.8	30.0	4.67	17.0	28.8	4.45	17.2	27.6	4.22	17.3	25.2	3.77	17.5
		150	34.7	5.53	17.2	32.2	5.04	17.4	30.0	4.61	17.5	28.8	4.38	17.6	27.6	4.16	17.7	25.2	3.74	17.9
	25	50	34.7	5.53	16.5	32.2	4.99	17.0	30.0	4.53	17.6	28.8	4.29	17.8	27.6	4.06	18.1	25.2	3.60	18.7
		75	34.7	5.12	19.2	32.2	4.65	19.6	30.0	4.23	20.0	28.8	4.29	20.2	27.6	4.06	20.4	25.2	3.60	20.8
		96	34.7	5.12	20.5	32.2	4.65	20.8	30.0	4.23	21.1	28.8	4.29	21.3	27.6	4.06	21.4	25.2	3.60	21.7
		125	34.7	5.12	21.5	32.2	4.65	21.8	30.0	4.23	22.0	28.8	4.29	22.1	27.6	4.06	22.2	25.2	3.60	22.5
		150	34.7	5.12	22.1	32.2	4.65	22.3	30.0	4.23	22.5	28.8	4.29	22.6	27.6	4.06	22.7	25.2	3.60	22.9
	30	50	34.7	5.12	21.4	32.2	4.65	21.9	30.0	4.23	22.5	28.8	4.29	22.8	27.6	4.06	23.1	25.2	3.60	23.7
		75	34.7	5.12	24.2	32.2	4.65	24.6	30.0	4.23	25.0	28.8	4.29	25.2	27.6	4.06	25.4	25.2	3.60	25.8
		96	34.7	5.12	25.5	32.2	4.65	25.8	30.0	4.23	26.1	28.8	4.29	26.3	27.6	4.06	26.4	25.2	3.60	26.7
		125	34.7	5.12	26.5	32.2	4.65	26.8	30.0	4.23	27.0	28.8	4.29	27.1	27.6	4.06	27.2	25.2	3.60	27.5
		150	34.7	5.12	27.1	32.2	4.65	27.3	30.0	4.23	27.5	28.8	4.29	27.6	27.6	4.06	27.7	25.2	3.60	27.9
	35	50	34.7	5.12	26.3	32.2	4.65	26.9	30.0	4.23	27.5	28.8	4.29	27.8	27.6	4.06	28.1	25.2	3.60	28.7
		75	34.7	5.12	29.2	32.2	4.65	29.6	30.0	4.23	30.0	28.8	4.29	30.2	27.6	4.06	30.4	25.2	3.60	30.8
		96	34.7	5.12	30.5	32.2	4.65	30.8	30.0	4.23	31.1	28.8	4.29	31.3	27.6	4.06	31.4	25.2	3.60	31.7
		125	34.7	5.12	31.5	32.2	4.65	31.8	30.0	4.23	32.0	28.8	4.29	32.1	27.6	4.06	32.2	25.2	3.60	32.5
		150	34.7	5.12	32.1	32.2	4.65	32.3	30.0	4.23	32.5	28.8	4.29	32.6	27.6	4.06	32.7	25.2	3.60	32.9

TC : Total capacity (kW)
PC : Power consumption (kW)

(FDC335KXZWE1)

Total capacity of concurrently operating indoor unit [%]	Inlet water temp. [℃]	Water flow rate [L/min]	Indoor air temperature																	
			16℃CDB			18℃CDB			20℃CDB			21℃CDB			22℃CDB			24℃CDB		
			TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.	TC	PC	Outlet water temp.
			kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃	kW	kW	℃
70%	20	50	30.3	5.27	12.7	28.3	4.82	13.1	26.3	4.38	13.6	25.1	4.12	13.9	24.0	3.91	14.1	22.0	3.53	14.6
		75	30.3	4.96	15.1	28.3	4.56	15.4	26.3	4.17	15.7	25.1	3.93	15.9	24.0	3.73	16.1	22.0	3.36	16.4
		96	30.3	4.85	16.1	28.3	4.45	16.4	26.3	4.06	16.6	25.1	3.85	16.8	24.0	3.64	16.9	22.0	3.31	17.2
		125	30.3	4.75	17.0	28.3	4.35	17.2	26.3	3.98	17.4	25.1	3.78	17.5	24.0	3.58	17.6	22.0	3.26	17.8
		150	30.3	4.69	17.5	28.3	4.32	17.7	26.3	3.93	17.8	25.1	3.73	17.9	24.0	3.53	18.0	22.0	3.26	18.2
	25	50	30.5	4.65	17.4	28.3	4.21	18.0	26.3	3.82	18.4	25.1	3.59	18.7	24.0	3.53	19.0	22.0	3.26	19.5
		75	30.3	4.30	19.9	28.3	4.21	20.3	26.3	3.82	20.6	25.1	3.59	20.8	24.0	3.53	21.0	22.0	3.26	21.3
		96	30.3	4.30	21.0	28.3	4.21	21.3	26.3	3.82	21.6	25.1	3.59	21.7	24.0	3.53	21.9	22.0	3.26	22.1
		125	30.3	4.30	22.0	28.3	4.21	22.2	26.3	3.82	22.4	25.1	3.59	22.5	24.0	3.53	22.6	22.0	3.26	22.8
		150	30.3	4.30	22.5	28.3	4.21	22.7	26.3	3.82	22.8	25.1	3.59	22.9	24.0	3.53	23.0	22.0	3.26	23.2
	30	50	30.3	4.30	22.4	28.3	4.21	22.9	26.3	3.82	23.4	25.1	3.59	23.7	24.0	3.53	24.0	22.0	3.26	24.5
		75	30.3	4.30	24.9	28.3	4.21	25.3	26.3	3.82	25.6	25.1	3.59	25.8	24.0	3.53	26.0	22.0	3.26	26.3
		96	30.3	4.30	26.0	28.3	4.21	26.3	26.3	3.82	26.6	25.1	3.59	26.7	24.0	3.53	26.9	22.0	3.26	27.1
		125	30.3	4.30	27.0	28.3	4.21	27.2	26.3	3.82	27.4	25.1	3.59	27.5	24.0	3.53	27.6	22.0	3.26	27.8
		150	30.3	4.30	27.5	28.3	4.21	27.6	26.3	3.82	27.8	25.1	3.59	27.9	24.0	3.53	28.0	22.0	3.26	28.2
	35	50	30.3	4.30	27.4	28.3	4.21	27.9	26.3	3.82	28.4	25.1	3.59	28.7	24.0	3.53	29.0	22.0	3.26	29.5
		75	30.3	4.30	29.9	28.3	4.21	30.3	26.3	3.82	30.6	25.1	3.59	30.8	24.0	3.53	31.0	22.0	3.26	31.3
		96	30.3	4.30	31.0	28.3	4.21	31.3	26.3	3.82	31.6	25.1	3.59	31.7	24.0	3.53	31.9	22.0	3.26	32.1
		125	30.3	4.30	32.0	28.3	4.21	32.2	26.3	3.82	32.4	25.1	3.59	32.5	24.0	3.53	32.6	22.0	3.26	32.8
		150	30.3	4.30	32.5	28.3	4.21	32.6	26.3	3.82	32.8	25.1	3.59	32.9	24.0	3.53	33.0	22.0	3.26	33.2
60%	20	50	26.1	4.36	13.6	24.2	3.97	14.1	22.5	3.61	14.5	21.6	3.46	14.7	20.7	3.28	14.9	18.8	2.99	15.4
		75	26.1	4.14	15.7	24.2	3.77	16.0	22.5	3.45	16.3	21.6	3.29	16.4	20.7	3.17	16.6	18.8	2.89	16.9
		96	26.1	4.05	16.6	24.2	3.69	16.9	22.5	3.39	17.1	21.6	3.25	17.2	20.7	3.13	17.3	18.8	2.85	17.6
		125	26.1	3.94	17.4	24.2	3.62	17.6	22.5	3.32	17.8	21.6	3.21	17.9	20.7	3.08	17.9	18.8	2.81	18.1
		150	26.1	3.92	17.8	24.2	3.56	18.0	22.5	3.29	18.1	21.6	3.21	18.2	20.7	3.08	18.3	18.8	2.81	18.4
	25	50	26.1	3.92	18.5	24.2	3.56	19.0	22.5	3.29	19.4	21.6	3.21	19.6	20.7	3.08	19.9	18.8	2.81	20.3
		75	26.1	3.92	20.7	24.2	3.56	21.0	22.5	3.29	21.3	21.6	3.21	21.4	20.7	3.08	21.6	18.8	2.81	21.9
		96	26.1	3.92	21.6	24.2	3.56	21.9	22.5	3.29	22.1	21.6	3.21	22.2	20.7	3.08	22.3	18.8	2.81	22.6
		125	26.1	3.92	22.4	24.2	3.56	22.6	22.5	3.29	22.8	21.6	3.21	22.9	20.7	3.08	22.9	18.8	2.81	23.1
		150	26.1	3.92	22.8	24.2	3.56	23.0	22.5	3.29	23.1	21.6	3.21	23.2	20.7	3.08	23.3	18.8	2.81	23.4
	30	50	26.1	3.92	23.5	24.2	3.56	24.0	22.5	3.29	24.4	21.6	3.21	24.6	20.7	3.08	24.9	18.8	2.81	25.3
		75	26.1	3.92	25.7	24.2	3.56	26.0	22.5	3.29	26.3	21.6	3.21	26.4	20.7	3.08	26.6	18.8	2.81	26.9
		96	26.1	3.92	26.6	24.2	3.56	26.9	22.5	3.29	27.1	21.6	3.21	27.2	20.7	3.08	27.3	18.8	2.81	27.6
		125	26.1	3.92	27.4	24.2	3.56	27.6	22.5	3.29	27.8	21.6	3.21	27.8	20.7	3.08	27.9	18.8	2.81	28.1
		150	26.1	3.92	27.8	24.2	3.56	28.0	22.5	3.29	28.1	21.6	3.21	28.2	20.7	3.08	28.3	18.8	2.81	28.4
	35	50	26.1	3.92	28.5	24.2	3.56	29.0	22.5	3.29	29.4	21.6	3.21	29.6	20.7	3.08	29.8	18.8	2.81	30.3
		75	26.1	3.92	30.7	24.2	3.56	31.0	22.5	3.29	31.2	21.6	3.21	31.4	20.7	3.08	31.6	18.8	2.81	31.9
		96	26.1	3.92	31.6	24.2	3.56	31.9	22.5	3.29	32.1	21.6	3.21	32.2	20.7	3.08	32.3	18.8	2.81	32.6
		125	26.1	3.92	32.4	24.2	3.56	32.6	22.5	3.29	32.7	21.6	3.21	32.8	20.7	3.08	32.9	18.8	2.81	33.1
		150	26.1	3.92	32.8	24.2	3.56	33.0	22.5	3.29	33.1	21.6	3.21	33.2	20.7	3.08	33.3	18.8	2.81	33.4
50%	20	50	21.6	3.47	14.7	20.1	3.20	15.1	18.8	3.00	15.4	18.0	2.87	15.6	17.1	2.73	15.8	15.7	2.52	16.2
		75	21.6	3.29	16.4	20.1	3.09	16.7	18.8	2.89	16.9	18.0	2.78	17.0	17.1	2.65	17.2	15.7	2.43	17.4
		96	21.6	3.25	17.2	20.1	3.04	17.4	18.8	2.85	17.6	18.0	2.73	17.7	17.1	2.59	17.8	15.7	2.40	18.0
		125	21.6	3.18	17.9	20.1	3.00	18.0	18.8	2.85	18.1	18.0	2.73	18.2	17.1	2.59	18.3	15.7	2.40	18.4
		150	21.6	3.18	18.2	20.1	3.00	18.3	18.8	2.85	18.5	18.0	2.73	18.5	17.1	2.59	18.6	15.7	2.40	18.7
	25	50	21.6	3.18	19.6	20.1	3.00	20.0	18.8	2.85	20.4	18.0	2.73	20.6	17.1	2.59	20.8	15.7	2.40	21.1
		75	21.6	3.18	21.4	20.1	3.00	21.7	18.8	2.85	21.9	18.0	2.73	22.0	17.1	2.59	22.2	15.7	2.40	22.4
		96	21.6	3.18	22.2	20.1	3.00	22.4	18.8	2.85	22.6	18.0	2.73	22.7	17.1	2.59	22.8	15.7	2.40	23.0
		125	21.6	3.18	22.8	20.1	3.00	23.0	18.8	2.85	23.1	18.0	2.73	23.2	17.1	2.59	23.3	15.7	2.40	23.4
		150	21.6	3.18	23.2	20.1	3.00	23.3	18.8	2.85	23.5	18.0	2.73	23.5	17.1	2.59	23.6	15.7	2.40	23.7
	30	50	21.6	3.18	24.6	20.1	3.00	25.0	18.8	2.85	25.3	18.0	2.73	25.5	17.1	2.59	25.8	15.7	2.40	26.1
		75	21.6	3.18	26.4	20.1	3.00	26.7	18.8	2.85	26.9	18.0	2.73	27.0	17.1	2.59	27.2	15.7	2.40	27.4
		96	21.6	3.18	27.2	20.1	3.00	27.4	18.8	2.85	27.6	18.0	2.73	27.7	17.1	2.59	27.8	15.7	2.40	28.0
		125	21.6	3.18	27.8	20.1	3.00	28.0	18.8	2.85	28.1	18.0	2.73	28.2	17.1	2.59	28.3	15.7	2.40	28.4
		150	21.6	3.18	28.2	20.1	3.00	28.3	18.8	2.85	28.4	18.0	2.73	28.5	17.1	2.59	28.6	15.7	2.40	28.7
	35	50	21.6	3.18	29.6	20.1	3.00	30.0	18.8	2.85	30.3	18.0	2.73	30.5	17.1	2.59	30.7	15.7	2.40	31.1
		75	21.6	3.18	31.4	20.1	3.00	31.6	18.8	2.85	31.9	18.0	2.73	32.0	17.1	2.59	32.2	15.7	2.40	32.4
		96	21.6	3.18	32.2	20.1	3.00	32.4	18.8	2.85	32.6	18.0	2.73	32.7	17.1	2.59	32.8	15.7	2.40	33.0
		125	21.6	3.18	32.8	20.1	3.00	33.0	18.8	2.85	33.1	18.0	2.73	33.2	17.1	2.59	33.3	15.7	2.40	33.4
		150	21.6	3.18	33.2	20.1	3.00	33.3	18.8	2.85	33.4	18.0	2.73	33.5	17.1	2.59	33.6	15.7	2.40	33.7

TC : Total capacity (kW)
PC : Power consumption (kW)

(2)Capacity correction

(a)Process

① Calculate the system maximum operating capacity by applying the operating conditions refer to the Capacity table of item (1). For any value of the ratio of indoor unit connected total capacity which falls between values indicated in the table (ex. Value between 120% and 130%), calculate it proportionally

② Determine the correction coefficient for the distance of connecting pipe (equivalent length) and the height difference between indoor and heat source units. (See (3).)

③ Calculate the system operating capacity by the following equation.
Capacity of ① x Correction coefficient of ② = System operating capacity

(b)Capacity calculation examples

Example 1 (Cooling)

・Heat source unit FDC450KXZWE1 (FDC224KXZWE1×2)..... 1 unit
・Indoor unit FDT56KXE6F..... 10 units
・Piping length..... 120m (Equivalent length)
・Indoor, heat source unit height difference..... 15m (Heat source unit is lower)
・Heat source unit inlet water conditions..... Water temp. 30℃, water flow rate 96L/min
・Indoor temperature conditions..... 18℃WB

<The ratio of indoor unit total capacity to heat source unit capacity>

・Heat source unit rated cooling capacity : 45.0kW
・Indoor unit rated cooling capacity : 5.6kW
・Indoor unit total cooling capacity : 5.6×10 = 56.0kW
・The ratio of indoor unit connected total capacity : 56.0/45.0×100≒124.4%

<Heat source unit maximum cooling capacity>

・The ratio of capacity is 120% : 22.4kW (See page 11)
・The ratio of capacity is 130% : 23.2kW (See page 11)
→ The ratio of capacity is 124.4% : 22.8kW (On a pro-rate basis)
・Heat source unit maximum cooling capacity : 22.8×2=45.6kW

<System total cooling capacity>

・Capacity compensation coefficient according to piping length : 0.94 (Calculated according to 120m length, ϕ31.75)(See page 30)
・Capacity compensation coefficient according to height difference : 0.97 (Calculated according to 15m difference)(See page 32)
・System total cooling capacity : 45.6×0.94×0.97≒41.6kW

Example 2 (Heating)

・Heat source unit FDC450KXZWE1 (FDC224KXZWE1×2)..... 1 unit
・Indoor unit FDT56KXE6F..... 7 units
・Piping length..... 120m (Equivalent length)
・Indoor, heat source unit height difference..... 15m (Heat source unit is higher)
・Heat source unit inlet water conditions..... Water temp. 20℃, water flow rate 96L/min
・Indoor temperature conditions..... 18℃DB

<The ratio of indoor unit total capacity to heat source unit capacity>

・Heat source unit rated heating capacity : 50.0kW
・Indoor unit rated heating capacity : 6.3kW
・Indoor unit total heating capacity : 6.3×7 = 44.1kW
・The ratio of indoor unit connected total capacity : 44.1/50.0×100=88.2%

<Heat source unit maximum heating capacity>

・The ratio of capacity is 90% : 24.3kW (See page 21)
・The ratio of capacity is 80% : 21.6kW (See page 21)
→ The ratio of capacity is 88.2% : 23.8kW (On a pro-rate basis)
・Heat source unit maximum heating capacity : 23.8×2=47.6kW

<System total heating capacity>

・Capacity compensation coefficient according to piping length : 0.96 (Calculated according to 120m length)(See page 31)
・Capacity compensation coefficient according to height difference : 0.97 (Calculated according to 15m difference)(See page 32)
・System total heating capacity : 47.6×0.96×0.97≒44.3kW

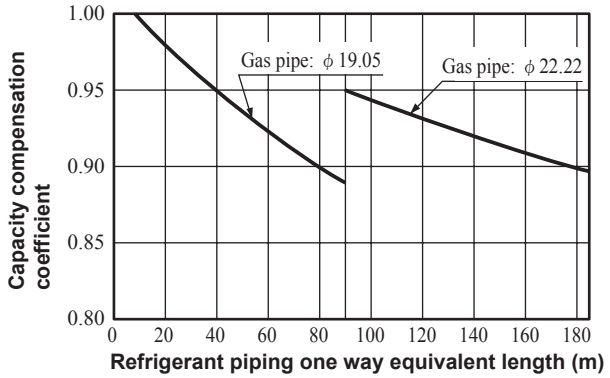
(3) Capacity compensation coefficient

(a) Correction of cooling and heating capacity in relation to one way length of refrigerant piping.

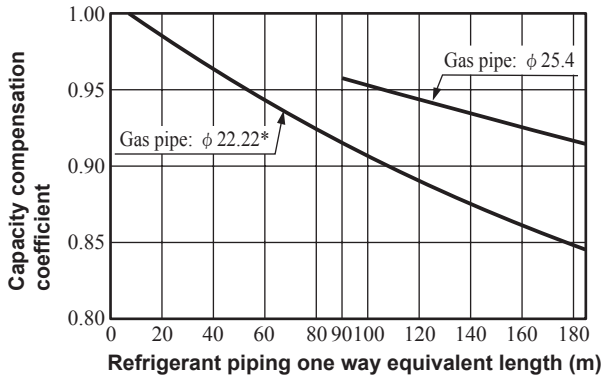
(Note) This figure is for reference only. If the refrigerant piping one way equivalent after the first branch is extended longer than 40m, it could drop further by about 10% in the worst case.

1) Cooling

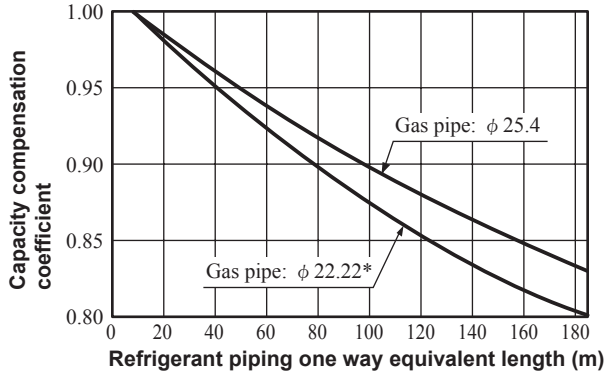
Model FDC224KXZWE1



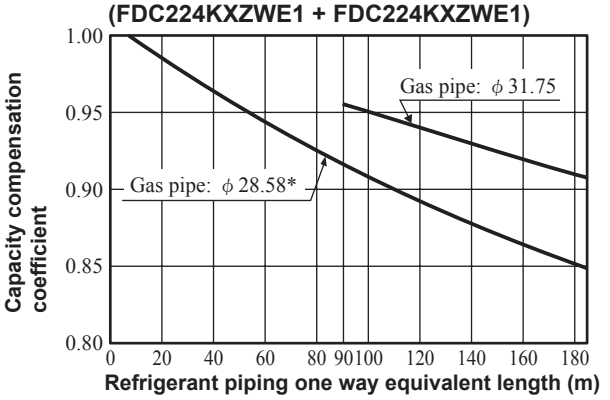
Model FDC280KXZWE1



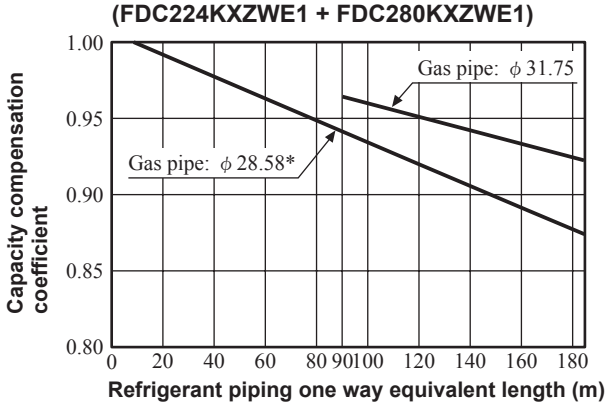
Model FDC335KXZWE1



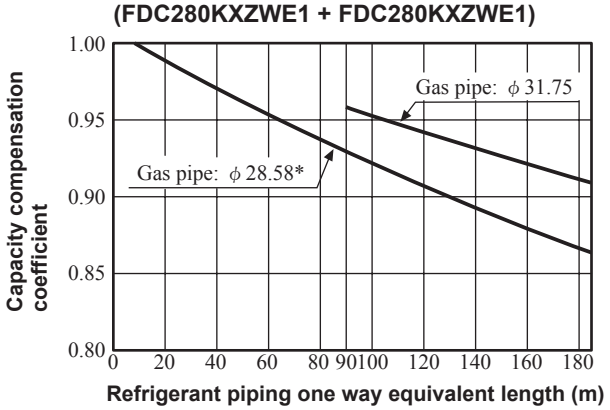
Model FDC450KXZWE1
(FDC224KXZWE1 + FDC224KXZWE1)



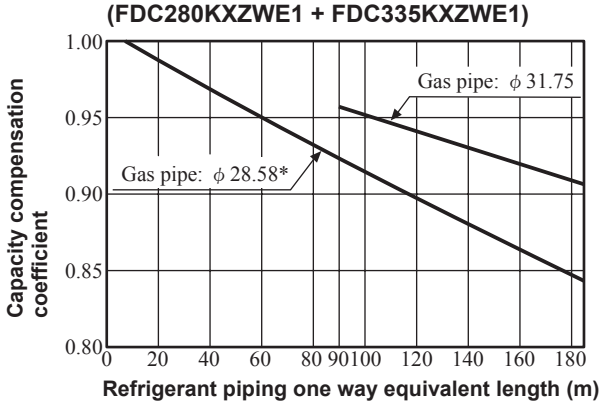
Model FDC500KXZWE1
(FDC224KXZWE1 + FDC280KXZWE1)



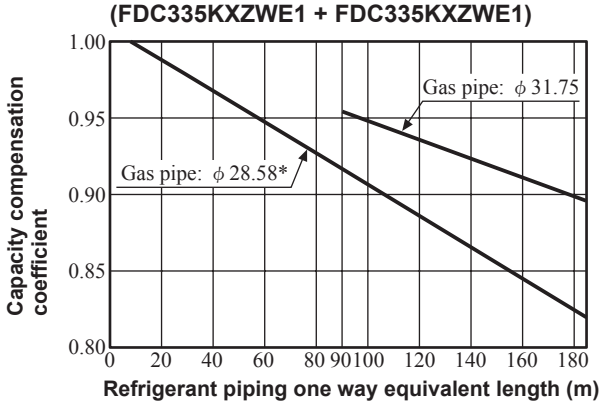
Model FDC560KXZWE1
(FDC280KXZWE1 + FDC280KXZWE1)



Model FDC615KXZWE1
(FDC280KXZWE1 + FDC335KXZWE1)

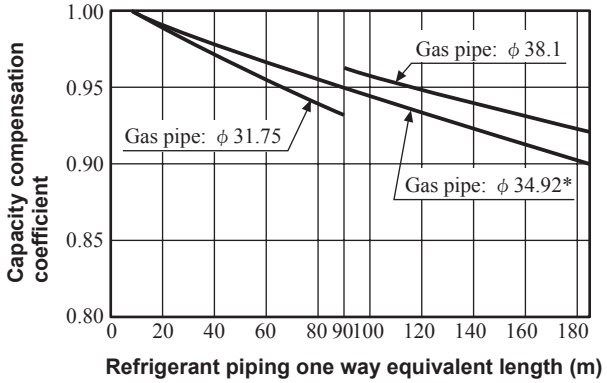


Model FDC670KXZWE1
(FDC335KXZWE1 + FDC335KXZWE1)

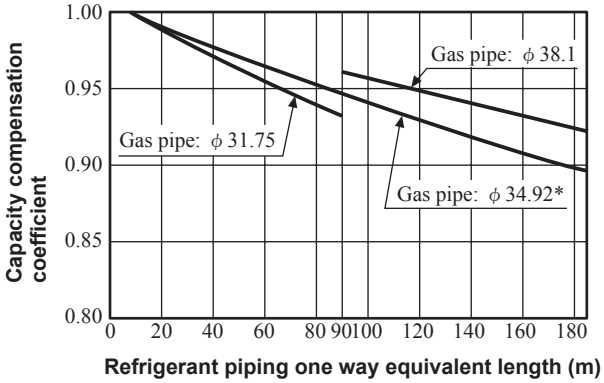


Note (1) Parts with the * mark show the piping size in case used in Europe.

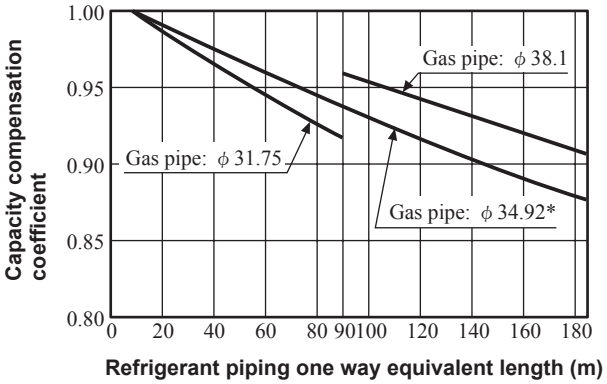
Model FDC730KXZWE1
(FDC224KXZWE1+FDC224KXZWE1+FDC280KXZWE1)



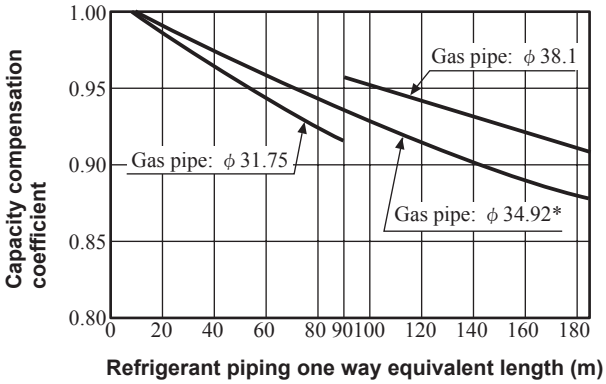
Model FDC775KXZWE1
(FDC224KXZWE1+FDC280KXZWE1+FDC280KXZWE1)



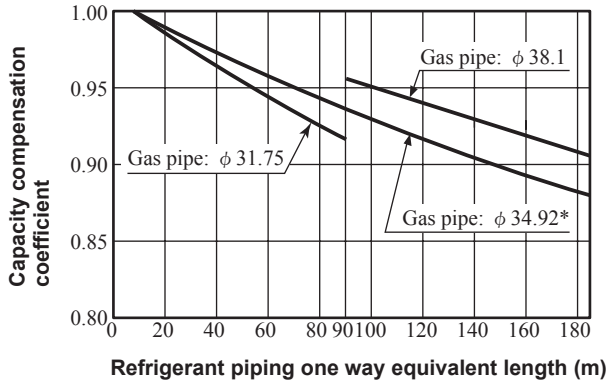
Model FDC850KXZWE1
(FDC280KXZWE1+FDC280KXZWE1+FDC280KXZWE1)



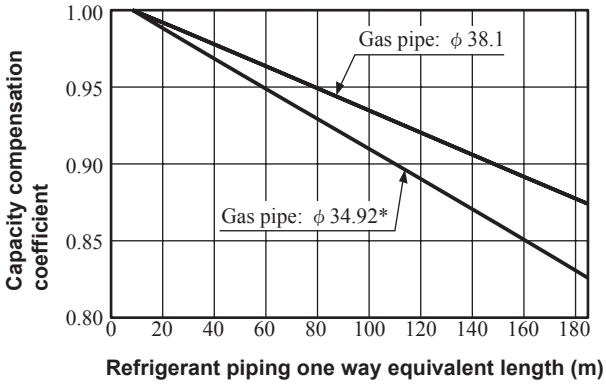
Model FDC900KXZWE1
(FDC280KXZWE1+FDC280KXZWE1+FDC335KXZWE1)



Model FDC950KXZWE1
(FDC280KXZWE1+FDC335KXZWE1+FDC335KXZWE1)



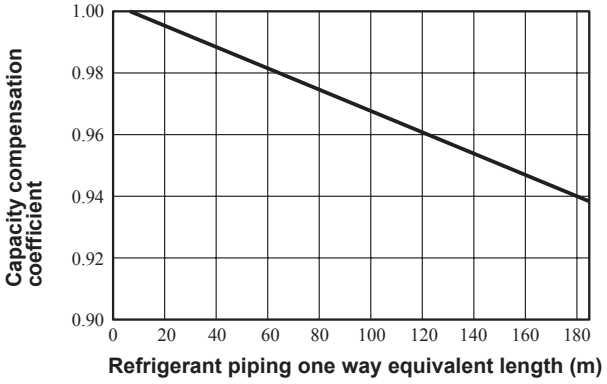
Model FDC1000KXZWE1
(FDC335KXZWE1+FDC335KXZWE1+FDC335KXZWE1)



Note (1) Parts with the ∗ mark show the piping size in case used in Europe.

2) Heating

All models



Note (1) Equivalent piping length can be obtained by calculating as follows.
Equivalent piping length = Real gas piping length + Number of bends in gas piping × Equivalent piping length of bends.

Equivalent length of each joint

Unit : m/one part

Gas piping size	ϕ15.88	ϕ19.05	ϕ22.22	ϕ25.4	ϕ28.58	ϕ31.75	ϕ34.92	ϕ38.1
Joint (90° elbow)	0.25	0.30	0.35	0.40	0.45	0.55	0.60	0.65

(b) When the heat source unit is located at a lower height than the indoor unit in cooling operation and when the heat source unit is located at a higher height than the indoor unit in heating operation, the following values should be subtracted from the values in the above table.

Height difference between the indoor unit and heat source unit in the vertical height difference	5 m	10 m	15 m	20 m	25 m	30 m	35 m
Adjustment coefficient	0.99	0.98	0.97	0.96	0.95	0.94	0.93

Height difference between the indoor unit and heat source unit in the vertical height difference	40 m	45 m	50 m
Adjustment coefficient	0.92	0.91	0.90

3. RANGE OF USAGE & LIMITATIONS

(1) Single use

Item \ System		FDC224KXZWE1	FDC280KXZWE1	FDC335KXZWE1
Indoor air temperature (Upper, lower limits)		Refer to page 38		
Water temperature (Upper, lower limits)				
Flow rate		50L/min - 150L/min (per one unit)		
Indoor units that can be used in combination	Number of connected units	1 to 22 units	1 to 28 units	1 to 33 units
	Connectable capacity (1)	112 - 336	140 - 420	167 - 503
Total piping length		510m or less		
Single direction piping length		Actual length : 160m or less, Equival length : 185m or less		
Main pipe length		130m or less		
Allowable pipe length from the first branching		90m or less (However, difference between the longest and shortest piping : 40m or less)		
Elevation difference between the first branching point and the indoor unit		15m or less		
Difference in height between indoor and heat source units	Heat source unit is higher	50m or less		
	Heat source unit is lower	40m or less		
Difference in the elevation of indoor units in a system		15m or less		
Indoor unit atmosphere (behind ceiling) temperature and humidity (Only models FDT, FDTC, FDTW, FDTS, FDTQ, FDU, FDUM, FDQS, FDUH)		Dew point temperature 28 ℃ or less, relative humidity 80% or less (FDE, FDK, FDFL, FDFU : Dew point temperature 23℃ or less, relative humidity 80% or less)		
Compressor stop/start frequency	1 cycle time	6 min. or more (3 minutes or more from start to stop or 3 minutes or more from stop to start)		
	Stop time	3 min. or more		
Power source voltage	Voltage fluctuation	Within ±10% of rated voltage		
	Voltage drop during start	Within -15% of rated voltage		
	Phase unbalance	Within ±3% of rated voltage		

Note (1) When connecting the indoor unit type FDK, FDFL, FDFU or FDFW series, limit the connectable capacity not higher than 130%.

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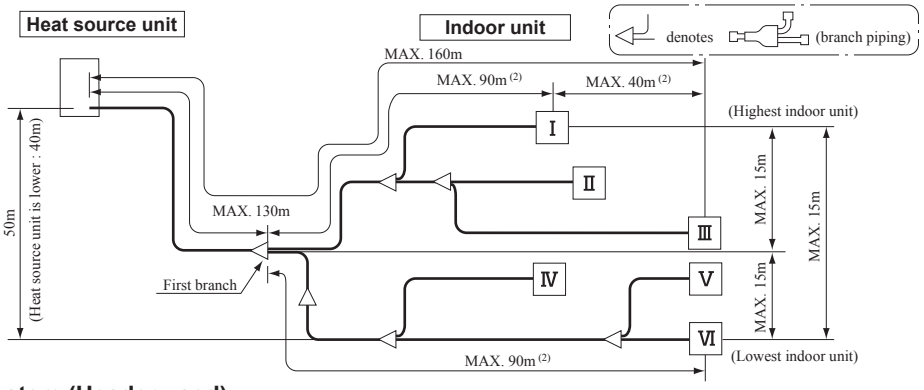
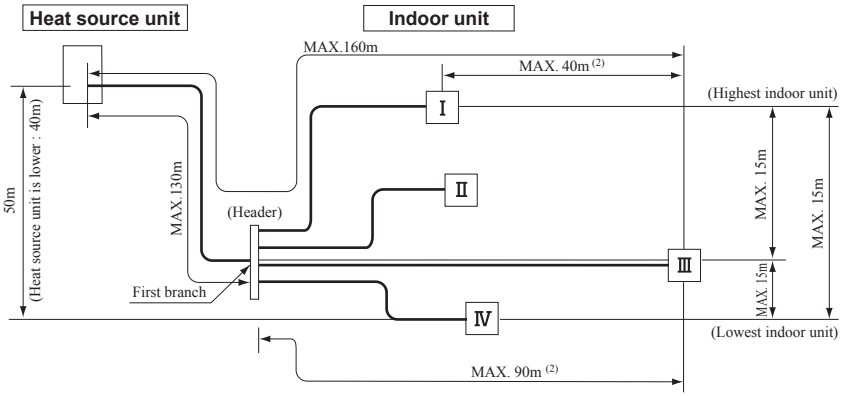
Allowable length of refrigerant piping, height difference between indoor and heat source unit

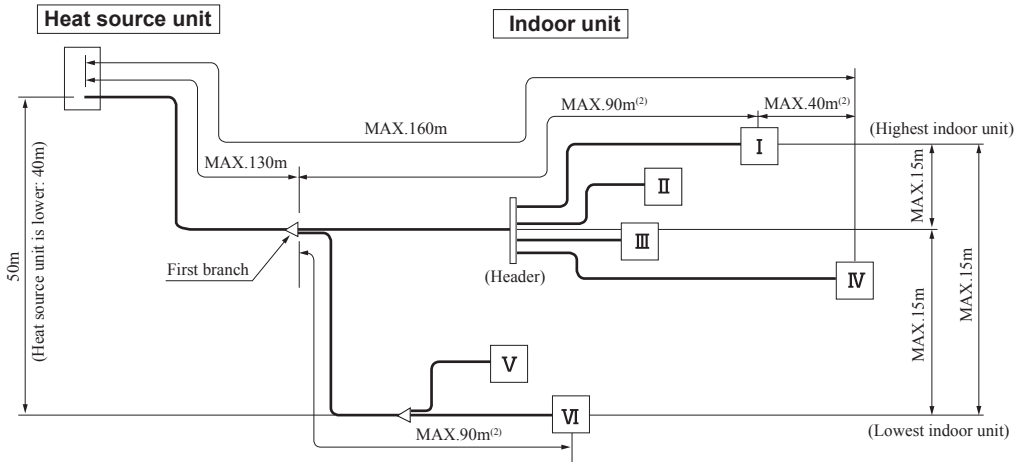
(a) Branch pipe system (Branch piping used)



(b) Header system (Header used)



(c) Mixed system (Branch piping and Header used)



Notes (1) A branch piping system cannot be connected after a header system.
(2) 90m or less (However, difference between the longest and shortest piping : 40m or less)

(d) Maximum refrigerant quantity

When the Additional refrigerant quantity (P+I) is over the following table, please separate the refrigerant line.

Heat source unit	P + I (kg)
Single (224-335)	25

P : Additional refrigerant quantity for piping (kg)
I : Additional refrigerant quantity for indoor units (kg)

(2) Combination use

Item \ System		FDC450KXZWE1	FDC500KXZWE1	FDC560KXZWE1	FDC615KXZWE1	FDC670KXZWE1
Indoor air temperature (Upper, lower limits)		Refer to page 38				
Water temperature (Upper, lower limits)						
Flow rate		50L/min - 150L/min (Per one unit)				
Indoor units that can be used in combination	Number of connected units	1 to 44 units	1 to 50 units	1 to 56 units	2 to 61 units	2 to 67 units
	Connectable capacity (1)	224 - 672	252 - 756	280 - 840	307 - 923	335 - 1005
Total piping length		510m or less				
Single direction piping length		Actual length : 160m or less, Equival length : 185m or less				
Main pipe length		130m or less				
Allowable pipe length from the first branching		90m or less (However, difference between the longest and shortest piping : 40m or less)				
Elevation difference between the first branching point and the indoor unit		15m or less				
Difference in height between indoor and heat source units	Heat source unit is higher	50m or less				
	Heat source unit is lower	40m or less				
Difference in the elevation of indoor units in a system		15m or less				
Difference in height between heat source units (Same system)		MAX. 0.4m				
Difference between a heat source unit and on heat source unit side branch pipe		MAX. 5m				
Length of oil equalization piping		MAX. 10m				
Indoor unit atmosphere (behind ceiling) temperature and humidity Only models FDT, FDTC, FDTW, FDTS, FDTQ, FDU, FDUM, FDQS, FDUH		Dew point temperature 28 ℃ or less, relative humidity 80% or less (FDE, FDK, FDFL, FDFU : Dew point temperature 23℃ or less, relative humidity 80% or less)				
Compressor stop/start frequency	1 cycle time	6 min. or more (3 minutes or more from start to stop or 3 minutes or more from stop to start)				
	Stop time	3 min. or more				
Power source voltage	Voltage fluctuation	Within ±10% of rated voltage				
	Voltage drop during start	Within −15% of rated voltage				
	Phase unbalance	Within ±3% of rated voltage				

Item \ System		FDC730 KXZWE1	FDC775 KXZWE1	FDC850 KXZWE1	FDC900 KXZWE1	FDC950 KXZWE1	FDC1000 KXZWE1
Indoor air temperature (Upper, lower limits)		Refer to page 38					
Water temperature (Upper, lower limits)							
Flow rate		50L/min - 150L/min (per one unit)					
Indoor units that can be used in combination	Number of connected units	2 to 72 units	2 to 78 units	2 to 80 units	2 to 80 units	2 to 80 units	2 to 80 units
	Connectable capacity (1)	364 - 1092	392 - 1176	420 - 1275	447 - 1343	475 - 1425	502 - 1508
Total piping length		510m or less					
Single direction piping length		Actual length : 160m or less, Equival length : 185m or less					
Main pipe length		130m or less					
Allowable pipe length from the first branching		90m or less (However, difference between the longest and shortest piping : 40m or less)					
Elevation difference between the first branching point and the indoor unit		15m or less					
Difference in height between indoor and heat source units	Heat source unit is higher	50m or less					
	Heat source unit is lower	40m or less					
Difference in the elevation of indoor units in a system		15m or less					
Difference in height between heat source units (Same system)		MAX. 0.4m					
Difference between a heat source unit and on heat source unit side branch pipe		MAX. 5m					
Length of oil equalization piping		MAX. 10m					
Indoor unit atmosphere (behind ceiling) temperature and humidity Only models FDT, FDTC, FDTW, FDTS, FDTQ, FDU, FDUM, FDQS, FDUH		Dew point temperature 28 ℃ or less, relative humidity 80% or less (FDE, FDK, FDFL, FDFU : Dew point temperature 23℃ or less, relative humidity 80% or less)					
Compressor stop/start frequency	1 cycle time	6 min. or more (3 minutes or more from start to stop or 3 minutes or more from stop to start)					
	Stop time	3 min. or more					
Power source voltage	Voltage fluctuation	Within ±10% of rated voltage					
	Voltage drop during start	Within −15% of rated voltage					
	Phase unbalance	Within ±3% of rated voltage					

Note (1) When connecting the indoor unit type FDK, FDFL, FDFU or FDFW series, limit the connectable capacity not higher than 130%.

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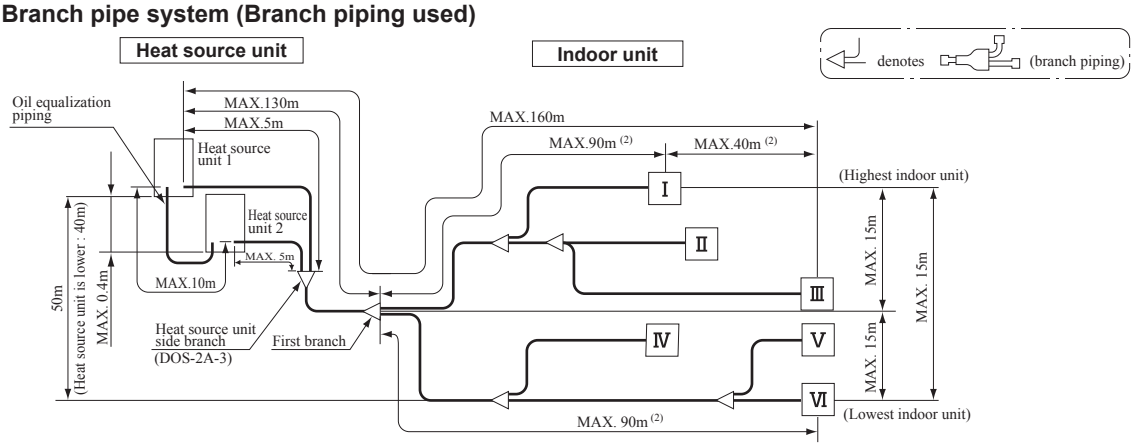
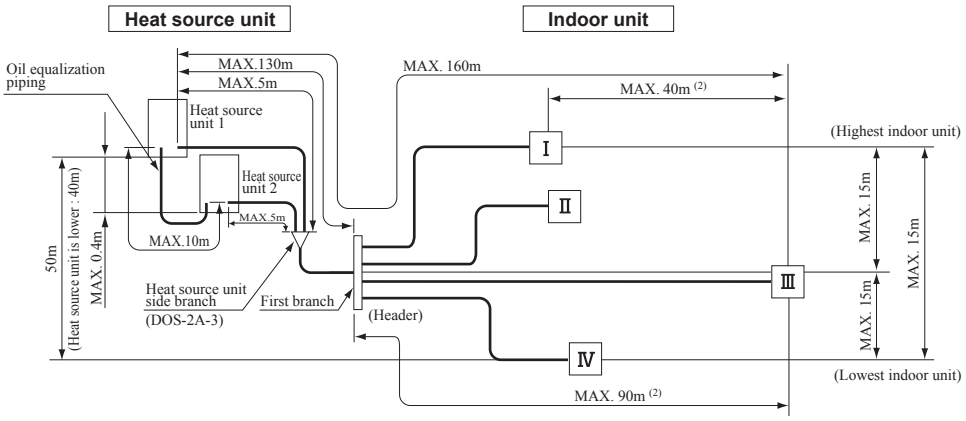
Allowable length of refrigerant piping, height difference between indoor and heat source unit

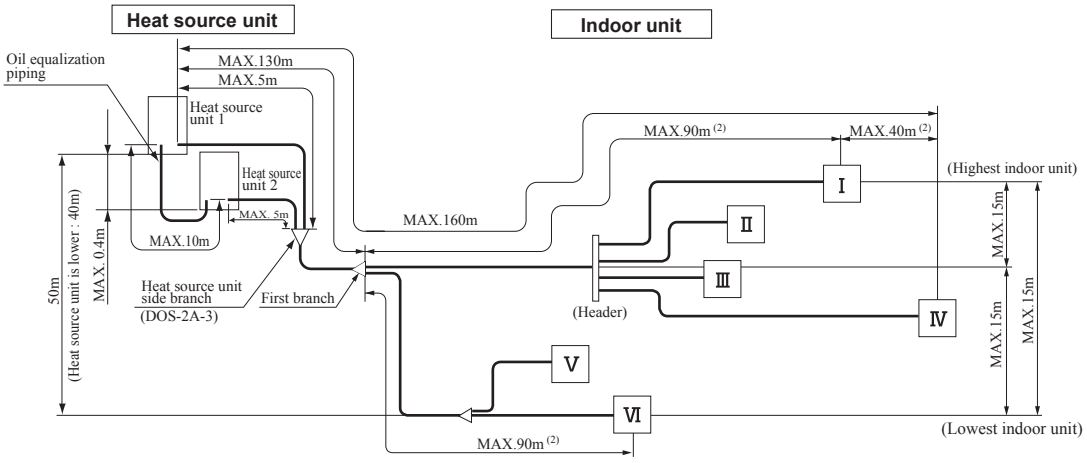
(a) Branch pipe system (Branch piping used)



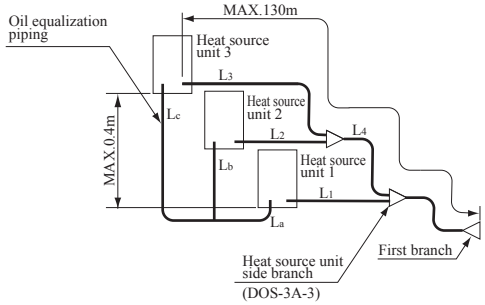
(b) Header system (Header used)



(c) Mixed system (Branch piping and Header used)



(d) Pipe system for combination of 3 heat source units (Displaying only heat source units)



$\begin{cases} L_1 \leqq 5m \\ L_2 + L_4 \leqq 5m \\ L_3 + L_4 \leqq 5m \end{cases}$

$\begin{cases} L_a + L_b \leqq 10m \\ L_b + L_c \leqq 10m \\ L_c + L_a \leqq 10m \end{cases}$

Notes (1) A branch piping system cannot be connected after a header system.
(2) 90m or less (However, difference between the longest and shortest piping : 40m or less)

(e) Maximum refrigerant quantity

When the additional refrigerant quantity (P + I) is over the following table, please separate the refrigerant line.

Heat source unit	P + I (kg)
2-units (450-670)	50
3-units (730-1000)	75

P: Additional refrigerant quantity for piping (kg)
I: Additional refrigerant quantity for indoor units (kg)

(3) Other requirements to water piping system

·Need pumping operation signal for interlock (from cuctomers).
·Be sure to install the closed water circuit in order to water quality control.
·Water quality : Refer to Table 1 (Page 37).
·Water pressure drop : Refer to Fig.1 (Page 37).

Table 1 Water quality standards

Item(1)			Cooling water system(2)		Hot water system(3)		Tendency(4)	
			Circulation system	Makeup water	Circulation system (20°C-60°C)	Makeup water	Corrosion	Scale
Standard items	pH (25°C)	-	6.5 - 8.2	6.0 - 8.0	7.0 - 8.0	7.0 - 8.0	○	○
	Electric conductivity(25°C)	mS/m	≦80	≦30	≦30	≦30	○	○
	Chloride ion	mgCl^-/L	≦200	≦50	≦50	≦50	○	
	Sulphate ion	mgSO_4^{2-}/L	≦200	≦50	≦50	≦50	○	
	Acid consumption (pH4.8)	mg$CaCO_3$/L	≦100	≦50	≦50	≦50		○
	Total hardness	mg$CaCO_3$/L	≦200	≦70	≦70	≦70		○
	Calcium hardness	mg$CaCO_3$/L	≦150	≦50	≦50	≦50		○
	Ionic silica	mgSiO_2/L	≦50	≦30	≦30	≦30		○
Reference items	Iron	mgFe/L	≦1.0	≦0.3	≦1.0	≦0.3	○	○
	Copper	mgCu/L	≦0.3	≦0.1	≦1.0	≦0.1	○	
	Sulphide ion	mgS^{2-}/L	Not detected	Not detected	Not detected	Not detected	○	
	Ammonium ion	mgNH_4^+/L	≦1.0	≦0.1	≦0.3	≦0.1	○	
	Residual chlorine	mgCl/L	≦0.3	≦0.3	≦0.25	≦0.3	○	
	Free carbon	mgCO_2/L	≦4.0	≦4.0	≦0.4	≦4.0	○	
	Stability index	-	6.0 - 7.0	-	-	-	○	○

Notes (1) The fifteen items in the table represent typical causes of corrosion and scale.
(2) In a condenser water circuit that uses a closed cooling tower, the closed circuit circulating water and makeup water must satisfy its water quality standards for the hot water systems, and passing water and makeup water must satisfy those for the circulation type cooling water system.
(3) Corrosion has a tendency to occur when water temperature is high (40ºC or higher), and if metals with no protective coating whatever are directly exposed to water, it would be a good idea to take effective measures against corrosion such as adding a corrosion inhibitor or deaeration treatment.
(4) The columns show a factor of corrosion or scale.
(5) The supply water must be clean tap water, industrial water or clean ground water.

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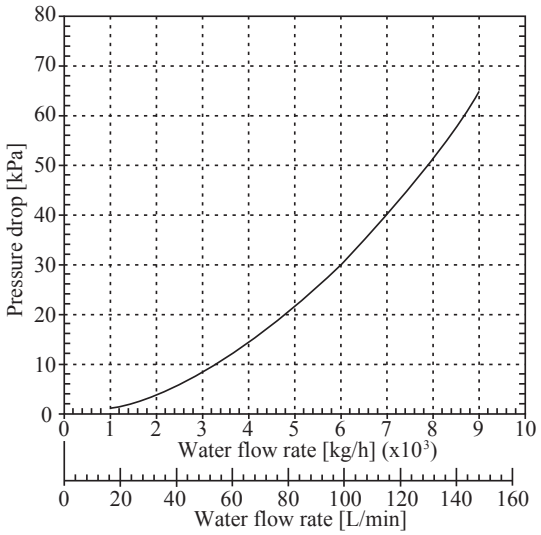
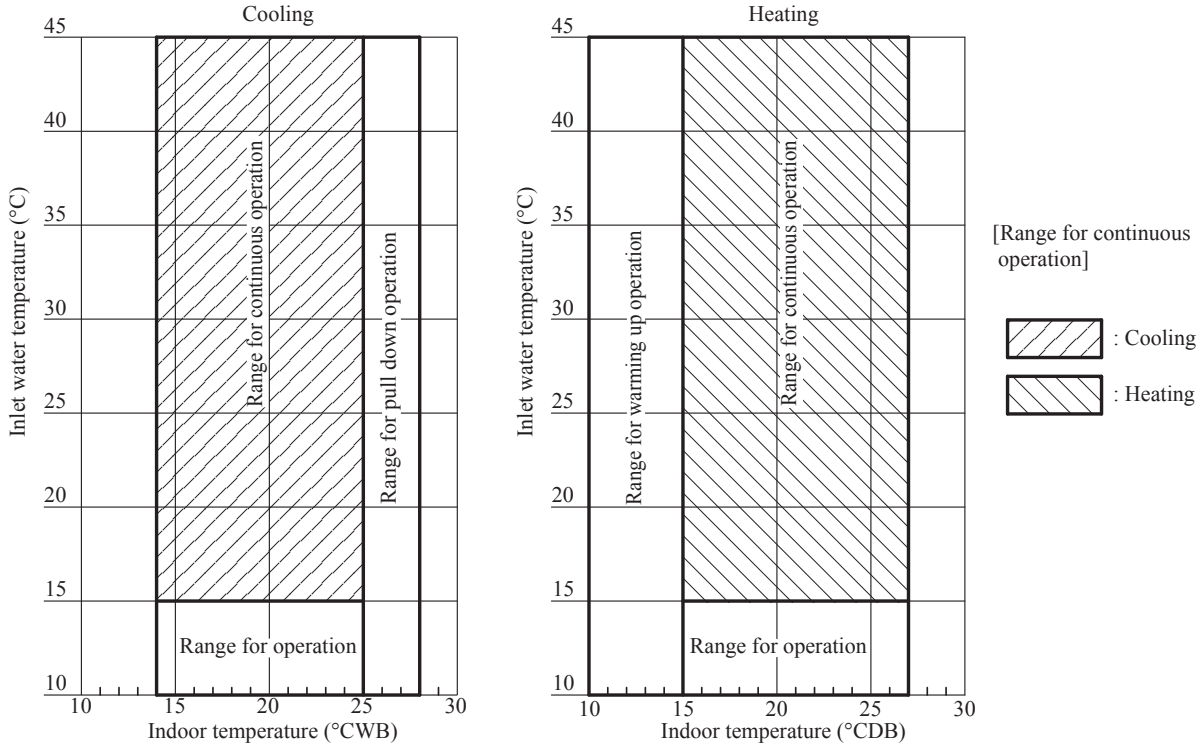
Fig.1 Water pressure drop



(4) Operation Limit



Notes (1) This figure shows the range for operation, when water flow rate is 50-150L/min. per one unit.
(2) Design in the following condition
Water temperature 20-35°C
Water flow rate 60L/min or more

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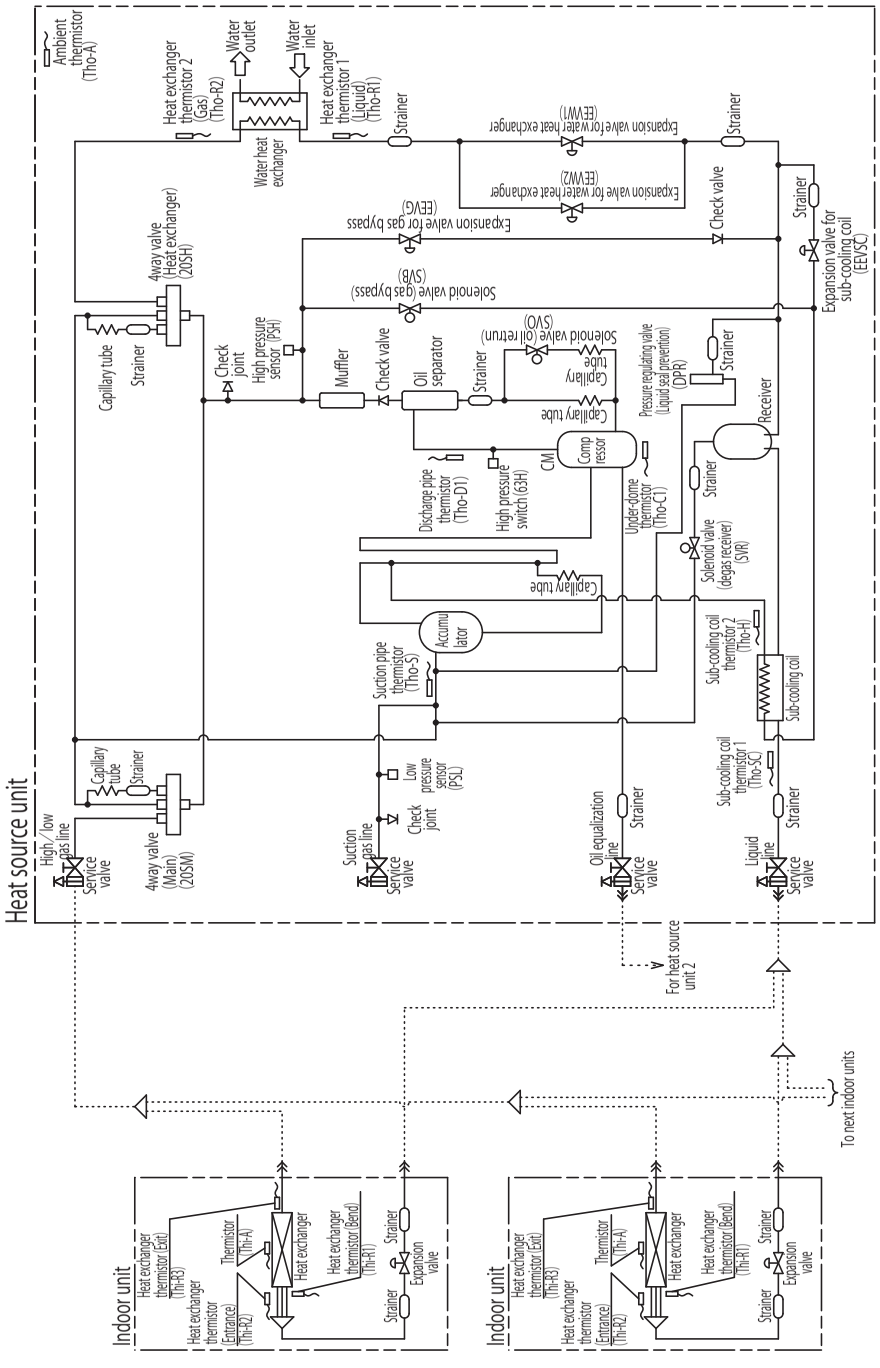
4. PIPING SYSTEM

Models FDC224KXZWE1, 280KXZWE1, 335KXZWE1

[In case of heat pump system]



Notes (1) Preset point of protective device

63H : Open 4.15MPa, Close 3.15MPa
(For protection)

(2) Function of thermistor

PSH : ON 3.70MPa
(For compressor control)

PSL : Cooling
ON 0.18MPa, OFF 0.20MPa
(For compressor control)
ON 0.134MPa
(For protection)
Heating
ON 0.73MPa, OFF 0.76MPa
(For compressor control)
ON 0.70MPa
(For protection)

Thi-R1, R2 : Heating operation : Indoor fan control.
Cooling operation : Frost prevention control.
Super heat control.
Thi-R3 : For super heat control of cooling operation.
Tho-D1 : For control of discharge pipe temperature.
Tho-C1 : For control of temperature under the dome.
Tho-S : For control of suction pipe temperature.
Tho-R1, R2 : Electronic expansion valve (EEVW1, 2) control.
Tho-SC : Electronic expansion valve (EEVSC) control.
Tho-H : For super heat control of sub-cooling coil.

PCB003Z843A

5. APPLICATION DATA

5.1 Installation of heat source unit

KXZW SERIES INSTALLATION MANUAL

Designed for R410A refrigerant

PSC012D032

Heat source unit capacity
FDC224–1000

◎This installation manual deals with heat source units and general installation specifications only. For indoor units, please refer to the respective installation manuals supplied with your units.
◎Please read this manual carefully before you set to installation work and carry it out according to the instructions contained in this manual.

Precautions for safety

- Read these "Precautions for safty" carefully before starting installation work and do it in the proper way.
- Safety instructions listed here are grouped into ⚠ Warnings and ⚠ Cautions. If a non-compliant installation method is likely to result in a serious consequence such as death or major injury, the instruction is grouped into ⚠ Warnings to emphasize its importance. However, a failure to observe a safety instruction listed under ⚠ Cautions can also result in a serious consequence depending on the circumstances. Please observe all these instructions, because they include important points concerning safety.
- The meanings of "Marks" used here are as shown on the right: **Never do it under any circumstances.** **Always do it according to the instruction.**
- When you have completed installation work, perform a test run and make sure that the installation is working properly. Then, explain the customer how to operate and how to take care of the air-conditioner according to the user's manual. Please ask the customer to keep this installation manual together with the user's manual.
- This unit complies with EN61000-3-3.
- For heat source unit, EN61000-3-2 is not applicable as consent by the utility company or notification to the utility company is given before usage.

⚠WARNING

- Installation must be carried out by the qualified installer.
  If you install the system by yourself, it may cause serious trouble such as water leaks, electric shocks, fire and personal injury, as a result of a system malfunction.
- Install the system in full accordance with the instruction manual.
  Incorrect installation may cause bursts, personal injury, water leaks, electric shocks and fire.
- Use the original accessories and the specified components for installation.
  If parts other than those prescribed by us are used, It may cause fall of the unit, water leaks, electric shocks, fire, refrigerant leak, substanard performance, contrl failure and personal injury.
- When installing in small rooms, take prevention measures not to exceed the density limit of refrigerant in the event of leakage accordance with ISO5149.
  Consult the expert about prevention measures. If the density of refrigerant exceeds the limit in the event of leakage, lack of oxygen can occur, which can cause serious accidents.
- Ventilate the working area well in the event of refrigerant leakage during installation.
  If the refrigerant comes into contact with naked flames, poisonous gas is produced.
- After completed installation, check that no refrigerant leaks from the system.
  If refrigerant leaks into the room and comes into contact with an oven or other hot surface, poisonous gas is produced.
- Hang up the unit at the specified points with ropes which can support the weight in lifting for portage. And to avoid jolting out of alignment, be sure to hang up the unit at 4-point support.
  An improper manner of portage such as 3-point support can cause death or serious personal injury due to falling of the unit.
- Install the unit in a location with good support.
  Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury.
- Ensure the unit is stable when installed, so that it can withstand earthquakes and strong winds.
  Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury.
- The electrical installation must be carried out by the qualified electrician in accordance with "the norm for electrical work" and "national wiring regulation", and the system must be connected to the dedicated circuit.
  Power supply with insufficient capacity and incorrect function done by improper work can cause electric shocks and fire.
- Be sure to shut off the power before starting electrical work.
  Failure to shut off the power can cause electric shocks, unit failure or incorrect function of equipment.
- Be sure to use the cables conformed to safety standard and cable ampacity for power distribution work.
  Unconformable cables can cause electric leak, anomalous heat production or fire.
- Use the prescribed cables for electrical connection, tighten the cables securely in terminal block and relieve the cables correctly to prevent overloading the terminal blocks.
  Loose connections or cable mountings can cause anomalous heat production or fire.
- Arrange the wiring in the control box so that it cannot be pushed up further into the box. Install the service panel correctly.
  Incorrect installation may result in overheating and fire.
- In connecting the power cable, make sure that no anomalies such as dust deposits, socket clogging or wobble are found and insert the plug securely.
  Accumulation of dust, clogging on the socket, or looseness of plugging can cause electric shocks and fire.
- Be sure not to reuse existing refrigerant pipes
  Conventional refrigerant oil or chlorine contained in the conventional refrigerant which is remaining in the existing refrigerant pipes can cause deterioration of refrigerant oil of new unit. And 1.6 times higher pressure of R410A refrigerant than conventional one can cause burst of existing pipe, personal injury or serious accident.
- Do not perform brazing work in the airtight room
  It can cause lack of oxygen.
- Use the prescribed pipes, flare nuts and tools for R410A.
  Using existing parts (for R22 or R407C) can cause the unit failure and serious accidents due to burst of the refrigerant circuit.
- Tighten the flare nut by using double spanners and torque wrench according to prescribed method. Be sure not to tighten the flare nut too much.
  Loose flare connection or damage on the flare part by tightening with excess torque can cause burst or refrigerant leaks which may result in lack of oxygen.
- Do not open the service valves for liquid line and gas line until completed refrigerant piping work, air tightness test and evacuation.
  If the compressor is operated in state of opening service valves before completed connection of refrigerant piping work, you may incur frost bite or injury from an abrupt refrigerant outflow and air can be sucked into refrigerant circuit, which can cause burst or personal injury due to anomalously high pressure in the refrigerant.
- Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulphide gas can occur.
  Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. It can also cause the corrosion of the indoor unit and resultant unit failure or refrigerant leak.
- Only use prescribed optional parts. The installation must be carried out by the qualified installer.
  If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire.
- Do not perform any change of protective device itself or its setup condition
  The forced operation by short-circuiting protective device of pressure switch and temperature controller or the use of non specified component can cause fire or burst.
- Be sure to switch off the power supply in the event of installation, inspection or servicing.
  If the power supply is not shut off, there is a risk of electric shocks, unit failure or personal injury due to the unexpected start of fan.
- Consult the dealer or an expert regarding removal of the unit.
  Incorrect installation can cause water leaks, electric shocks or fire.
- Stop the compressor before closing valve and disconnecting refrigerant pipes in case of pump down operation.
  If disconnecting refrigerant pipes in state of opening service valves before compressor stopping, you may incur frost bite or injury from an abrupt refrigerant outflow and air can be sucked, which can cause burst or personal injury due to anomalously high pressure in the refrigerant circuit.

- Ensure that no air enters in the refrigerant circuit when the unit is installed and removed.
  If air enters in the refrigerant circuit, the pressure in the refrigerant circuit becomes too high, which can cause burst and personal injury.
- Do not run the unit with removed panels or protections
  Touching rotating equipments, hot surfaces or high voltage parts can cause personal injury due to entrapment, burn or electric shocks.
- Be sure to fix up the service panels.
  Incorrect fixing can cause electric shocks or fire due to intrusion of dust or water.
- Do not perform any repairs or modifications by yourself. Consult the dealer if the unit requires repair.
  If you repair or modify the unit, it can cause water leaks, electric shocks or fire.

⚠CAUTION

- Use the circuit breaker for all pole with correct capacity.
  Using the incorrect circuit breaker, it can cause the unit malfunction and fire.
- Take care when carrying the unit by hand.
  If the unit weights more than 20kg, it must be carried by two or more persons. Do not carry by the plastic straps, always use the carry handle when carrying the unit by hand. Use gloves to minimize the risk of cuts by the aluminum fins.
- Dispose of any packing materials correctly.
  Any remaining packing materials can cause personal injury as it contains nails and wood. And to avoid danger of suffocation, be sure to keep the plastic wrapper away from children and to dispose after tear it up.
- Pay attention not to damage the drain pan by weld spatter when welding work is done near the indoor unit.
  If weld spatter entered into the indoor unit during welding work, it can cause pin-hole in drain pan and result in water leakage. To prevent such damage, keep the indoor unit in its packing or cover it.
- Be sure to insulate the refrigerant and water pipes so as not to condense the ambient air moisture on them.
  Insufficient insulation can cause condensation, which can lead to moisture damage on the ceiling, floor, furniture and any other valuables.
- Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work.
  If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accidents.
- Perform installation work properly according to this installation manual.
  Improper installation can cause abnormal vibrations or increased noise generation.
- For drain piping work, be sure to make descending slope of greater than 1/100, not to make traps and not to make air-purging.
  Check if the drainage is correctly done during test run and ensure the space for inspection and maintenance.
- Be sure to take measure for anti-freezing.
  Without taking measure for anti-freezing, it might cause breakage of water pipe, components or connecting joints in the system.
- Be sure to perform waterproofing work and indirect wastewater treatment work
  Improper treatment might cause serious damage, when water leak occurs.
- Be sure to perform waterproofing work and drain work in order to prevent from the secondary damage due to the leakage from water piping.
- Before servicing the water heat exchanger and water pipes, be sure to drain water by setting the water stop valve to "close".
  There is a risk of electric shock, if water is splashed over electric parts.

- Carry out the electrical work for ground lead with care.
  Do not connect the ground lead to the gas line, water line, lightning conductor or telephone line's ground lead. Incorrect grounding can cause unit faults such as electric shocks and fire due to short-circuiting. Never connect the grounding wire to a gas pipe because if gas leaks, it could cause explosion or ignition.

- Earth leakage breaker must be installed
  If the earth leakage breaker is not installed, it can cause fire or electric shocks.
- Do not use any materials other than a fuse with the correct rating in the location where fuses are to be used.
  Connecting the circuit with copper wire or other metal thread can cause unit failure and fire.
- Do not install the unit near the location where leakage of combustible gases can occur.
  If leaked gases accumulate around the unit, it can cause fire.
- Do not install the unit where corrosive gas (such as sulfurous acid gas etc.) or combustible gas (such as thinner and petroleum gases) can accumulate or collect, or where volatile combustible substances are handled.
  Corrosive gas can cause corrosion of heat exchanger, breakage of plastic parts and etc. And combustible gas can cause fire.
- Secure a space for installation, inspection and maintenance specified in the manual.
  Insufficient space can result in accident such as personal injury due to falling from the installation place.
- When the heat source unit is installed on a high place, provide permanent ladders and handrails along the access route and fences and handrails around the heat source unit.
  If safety facilities are not provided, it can cause personal injury due to falling from the installation place.
- Do not install nor use the system close to the equipment that generates electromagnetic fields or high frequency harmonics
  Equipment such as inverters, standby generators, medical high frequency equipments and telecommunication equipments can affect the system, and cause malfunctions and breakdowns. The system can also affect medical equipment and telecommunication equipment, and obstruct its function or cause jamming.
- Do not install the heat source units in a location where insects and small animals can inhabit.
  Insects and small animals can enter the electric parts and cause damage or fire. Instruct the user to keep the surroundings clean.
- Do not use the base flame for outdoor unit which is corroded or damaged due to long periods of operation.
  Using an old and damage base flame can cause the unit falling down and cause personal injury.
- Do not install the unit in the locations listed below
  - Locations where carbon fiber, metal powder or any powder is floating.
  - Locations where any substances that can affect the unit such as sulphide gas, chloride gas, acid and alkaline can occur.
  - Vehicles and ships
  - Locations where cosmetic or special sprays are often used.
  - Locations with direct exposure of oil mist and steam such as kitchen and machine plant.
  - Locations where any machines which generate high frequency harmonics are used.
  - Locations with salty atmospheres such as coastlines
  - Locations where the unit is exposed to chimney smoke
  - Locations at high altitude (more than 1000m high)
  - Locations with ammonic atmospheres (e.g. organic fertilizer)
  - Locations with calcium chloride (e.g. snow melting agent)
  - Locations where heat radiation from other heat source can affect the unit
  - Locations without good air circulation.
  - Locations with any obstacles which can prevent inlet and outlet air of the unit
  - Locations where short circuit of air can occur (in case of multiple units installation)
  - Locations where strong air blows against the air outlet of heat source unit

  It can cause remarkable decrease in performance, corrosion and damage of components, malfunction and fire.
- Do not install the heat source unit in the locations listed below.
  - Locations where discharged operating sound of the heat source unit can bother nearby quiet room and neighborhood.
  - Locations where outlet air of the heat source unit blows directly to an animal or plants. The outlet air can affect adversely to the plant etc.
  - Locations where vibration can be amplified and transmitted due to insufficient strength of structure.
  - Locations where vibration and operation sound generated by the outdoor unit can affect seriously.
    (on the wall or at the place near bed room)
  - Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m)
  - Locations where drainage cannot run off safely.

  It can affect surrounding environment and cause a claim
- Do not use the unit for special purposes such as storing foods, cooling precision instruments and preservation of animals, plants or art. It can cause the damage of the items.
- Do not touch any buttons with wet hands
  It can cause electric shocks
- Do not shut off the power supply immediately after stopping the operation.
  Wait at least 5 minutes, otherwise there is a risk of water leakage or breakdown.

⚠ CAUTION

- Do not control the system with main power switch.
  It can cause fire or water leakage. In addition, the fan can start unexpectedly, which can cause personal injury.
- Do not touch any refrigerant pipes with your hands when the system is in operation.
  During operation the refrigerant pipes become extremely hot or extremely cold depending the operating condition, and it can cause burn injury or frost injury.
- Do not operate the heat source unit with any article placed on it.
  You may incur property damage or personal injure from a fall of the article.
- Do not step onto the heat source unit.
  You may incur injury from a drop or fall.

Notabilia as a unit designed for R410A

- Do not use any refrigerant other than R410A. R410A will rise to pressure about 1.6 times higher than that of a conventional refrigerant.
  A cylinder containing R410A has a pink indication mark on the top.
- A unit designed for R410A has adopted a different size indoor unit operation valve charge port and a different size check joint provided in the unit to prevent the charging of a wrong refrigerant by mistake. The processed dimension of the flared part of a refrigerant pipe and a flare nut's parallel side measurement have also been altered to raise strength against pressure. Accordingly, you are required to arrange dedicated R410A tools listed in the table on the right before installing or servicing this unit.
- Do not use a charge cylinder. The use of a charge cylinder will cause the refrigerant composition to change, which results in performance degradation.
- In charging refrigerant, always take it out from a cylinder in the liquid phase.
- All indoor units must be models designed exclusively for R410A. Please check connectable indoor unit models in a catalog, etc. (A wrong indoor unit, if connected into the system, will impair proper system operation)

	Dedicated R410A tools
a)	Gauge manifold
b)	Charge hose
c)	Electronic scale for refrigerant charging
d)	Torque wrench
e)	Flare tool
f)	Protrusion control copper pipe gauge
g)	Vacuum pump adapter
h)	Gas leak detector

1. BEFORE BEGINNING INSTALLATION (Check that the models, power source specifications, piping, wiring are correct.)

CAUTION

- Please read this manual without fail before you set to installation work and carry it out according to this manual.
- This unit is heat pump system only. It is not possible to be used as heat recovery system.
- A heat source water circulation system is required to operate this unit.
- For the installation of an indoor unit, please refer to the installation manual of an indoor unit.
- For piping work, option distribution parts (branching pipe set, header set) are necessary. Please refer to our catalog, etc.
- Never fail to install an earth leakage breaker. (Please use one tolerable to harmonic components)
- Operating the unit with the outlet pipe thermistor, the inlet pipe thermistor, the pressure sensor, etc. removed can result in a compressor burnout. Avoid operation under such conditions in any circumstances.
- With this air-conditioning system, room temperature may rise, depending on installation conditions, while indoor units are stopped, because small quantity of refrigerant flows into the stopped indoor units if heating operation is conducted on the system.

ACCESSORY

Name	Quantity	Usage location	
Wiring 	2	In operating the unit in the silent mode or the forced cooling/heating operation mode, insert it to the heat source unit board's CNG.	It is supplied with the unit. You can find it taped inside the control box.
Instruction manual	1	When the installation work is completed, give instructions to the customer and ask him/her to keep it.	Attached on the top panel.
Band	4	Use to bind the power source cable to clamps.	Included in this installation manual set
Accessory pipe 	1	Use for connection to high/low gas line.	
Gasket 	1	Use for flange connection of the accessory pipe.	Fixed to the drain pan in the unit with tapes.
Reducer pipe	P224:2 P280:4 P335:1	Use for connection to the heat source unit side branching pipe set on the unit which combines heat source units.	

COMBINATION PATTERNS

- The possible heat source unit combinations and the number and the total capacity of indoor units that can be connected in a system are shown in the table below.
- Please always use indoor units designed exclusively for R410A. For connectable indoor unit model names, please check with our catalog, etc.
- It can be used in combination with the following indoor unit.

Indoor unit	Remote control	Connection OK/NO
FD○△△KXE6	RC-E3(2 cores), RC-E4(2 cores) RC-E5(2 cores), RC-EX1A(2 cores)	OK
FD○A△△KXE4R, KXE4BR, KXE5R	RC-E1R(3 cores)	NO
FD○A△△KXE4, KXE4(A), KXE4A	RC-E1(3 cores)	NO

Notabilia

The same heat source unit is used whether it is used alone or in combination with another unit.

- Please note that an installation involving a combination other than those listed below is not operable.

Heat source unit		Indoor unit	
Capacity	Combination patterns	Number of connectable units (units)	Range of the total capacity of indoor units connected in a system
224	Single	1—22	112—336
280	Single	1—28	140—420
335	Single	1—33	167—503
450	Combination （224+224）	1—44	224—672
500	Combination （224+280）	1—50	252—756
560	Combination （280+280）	1—56	280—840
615	Combination （280+335）	2—61	307—923
670	Combination （335+335）	2—67	335—1005
730	Combination （224+224+280）	2—72	364—1092
775	Combination （224+280+280）	2—78	392—1176
850	Combination （280+280+280）	2—80	420—1275
900	Combination （280+280+335）	2—80	447—1343
950	Combination （280+335+335）	2—80	475—1425
1000	Combination （335+335+335）	2—80	502—1508

【Option parts】

Refrigerant distribution piping components supplied as option parts will become necessary in installing the unit.
As refrigerant distribution piping components, branching pipe sets (model type: DOS) for the heat source unit side piping, branching pipe sets (model type: DIS) and header sets (model type: HEAD) for the indoor side piping are available.
Select according to the application. Please refer to Section 5-1 (4)(5).
If you are uncertain, please do not hesitate to consult with your distributor or the manufacturer.
Please use refrigerant branching sets and header sets designed exclusively for R410A without fail.

※ When connecting the indoor unit type FDK, FDFL or FDFU series, limit the connectable capacity not higher than130%.

2. INSTALLATION LOCATION (Obtain approval from the customer when selecting the installation area.)

2-1. Selecting the installation location

○ Where a vent hole or air vent, capable of dissipating heat generating from the unit sufficiently, is provided and where ambient temperatures are within a range of 0-40℃ and humidity does not exceed 80%RH around the unit.
○ Where the installation fittings can be firmly installed.
○ Out of the heat range of other heat sources.
○ A place where stringent regulation of electric noises is not applicable.
○ Do not install the unit in places which:
exposed to see breeze (e.g. coastal area) or calcium chloride (e.g. snow melting agent)
exposed to ammonia substance (e.g. organic fertilizer)
○ Where water can be drained reliably.
○ Where noise will not bother nearby quiet room and neighborhood.
○ A place where no TV set or radio receiver is placed within 5m.
(If electrical interference is caused, seek a place less likely to cause the problem)
○ Where wind does not hinder the intake and outlet opening.
○ Where strong winds will not blow against the outlet opening.

Please note

a) It must be installed indoors (machine room, etc.).
b) When installing multiple units, provide sufficient intake space so that a short-circuit does not occur.
c) Do not install the equipment in areas where there is a danger for potential explosive atmosphere.

CAUTION
It must be installed indoors (machine room, etc.).
This unit is not designed for outdoor specifications.

[Water quality standards]*5

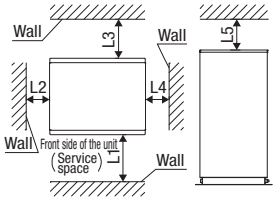
Makeup water and cyclic water shall be the water within the range of water quality standards mentioned below.
If water quality is out of the range of standards, it may cause a trouble such as scale adhesion and corrosion.

Item*1			Cooling water system*2		Hot water system*3		Tendency*4	
			Circulation system	Makeup water	Circulation system (20°C—60°C)	Makeup water	Corrosion	Scale
Standard items	pH (25°C)	—	6.5—8.2	6.0—8.0	7.0—8.0	7.0—8.0	○	○
	Electric conductivity (25°C)	mS/m	≦80	≦30	≦30	≦30	○	○
	Chloride ion	$mgCl^-/L$	≦200	≦50	≦50	≦50	○	
	Sulphate ion	$mgSO_4^{2-}/L$	≦200	≦50	≦50	≦50	○	
	Acid consumption (pH4.8)	$mgCaCO_3/L$	≦100	≦50	≦50	≦50		○
	Total hardness	$mgCaCO_3/L$	≦200	≦70	≦70	≦70		○
	Calcium hardness	$mgCaCO_3/L$	≦150	≦50	≦50	≦50		○
	Ionic silica	$mgSiO_2/L$	≦50	≦30	≦30	≦30		○
Reference items	Iron	mgFe/L	≦1.0	≦0.3	≦1.0	≦0.3	○	○
	Copper	mgCu/L	≦0.3	≦0.1	≦1.0	≦0.1	○	
	Sulphide ion	mgS^{2-}/L	Not detected	Not detected	Not detected	Not detected	○	
	Ammonium ion	$mgNH_4^+/L$	≦1.0	≦0.1	≦0.3	≦0.1	○	
	Residual chlorine	mgCl /L	≦0.3	≦0.3	≦0.25	≦0.3	○	
	Free carbon	$mgCO_2/L$	≦4.0	≦4.0	≦0.4	≦4.0	○	
	Stability index	—	6.0—7.0	—	—	—	○	○

*1 The fifteen items in the table represent typical causes of corrosion and scale.
*2 In a condenser water circuit that uses a closed cooling tower, the closed circuit circulating water and makeup water must satisfy its water quality standards for the hot water system and passing water and makeup water must satisfy those for the circulation type cooling water system.
*3 Corrosion has a tendency to occur when water temperature is high (40°C or higher), and if metals with no protective coating whatever are directly exposed to water. it would be a good idea to take effective measures against corrosion such as adding a corrosion inhibitor or deaeration treatment.
*4 The columns show a factor of corrosion or scale.
*5 The supply water must be clean tap water, industrial water or clean ground water.

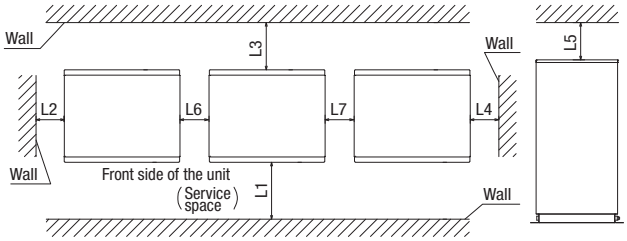
2-2. Installation space (service space) example

Please secure sufficient clearance (room for maintenance work, passage, draft and piping). (If your installation site does not fulfill the installation condition requirements set out on this drawing, please consult with your distributor or the manufacturer)



Dimensions \ Installation example	1
L1	600 or more
L2	20 or more
L3	500 or more
L4	20 or more
L5	300 or more

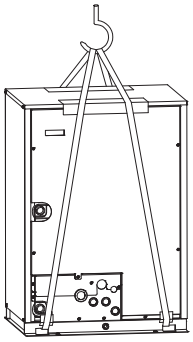
For your information:
the footprint of heat source unit is 780x624 for all models throughout the series (224–335).



Dimensions \ Installation example	1
L1	600 or more
L2	20 or more
L3	500 or more
L4	20 or more
L5	300 or more
L6	20 or more
L7	20 or more

3. Unit delivery and installation

⚠ CAUTION When a unit is hoisted with slings for haulage, please take into consideration the offset of its gravity center position. If not properly balanced, the unit can be thrown off-balance and fall.



3-1. Delivery

- By defining a cartage path, carry in the entire package containing a unit to its installation point.
- In slinging a unit, use two canvas belts with plates, cloth pads or other protections applied to the unit to prevent damage.

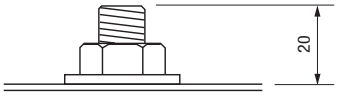
Please note

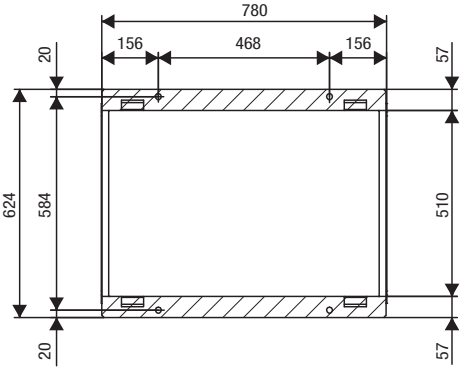
a) Please do not fail to put belts through the rectangular holes of a unit's base.
b) Apply cloth pads between a canvas belt and a unit to prevent damage.

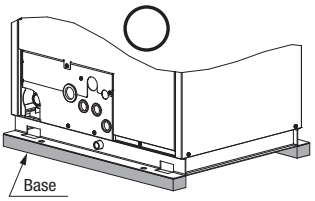
3-2. Notabilia for installation

(1) Anchor bolt positions

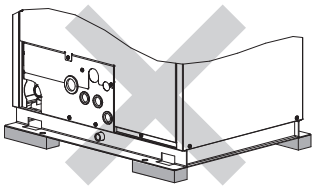
- Use four anchor bolts (M10) to fix heat source unit's base at all times. Ideally, an anchor bolt should protrude 20mm.







Normally, it is desirable that a foundation as specified in the drawing above is provided.



It cannot be installed on a foundation which is supported at four corners.

(2) Base

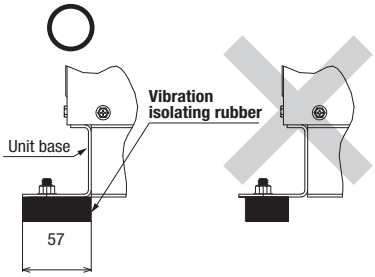
- Please install a unit after ascertaining that the bases have been made to sufficient strength and level to ensure the unit against vibration or noise generation.
- Please construct a base to the size of a shadowed area (the entire bottom area of heat source unit's base) shown on the above drawing or larger.
- Please orient a base in the traversal direction (direction of W780mm) of heat source unit as illustrated in the drawing above.

(3) Vibration isolating rubber

- A vibration isolating rubber must support heat source unit's base by its entire bottom area.

Please note

a) Install a vibration isolating rubber **in such a manner that the entire bottom area of a heat source unit's base will rest on it**.
b) Do not install a heat source unit in such a manner that a part of the bottom area of its base is off a vibration isolating rubber.



4. WATER PIPING WORK, DRAINAGE WORK

4-1. Caution for heat source water and water pipes

○ This heat source unit must be operated within the following limitation for use.

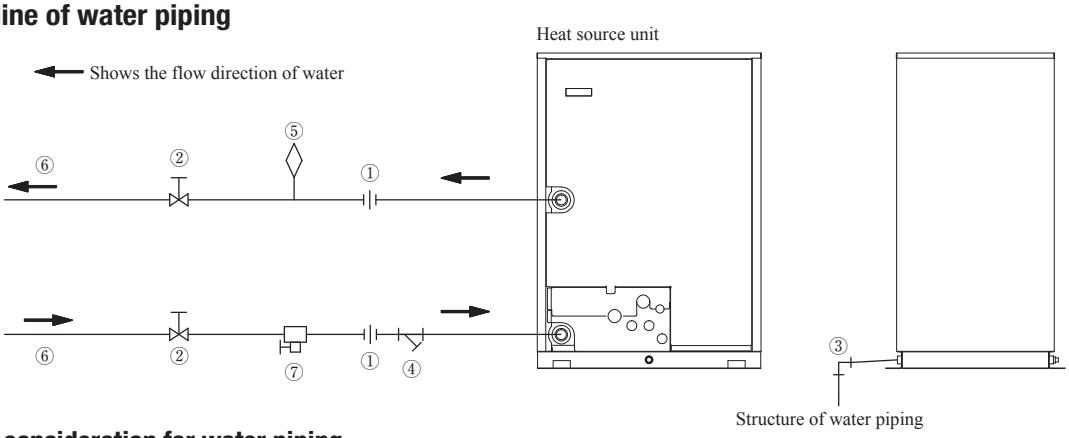
Item	Limitation for use
Inlet water temperature	10°C – 45°C
Water pressure	2 MPa or less
Water flow rate	50L/min – 150L/min
Water quality	See Section 2-1 Water quality standards
Heat source water circuit	Circulation type*

* Cooling tower and heating tower must be closed circuit type.
Open circuit type could cause clogging or corrosion on the water heat exchanger in the heat source unit.

Request:

A circuit to interlock with the circulating water pump must be provided to ensure that the heat source unit operates only when the pump is operating.
It is recommended to install a water suspension relay for protection in the event when the water quantity is depleted as a result of faulty operation of valves installed on water pipe lines, air sucked accidentally, or other. (See Section 6-4)

4-2. Outline of water piping



(1) Key consideration for water piping

Please consider following point when designing and installing. (Description of ①-⑦ in above figure)

① Union joint	Be sure to fit it in order to enable the unit replacement easily.
② Valve	Be sure to fit it for servicing such as cleaning heat exchanger and/or replacing unit and etc.
③ Drain piping	Be sure to make its descending slope as larger as possible and make the distance of its horizontal part as shorter as possible in order to prevent the drain water from freezing.
④ Strainer	Be sure to fit a strainer (50 mesh or more) at the inlet port of the unit to avoid intrusion of foreign matter into the unit.
⑤ Air purge valve	Be sure to equip it to the place where air may accumulate in order to purge air in the water pipe.
⑥ Water piping	Water piping work shall be done by considering to purge air in the water pipe easily. Insulation work shall be done sufficiently.
⑦ Drain valve	Be sure to equip it in order to drain off the water from the system at servicing. Select carefully a position where water can be drained completely from piping.

(2) Caution for corrosion

(a) Water quality
It is important to check in advance whether the feed water and hot water have good quality.
Be sure to use cyclic water and makeup water whose qualities are within the range of water quality standards mentioned in Section 2-1.

(b) Foreign matter in water
If solid matter such as sand and small stone and/or floating suspended solid such as corrosion product exist in water, the heat-transfer surface of heat exchanger is directly attacked by water flow, and corrosion may be created locally.
In order to avoid such corrosion by these foreign matters, be sure to fit a cleanable strainer (50 mesh or higher) at the water inlet port of the unit to remove foreign matters.

(3) Others

(a) Water pipe shall have no water leak and no air intrusion. Especially if air intrudes at suction side of pump, pump performance becomes decreasing and it may cause generation of noise
(b) Be sure to take into consideration for water pipe not to freeze at stopping operation in winter

4-3. Water pipe connection

- Check the connecting positions at water inlet/outlet on the outline drawing in Section 5-2(1).
- Water pipe joints in this heat source unit are made of stainless steel. When a pipe made of other kind of metal is connected to the joint, use an insulating material between them to prevent corrosion resulting from such combination of different metals.
- Size of water pipe should be same or larger than the size of water pipe at the product side (R1 1/4).
- To avoid from the weight of water pipes being exerted to joints of heat source unit, support the water pipes at places in the building, which are sufficiently strong.
- Be sure to tighten joints between water pipes and sockets to a tightening torque not larger than 265 N・m. Devices might be damaged if it is tightened with a torque larger than that.
- Install an air vent valve on water pipe where air is likely trapped so that air can be bled effective when filling water in the pipeline.
- Be sure to provide anti-freezing means where a risk of freezing is suspected.
- When all water pipes have been connected, run the circulating water pump to confirm that there is no water leakage.
- Run the circulating water pump to bleed air till water flows out from the air vent on water pipes connected at site.
- Run the circulating water pump to flash in water pipes. Clean strainers after the flashing.
- Since this product is designed for indoor specifications, perform the piping work with care to avoid water condensation on the control, etc.

4-4. Drain pipe

- Drain pipe joints are provided in front and rear of the heat source unit. When the joint at the rear is used, remove the plug from the rear joint and attach it to the front joint. Tighten the plug securely.
- Size of drain pipe must be same or larger than that of the drain pipe joint (Rp 1/2).
- Do not connect the drain pipe to the heat source water outlet.
- Incline the drain pipe downward (larger than 1/100), with care to avoid air traps.
- After connecting drain pipes, confirm that they are not clogged with dirt and water runs down smoothly.

4-5. Heat insulation

- Dress water pipes with heat insulation material to prevent dew condensation.

5. REFRIGERANT PIPING

5-1. Restrictions on the use of pipes

(1) Limitation on use of pipes

- **In installing pipes, always observe the restrictions on the use of pipes specified in this Section (1) including Maximum length, Total pipe length, Allowable pipe length from the first branching, and Allowable elevation difference (head difference).**
- Please avoid forming any trap ( ) or bump ( ) in piping as they can cause fluid stagnation.
- Maximum length (from a heat source unit to the farthest indoor unit) ····· 160 m or less as actual pipe length (185 m or less as equivalent pipe length)
  (When an actual pipe length exceeds 90m, however, it is necessary to change the pipe size. Please determine the main pipe size by consulting with the Main Selection Reference Table set out in this Section (3) (c).

- Total pipe length ····· 510 m or less
- Main pipe length ····· 130 m or less
- Allowable pipe length from the first branching ····· 90 m or less

(However, difference between the longest and shortest piping ····· 40 m or less)

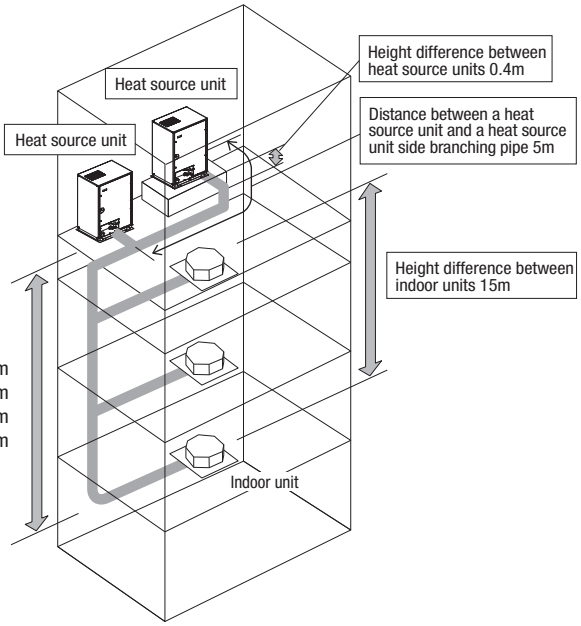
- Allowable elevation difference (head difference)

(a) When a heat source unit is installed above ····· 50 m or less
(b) When a heat source unit is installed below ····· 40 m or less
(c) Difference in the elevation of indoor units in a system ····· 15 m or less
(d) Elevation difference between the first branching point and the indoor unit ····· 15 m or less

- Restrictions on piping applicable to the section between a heat source unit and a heat source unit side branching pipe (combination unit)

(a) Difference in the elevation ····· 0.4 m or less
(b) Distance between a heat source unit and a heat source unit side branching pipe ·· 5 m or less
(c) Length of oil equalization piping ····· 10 m or less

CAUTION
An installation not conforming to these restrictions can induce a compressor failure, which shall be excluded from the scope of warranty. Always observe the restrictions on the use of pipes in developing a system.



Difference in the elevation	50m
Actual length	160m
Equivalent length	185m
Total length	510m

(2) Piping material selection

- Please use pipes clean on both the inside and outside and free from contaminants harmful to operation such as sulfur, oxides, dust, chips, oil, fat and water.
- Use the following material for refrigerant piping.
  Material: phosphorus deoxidized seamless copper pipe (C1120T-O, 1/2H, JIS H 3300)
  Use C1220T-1/2H for ϕ 19.05 or larger, or C1220T-O for ϕ 15.88 or smaller
- Do not use ϕ 28.58 x t1.0, ϕ 31.8 x t1.1, ϕ 34.92 x t1.2 and ϕ 38.1 x t1.35 as a bent pipe.
- Thickness and size: Please select proper pipes according to the pipe size selection guideline.
  (Since this unit uses R410A, always use 1/2H pipes of a specified minimum thickness or thicker for all pipes of ϕ 19.05 or larger, because the pressure resistance requirement is not satisfied with O-type pipes).
- For branching pipes, use a genuine branching pipe set or header set at all times. (optional parts)
- For the handling of operation valves, please refer to Section 5-5.
- In installing pipes, observe the restrictions on the use of pipes set out in this Section (1) (Maximum length, total pipe length, allowable pipe length from the first branching, allowable elevation difference (head difference)) without fail.
- Install a branching pipe set, paying attention to the direction of attachment, after you have perused through the installation manual supplied with it.

(3) Pipe size selection

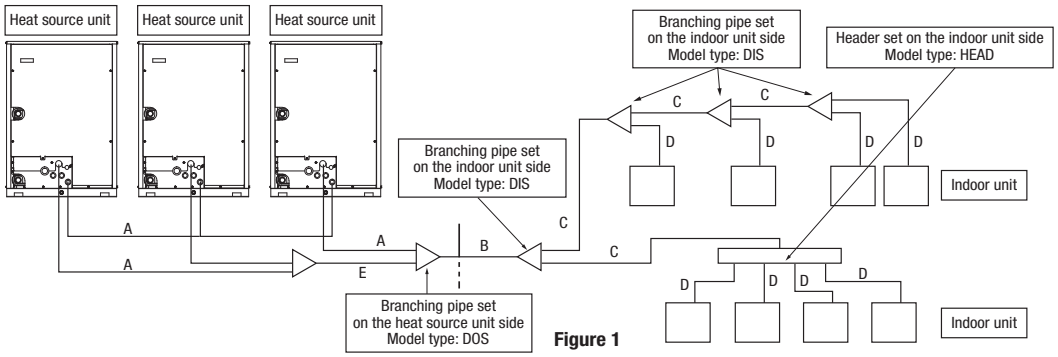


Figure 1

(a) Heat source unit – Heat source unit side branching pipe: Section A in Figure 1

Please use a pipe conforming to the pipe size specified for heat source unit connection.
Indoor unit connecting pipe size table

Capacity	Heat source unit outlet pipe specifications					
	Gas pipe	Connection method	Liquid pipe	Connection method	Oil equalization pipe	Connection method
224	ϕ 19.05 × t1.0	Flange	ϕ 9.52 × t0.8	Flare	ϕ 9.52 × t0.8*	Flare
280	ϕ 22.22 × t1.0					
335	ϕ 25.4 (ϕ 22.22) × t1.0		ϕ 12.7 × t0.8			

Pipe sizes applicable to European installations are shown in parentheses.
Please use C1220T-1/2H for ϕ 19.05 or larger pipes.
* Please connect the master and slave units with an oil equalization pipe, when they are used in a combined installation. (It is not required, when a unit is used as a standalone installation)
When three heat source units combination, please connect using the tee joint (attached to the branching pipe set (DOS-3A-3)).

(b) Selection of the connection pipe to branching pipes for three heat source units combination: Section E in Figure 1

Total capacity of heat source units connected to second branch pipe heat source unit side	Pipe size between branching pipes	
	Gas pipe	Liquid pipe
450, 500, 560, 615, 670	ϕ28.58× t1.0	ϕ12.7× t0.8

Please use C1220T-1/2H for ϕ19.05 or larger pipes.

(c) Main (Heat source unit side branching pipe – Indoor unit side first branching pipe): Section B in Figure 1

If the longest distance (measured between the heat source unit and the farthest indoor unit) is 90m or longer (actual length), please change the main pipe size according to the table below.

Heat source unit	Main pipe size (normal)		Pipe size for an actual length of 90m or longer	
	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe
224	ϕ19.05 × t1.0	ϕ9.52 × t0.8	ϕ22.22 × t1.0	ϕ12.7× t0.8
280	ϕ22.22 × t1.0		ϕ25.4 × t1.0 (ϕ22.22× t1.0)	
335	ϕ25.4 (ϕ22.22) × t1.0	ϕ12.7 × t0.8		
450	ϕ28.58 × t1.0		ϕ31.75 × t1.1 (ϕ28.58 × t1.0)	ϕ15.88 × t1.0
500				
560				
615				
670				
730	ϕ31.75 × t1.1 (ϕ34.92 × t1.2)	ϕ15.88 × t1.0	ϕ38.1 × t1.35 (ϕ34.92 × t1.2)	ϕ19.05 × t1.0
775				
850				
900				
950				
1000	ϕ38.1 × t1.35 (ϕ34.92 × t1.2)			

Please use C1220T-1/2H for ϕ19.05 or larger pipes.
Pipe sizes applicable to European installations are shown in parentheses.

(d) Indoor unit side first branching pipe – Indoor unit side branching pipe: Section C in Figure 1

Please choose from the table below an appropriate pipe size as determined by the total capacity of indoor units connected downstream, provided, **however, that the pipe size for this section should not exceed the main size (Section B in Figure 1).**

Total capacity of indoor units	Gas pipe	Liquid pipe
Less than 70	ϕ12.7× t1.0	ϕ 9.52× t0.8
70 or more but less than 180	ϕ15.88× t1.0	
180 or more but less than 371	ϕ19.05× t1.0 *	ϕ12.7 × t0.8
371 or more but less than 540	ϕ25.4× t1.0 (ϕ28.58)	ϕ15.88× t1.0
540 or more but less than 700	ϕ28.58× t1.0	
700 or more but less than 1100	ϕ31.75× t1.1 (ϕ34.92× t1.2)	ϕ19.05× t1.0
1100 or more	ϕ38.1× t1.35 (ϕ34.92× t1.2)	

Please use C1220T-1/2H for ϕ19.05 or larger pipes.
Pipe sizes applicable to European installations are shown in parentheses.
* When connecting indoor units of 280 at the downstream and the main gas pipe is of ϕ22.22 or larger, use the pipe of ϕ22.22x t1.0.

(e) Indoor unit side branching pipe – Indoor unit: Section D in Figure 1

Indoor unit connection pipe size table

Capacity		Gas pipe	Liquid pipe
Indoor unit	15, 22, 28	ϕ 9.52× t0.8	ϕ 6.35× t0.8
	36, 45, 56	ϕ 12.7× t0.8	
	71, 90, 112, 140, 160	ϕ15.88× t1.0	ϕ 9.52× t0.8
	224	ϕ19.05× t1.0	
	280	ϕ22.22× t1.0	

Please use C1220T-1/2H for ϕ19.05 or larger pipes.

(4) Selection of a heat source unit side branching pipe set

This branching pipe set will always become necessary when units are used in combination.
(When a unit is used as a standalone installation, it is not required)

Heat source unit	Branching pipe set
For two units (for 450 – 670)	DOS-2A-3
For three units (for 730 – 1000)	DOS-3A-3

Please note

a) In connecting a heat source unit, please use a pipe conforming to the pipe size specified for heat source unit connection.
b) For pipes connected to the indoor unit (= main pipes), use the pipe size specified above.
c) Always install branching pipes (for both gas and liquid) in such a manner that they form either correct horizontial or vertical branch.

(5) Selection of an indoor unit side branching pipe set

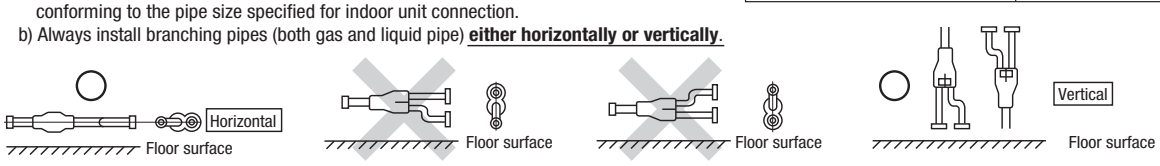
(a) Method of selecting a branching pipe set

- As an appropriate branching pipe size varies with the connected capacity (total capacity connected downstream), determine a size from the following table.

Total capacity downstream	Branching pipe set
Less than 180	DIS-22-1G
180 or more but less than 371	DIS-180-1G
371 or more but less than 540	DIS-371-1G
540 or more	DIS-540-3

Please note a) In connecting an indoor unit with the indoor unit side branching pipe set, please use a pipe conforming to the pipe size specified for indoor unit connection.

b) Always install branching pipes (both gas and liquid pipe) **either horizontally or vertically**.



(b) Header Method

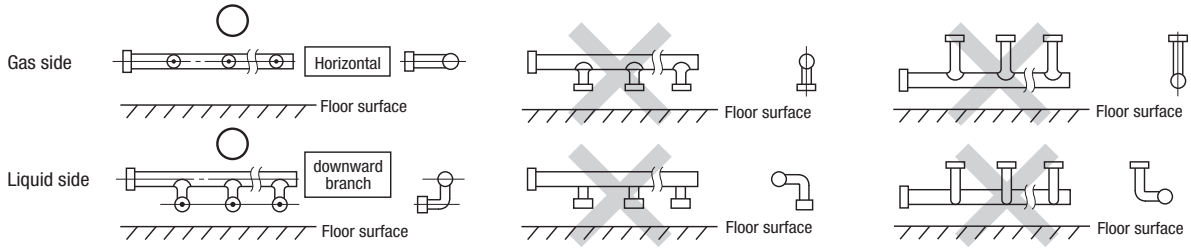
- Depending on the number of units connected, connect plugged pipes (to be procured on the installer's part) at a branching point (on the indoor unit connection side).
- For the size of a plugged pipe, please refer to the documentation for a header set (option part).

Total capacity downstream	Header set model type	Number of branches
Less than 180	HEAD4-22-1G	4 branches at the most
180 or more but less than 371	HEAD6-180-1G	6 branches at the most
371 or more but less than 540	HEAD8-371-2	8 branches at the most
540 or more	HEAD8-540-3	8 branches at the most

Please note a) In connecting a header with an indoor unit, please use a pipe conforming to the pipe size specified for indoor unit connection.

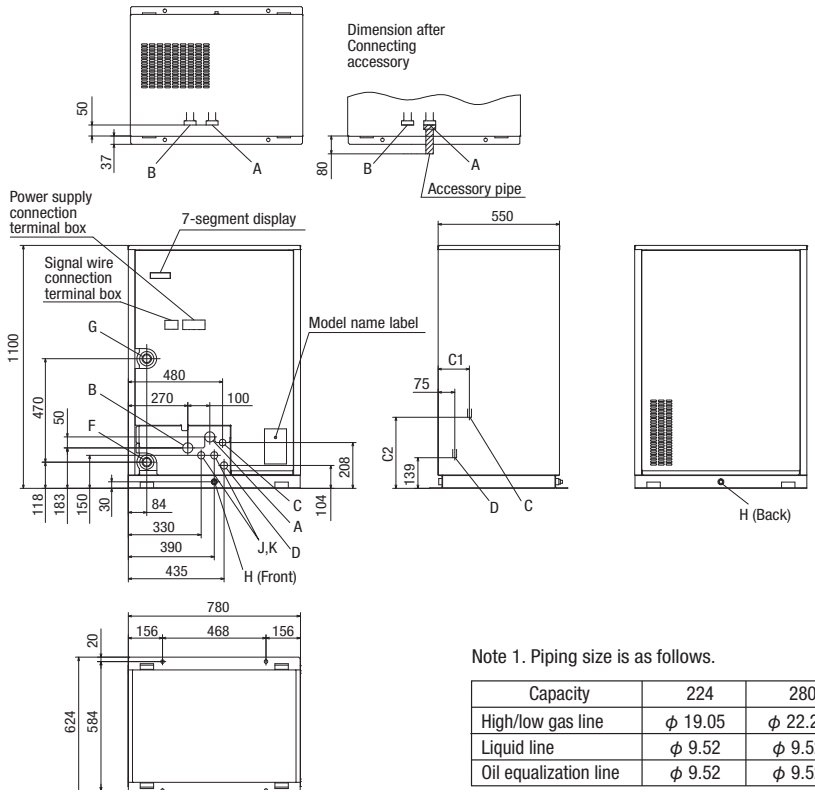
b) **In installing a header, always arrange a gas-side header to branch horizontally and a liquid-side header to branch downward.**

c) Indoor units 224 and 280 can not be connected to the header.



5-2. Pipe connection position and pipe direction

(1) Pipe connecting position and pipe outgoing direction



(Unit: mm)

MARK	Content	
A	High/low gas line	Refer to note.
B	Suction gas line*1	Refer to note.
C	Liquid line	Refer to note.
D	Oil equalization line	Refer to note.
F	Water inlet	R1 1/4
G	Water outlet	R1 1/4
H	Drain outlet	Rp 1/2,2pcs.
J	Power supply intake	ϕ 35
K	Signal wiring intake	ϕ 35
L	Anchor bolt hole	ϕ 28,4pcs.

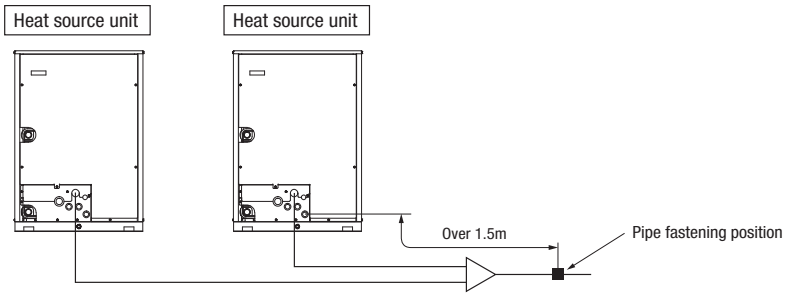
Dimension	Capacity	
	224,280	335
C1	142	139
C2	322	316

*1: In case of heat pump system, not to use Suction gas line.

Note 1. Piping size is as follows.

Capacity	224	280	335	Connection method
High/low gas line	ϕ 19.05	ϕ 22.22	ϕ 25.4	Flange
Liquid line	ϕ 9.52	ϕ 9.52	ϕ 12.7	Flare
Oil equalization line	ϕ 9.52	ϕ 9.52	ϕ 9.52	

- When there is a danger that a small animal enters from the pipe port, cover the port with appropriate blocking materials (to be arranged on the user's part).
- Use an elbow (locally procured) to connect control valves to the piping.
- In anchoring piping on the installation site, give 1.5m or a longer distance between heat source unit and an anchoring point where the piping is secured as illustrated below. (A failure to observe this instruction may result in a pipe fracture depending on a method of isolating vibrations employed.)
- The pipe should be anchored every 1.5m or less to isolate the vibration.

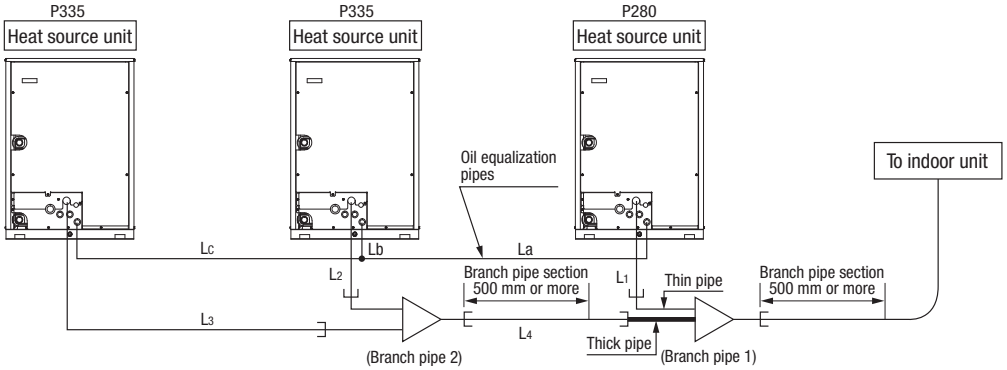


- Connect pipes between combined units, with care for the followings.

(a) On combination units, it must be secured a straight pipe section of 500 mm or more before a branch pipe (Type DOS) for both gas pipe and liquid pipe as shown below.

(b) On the pipe connection system for combination of three units, use a branch pipe of which the pipe diameter is different after the pipe branching, for the branch pipe (branch pipe 1) located the closest to the indoor unit. It is necessary also to connect a thin pipe to the heat source unit and to connect a thick pipe to next branch pipe.

(c) It must be no longer than 5m the length of pipe from the branching pipe 1 to the heat source unit. ($L_1 \leqq 5$ m, $L_2+L_4 \leqq 5$ m, $L_3+L_4 \leqq 5$ m)
It must be no longer than 10 m the length of oil equalization pipes between heat source units. ($La+Lb \leqq 10$ m, $Lb+Lc \leqq 10$ m, $La+Lc \leqq 10$ m)
In case of P950 three combination unit:



(2) Piping work

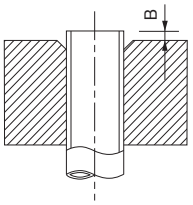
Important

CAUTION
If you tighten it without using double spanners, you may deform the operation valve, which can cause an inflow of nitrogen gas into the heat source unit.

- Please take care so that installed pipes may not touch components within a unit.
- **In laying pipes on the installation site, keep the operation valves shut all the time**.
- Give **sufficient protections** (compressed and brazed or by an adhesive tape) **to pipe ends so that any water or foreign matters may not enter the pipes**.
- In bending a pipe, bend it **to the largest possible radius (at least four times the pipe diameter)**. Do not bend a pipe repeatedly to correct its form.
- Heat source unit's liquid pipe and liquid refrigerant piping are to be flare connected. Flare a pipe after engaging a flare nut onto it. A flare size for R410A is different from that for conventional R407C. Although we recommend the use of flaring tools developed specifically for R410A, conventional flaring tools can also be used by adjusting the measurement of protrusion B with a protrusion control gauge.
- Tighten a flare joint securely **with two spanners**. Observe flare nut tightening torque specified in the table below.

Flared pipe end: A (mm)

Copper pipe outer diameter	A $^{0}_{-0.4}$
ϕ6.35	9.1
ϕ9.52	13.2
ϕ12.7	16.6
ϕ15.88	19.7

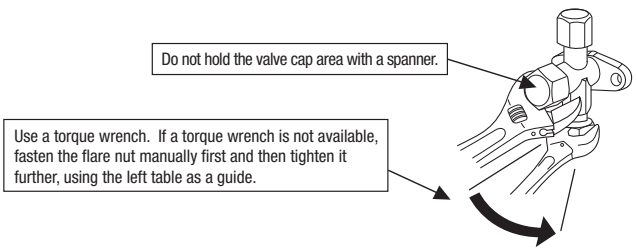


Copper pipe protrusion for flaring: B (mm)

Copper pipe outer diameter	In the case of a rigid (clutch) type	
	With an R410A tool	With a conventional tool
ϕ6.35	0—0.5	0.7—1.3
ϕ9.52		
ϕ12.7		
ϕ15.88		

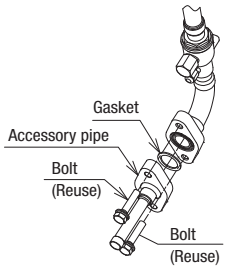
Tightening torque (N·m)

Operation valve size (mm)	Tightening torque (N·m)	Tightening angle (°)	Recommended length of tool handle (mm)
ϕ6.35 (1/4")	14—18	45—60	150
ϕ9.52 (3/8")	34—42	30—45	200
ϕ12.7 (1/2")	49—61	30—45	250
ϕ15.88 (5/8")	68—82	15—20	300
ϕ19.05 (3/4")	100—120	15—20	450



- Do not apply any oil on a flare joint.
- Use the accessory pipe to connect the refrigerant pipe to the gas valve of the heat source unit.
  The gasket must be used between their flanges.
  Tightening torque for bolts is 25-30 N·m. Gas might leak if they are tightened beyond the specified range.
  Try to tighten bolts homogeneously. Tighten alternately a pair of bolts located opposite to each other across the center of flange. After tightening all bolts in this way, tighten them again to the specified torque.

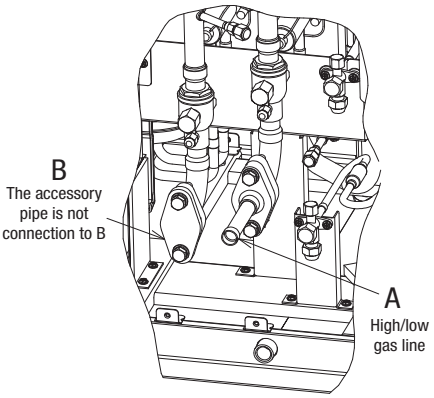
Capacity	224	280	335
High/low gas line (A)	ϕ 19.05	ϕ 22.22	ϕ 25.4



Use the accessory gasket when connecting the flange pipe.

Tightening torque 25-30 N·m

Tighten equally it more than 2 times for top and bottom alternation.
Afterwards, finally tighten it by specified torque once again.

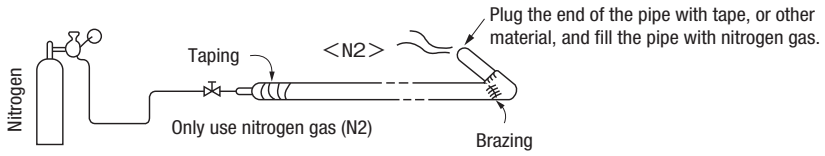


- Pipes are to be blazed to connect the accessory pipe with refrigerant piping or refrigerant piping with a branching pipe set.
- **Blazing must be performed under a nitrogen gas flow**. Without nitrogen gas, a large quantity of foreign matters (oxidized film) are created, causing a critical failure from capillary tube or expansion valve clogging.
- Brazing of the operation valve and the pipes should be performed while cooling the valve body with a wet towel.
- Perform flushing. To flush the piping, charge nitrogen gas at about 0.02MPa with a pipe end closed with a hand. When pressure inside builds up to a sufficient level, remove the hand to flush. (in flushing a pipe, close the other end of the pipe with a plug).

Operation procedure

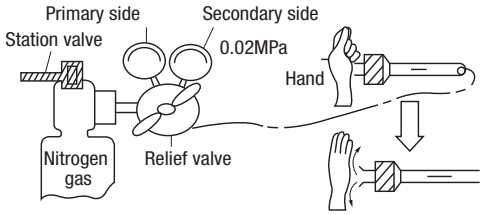
① **In laying pipes on the installation site, keep the operation valves shut all the time**.

② **Blazing must be performed under a nitrogen gas flow**. Without nitrogen gas, a large quantity of foreign matters (oxidized film) are created, causing a critical failure from capillary tube or expansion valve clogging.



③ Give **sufficient protections** (compressed and brazed or with an adhesive tape) **so that water or foreign matters may not enter the piping**.

④ Perform flushing. To flush the piping, charge nitrogen gas at about 0.02MPa with a pipe end closed with a hand. When pressure inside builds up to a sufficient level, remove the hand to flush. (in flushing a pipe, close the other end of the pipe with a plug).



⑤ In brazing an operation valve and a pipe, **braze them with the valve main body cooled with a wet towel or the like**.

5-3. Air tightness test and air purge

(1) Air tightness test

① Although a heat source unit itself has been tested for air tightness at the factory, please check the connected pipes and indoor units for air tightness from the check joint of the operation valve on the heat source unit side. While conducting a test, **keep the operation valve shut all the time**.

② Since refrigerant piping is pressurized to the design pressure of a unit with nitrogen gas for testing air tightness, please connect instruments according the drawing below. Under no circumstances should chlorine-based refrigerant, oxygen or any other combustible gas be used to pressurize a system.

Keep the operation valve shut all the time. Do not open it under any circumstances.

Be sure to pressurize all of the liquid, gas and oil equalizing pipes.

CAUTION
Applying excessive pressure can cause an inflow of nitrogen gas into a heat source unit.

③ In pressurizing the piping, do not apply the specified level of pressure all at once, but gradually raise pressure.

a) **Raise the pressure to 0.5 MPa, and then stop. Leave it for five minutes or more** to see if the pressure does not drop.

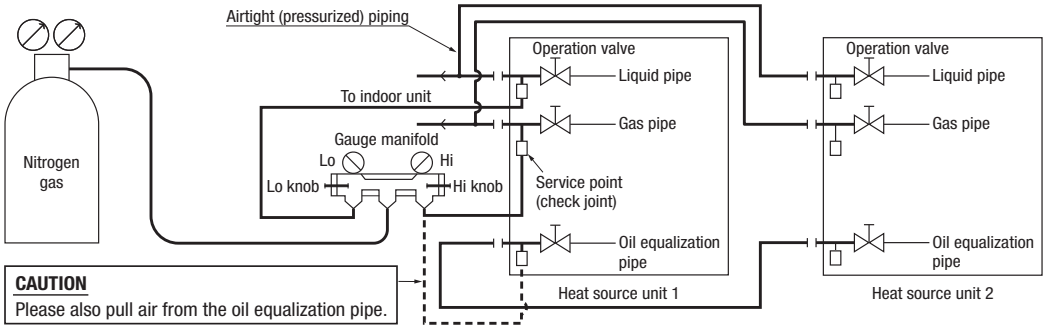
b) **Then raise the pressure to 1.5 MPa, and stop. Leave it for five more minutes** to see if the pressure does not drop.

c) Then raise the pressure to the specified level (4.15 MPa), and record the ambient temperature and the pressure.

d) **If no pressure drop is observed with an installation pressurized to** the specified level **and left for about one day**, **it is acceptable**. When the ambient temperature changes 1°C, the pressure also changes approximately 0.01 MPa. The pressure, if changed, should be compensated for.

e) If a pressure drop is observed in checking a) – d), a leak exists somewhere. Find a leak by applying bubble test liquid to welded parts and flare joints and repair it. After repair, conduct an air-tightness test again.

④Always pull air from the pipes after the airtightness test.



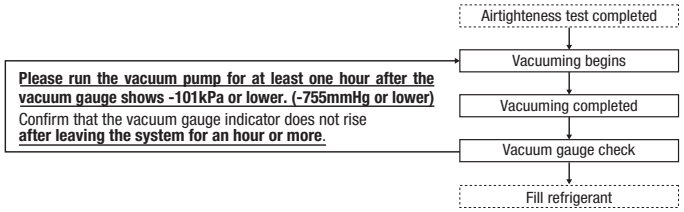
(2) Vacuuming

Please pull air **from the check joints of the operation valves on both liquid and gas sides**.

Please also **pull air from the oil equalization pipe**. (Please pull air separately from the rest of the piping by using the oil equalization valve check joint)

＜Work flow＞

When the system has remaining moisture inside or a leaky point, the vacuum gauge indicator will rise.
Check the system for a leaky point and then draw air to create a vacuum again.



CAUTION
Insufficient vacuuming may result in poor performance falling short of the design capacity, pipe clogging due to residue moisture and/or a compressor failure.

Pay attention to the following points in addition to the above for the R410A and compatible machines.

○To prevent a different oil from entering, please assign dedicated tools, etc. to each refrigerant type.
Under no circumstances must a gauge manifold and a charge hose in particular be shared with other refrigerant types (R22, R407C, etc.).

○Use a counterflow prevention adapter to prevent vacuum pump oil from entering the refrigerant system.

5-4. Additional refrigerant charge

Charge additional refrigerant **in the liquid state**.

Be sure to measure the quantity **with a scale in adding refrigerant**.

If you cannot charge all refrigerant with the heat source unit lying idle, charge it with the unit running in the test run mode. (For the test run method, please refer to Section 8)

If operated for a long time with insufficient refrigerant the compressor will be damaged. (In particular, when adding refrigerant during operation, complete the job within 30min.)

This unit contains **<224-335: 9.9 kg, 450-670: 19.8 kg, 730-1000: 29.7 kg> of refrigerant**.

Determine the amount of refrigerant to be charged additionally using the following formula and put down the amount of refrigerant added on the refrigerant charge volume recording plate provided on the back the front panel.

●Adding additional refrigerant

Charge additional refrigerant according to the size and length of the liquid piping and unit capacity.

Determine additional charge volume by rounding to the nearest 0.1 kg.

Additional fill quantity (kg) = A＋B

A: Additional refrigerant quantity for piping (kg)

A = (L1×0.26) + (L2×0.18) + (L3×0.12) + (L4×0.059) + (L5×0.022)

L1 : φ19.05 total length (m)　L2 : φ15.88 total length (m)

L3 : φ12.7 total length (m)　L4 : φ9.52 total length (m)　L5 : φ6.35 total length (m)

Refrigerant liquid pipe size	φ19.05	φ15.88	φ12.7	φ9.52	φ6.35
Additional fill quantity (kg/m)	0.26	0.18	0.12	0.059	0.022

B: Additional refrigerant quantity for indoor units (kg)
If the total indoor units capacity is larger than the heat source unit capacity, then calculate the additional refrigerant quantity for indoor units.
D = (Total indoor units capacity) - (Heat source unit capacity)
B = D x 0.01
When D > 0, calculate B using the above equation;
When D ≦ 0, take it as B = 0.

<Example>
When you connect FDC335 to FDT140 x 3 units:
D = 140 x 3 - 335 = 85 (> 0)
B = 85 x 0.01 = 0.85 (kg)

Important

When the Additional refrigerant quantity (A+B) is over the following table, please separate the refrigerant line.

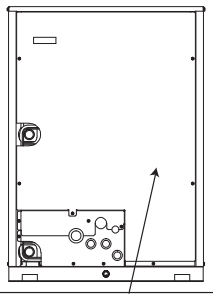
Capacity	A+B (kg)
224-335	25
450-670	50
730-1000	75

Pay attention to the following points in addition to the above for the R410A and compatible machines.

- To prevent a different oil from entering, please assign dedicated tools, etc. to each refrigerant type. Under no circumstances must a gauge manifold and a charge hose in particular be shared with other refrigerant types (R22, R407C, etc.).
- Refrigerant types are indicated by color at the top of the cylinder (Pink for R410A). Always confirm this.
- Do not use a charge cylinder under any circumstances. There is a danger that the composition of the refrigerant will change when R410A is transferred to a cylinder.
- When charging refrigerant, use liquid refrigerant from a cylinder. If refrigerant is charged in a gas form, the composition may change considerably.

Please note

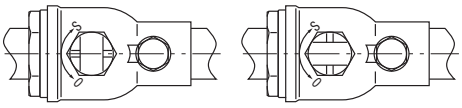
Put down on the refrigerant charge volume recording plate provided on the back of the front panel the amount of refrigerant calculated from the pipe length.



It is located in back of this front panel.

CAUTION

Be sure to record the refrigerant volume, because the information is necessary to perform the installation's maintenance service.



Opened position Closed position

5-5. Method of operating operation valves

Method of opening/closing a valve

○Remove the cap, turn the gas pipe side until it comes to the "Opened" position as indicated in the drawing on the right.

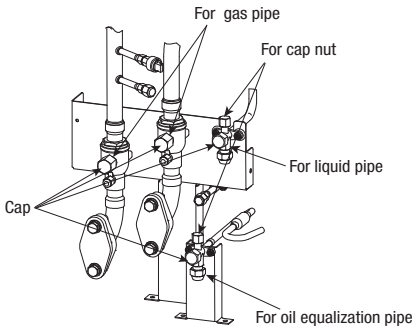
○For the liquid side pipe and oil equalization pipe side, turn with a hexagonal wrench until the shaft stops. If excessive force is applied, the valve main body can be damaged. Always use a dedicated special tool.

○Tighten the cap securely.

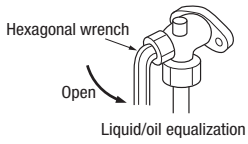
For tightening torque, refer to the table below.

		Tightening torque N・m		
		Shaft (valve main body)	Cap (lid)	Cap nut (check joint section)
For gas pipes		7 or less	30 or less	13
For liquid pipes	φ 9.52 (3/8")	6-8	20-30	10-12
	φ 12.7 (1/2")	14-16	25-35	10-12
For oil equalization pipe		6-8	20-30	10-12

For fastening torque of a flare nut, please refer to Section 5-2 (2).



▶ Hexagonal wrench type



Liquid/oil equalization valves

5-6. Heating and condensation prevention

①Dress refrigerant pipes (both gas and liquid pipes) for heat insulation and prevention of dew condensation.
Perform the heat insulation work after completing the airtight test when it will be detected if there is any leak.
When a pipe joint used on the way of piping which is buried, provide an inspection hole, or the like, for maintenance.
Inspection hole must be provided also when a pipe joint is located in the ceiling.
Improper heat insulation/anti-dew dressing can result in a water leak or dripping causing damage to household effects, etc.

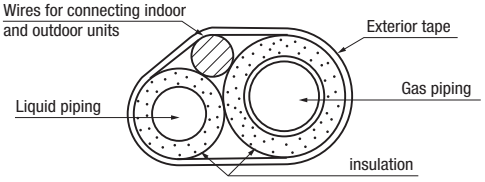
②Use a heat insulating material that can withstand 120℃ or a higher temperature. Poor heat insulating capacity can cause heat insulation problems or cable deterioration.

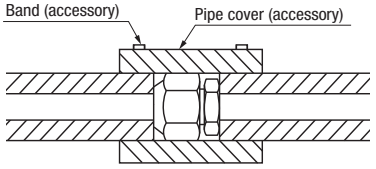
a) The gas pipe can cause during a cooling operation dew condensation, which will become drain water causing a possible water-leak accident, or reach during a heating operation as high a temperature as 60℃ to 110℃, posing a risk of burns, when touched accidentally. So, do not fail to dress it with a heat insulation material.

b) Wrap indoor units' flare joints with heat insulating parts (pipe cover) for heat insulation (both gas and liquid pipes).

c) Give heat insulation to both gas and liquid side pipes. Bundle a heat insulating material and a pipe tightly together so that no gaps may be left between them and wrap them together with a connecting cable by a dressing tape.

d) Although this air conditioning unit has been tested under the JIS condensation test conditions, pipes for both liquid and gas need to be heat insulated with material of 20 mm or more in thickness, in the ceiling, or other, where the relative humidity exceeds 70%.
When the ambient dew point temperature becomes 28℃ or higher, or the relative humidity becomes 80% or higher, add further 10 to 20 mm thick heat insulation material.





6. ELECTRICAL WIRING WORK

Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country.
Electrical installation work must be executed according to the technical standards and other regulations applicable to electrical installations in the country.

⚠ **Please install an earth leakage breaker without fail**. The installation of an earth leakage breaker is compulsory in order to prevent electric shocks or fire accidents.
(Since this unit employs inverter control, please **use an impulse withstanding type** to prevent an earth leakage breaker's false actuation.)

Please note

a) Use only copper wires.
Do not use any supply cord lighter than one specified in parentheses for each type below.
- braided cord (code designation 60245 IEC 51), if allowed in the relevant part 2;
- ordinary tough rubber sheathed cord (code designation 60245 IEC 53);
- flat twin tinsel cord (code designation 60227 IEC 41)
- ordinary polyvinyl chloride sheathed cord (code designation 60227 IEC 53).

Please do not use anything lighter than polychloroprene sheathed flexible cord (cord designation 60245 IEC57) for supply cords of parts of appliances for outdoor use.

b) **Use separate power sources for the indoor and heat source units**.

c) A grounding wire must be connected before connecting the power cable. Provide a grounding wire longer than the power cable.

d) **The power sources for indoor units in the same system should turn on and off simultaneously**.

e) Ground the unit. Do not connect the grounding wire to a gas pipe, water pipe, lightning rod or telephone grounding wire.
If improperly grounded, an electric shock or malfunction may result.
Never connect the grounding wire to a gas pipe because if gas leaks, it could cause explosion or ignition.

f) **The installation of an impulse withstanding type earth leakage breaker is necessary**. A failure to install an earth leakage breaker can result in an accident such as an electric shock or a fire. Do not turn on the power until the electrical work is completed. Be sure to turn off the power when servicing.

g) Please do not use a condensive capacitor for power factor improvement under any circumstances. (It does not improve power factor, while it can cause an abnormal overheat accident)

h) For power source cables, use conduits.

i) Please **do not lay electronic control cables (remote control and signaling wires) and other high current cables together outside the unit**. Laying them together can result in malfunctioning or a failure of the unit due to electric noises.

j) Power cables and signaling wires must always be connected to the power cable terminal block and secured by cable fastening clamps provided in the unit.

k) Fasten cables so that they may not touch the piping, etc.

l) **When cables are connected, please make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection** and then attach the cover securely. (Improper cover attachment can result in malfunctioning or a failure of the unit, if water penetrates into the box.)

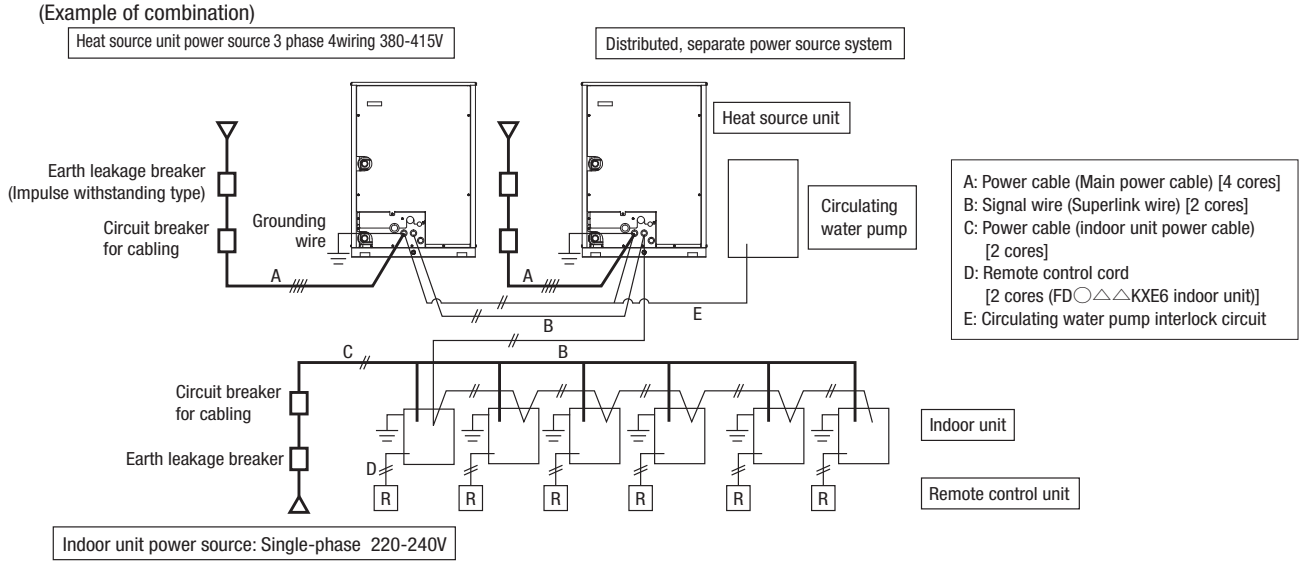
m) Make sure to use circuit breakers (earth leakage breaker and circuit breaker) of proper capacity. Use of breakers of larger capacity could result in trouble on components or fire accident. The circuit breaker should isolate all poles under over current.

n) Install isolator or disconnect switch on the power supply wiring in accordance with the local codes and regulations. The isolator should be locked in OFF state in accordance with EN60204-1.

o) After maintenance, all wiring, wiring ties and the like, should be returned to their original state and wiring route, and the necessary clearance from all metal parts should be secured.

6-1. Wiring system diagrams

(Example of combination)



CAUTION
If the earth leakage breaker is exclusively for ground fault protection, then you will need to install a circuit breaker for wiring work.

6-2. Method of connecting power cables

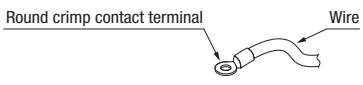
(1) Method of leading out cables

- As shown on the drawing in Section 5-2 (1), cables can be laid through the front casing.

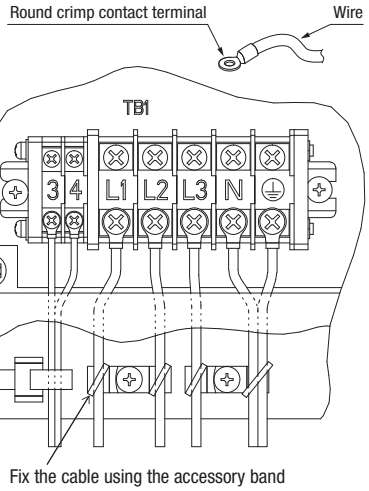
(2) Notabilia in connecting power cables

Power cables must always be connected to the power cable terminal block and clamped outside the electrical component box.
In connecting to the power cable terminal block, use round solderless terminals.

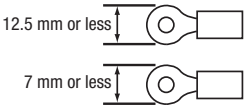
- Connect the ground wire before you connect the power cable. When you connect a grounding wire to a terminal block, use a grounding wire longer than the power cable so that it may not be subject to tension.
- Do not turn on power until installation work is completed. Turn off power to the unit before you service the unit.
- Ensure that the unit is properly grounded.



- ●Always connect power cables to the power terminal block and fix power cables to the cramp with using the accessory band as right figure.
- ●To connect a cable to the power terminal block, use round solderless terminals.
- ●Use specified wires in wiring, and fasten them securely in such a manner that the terminal blocks are not subject to external force.
- ●In fastening a screw of a terminal block, use a correct-size driver.
  Fastening a screw of a terminal block with excessive force can break the screw.
- ●For the tightening torque of terminals, refer to the following list.
- ●When electrical installation work is completed, make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection.



Tightening torque (N·m)		
M3.5	Heat source unit signal line terminal block	0.9-1.2
	Water pump interlock curcuit terminal block 3,4	
M5	Power cable terminal block, Earth wire	2.00-2.35



Request

- When connecting to the power source terminal block, use the crimp terminals for M5 as shown at right.
- When connecting to the signal terminal block and the circulating water pump interlock circuit terminal block 3,4, use the crimp terminals for M3.5 as shown at right.

(3) Heat source unit power source specifications

3 phase 380-415V

Capacity	Power source	Cable size for power source (mm^2)	Wire length (m)	Moulded-case circuit breaker (A)		Earth leakage breaker	Earth wire	
				Rated current	Switch capacity		Size (mm^2)	Screw type
224	3 phase 4 wire 380-415V 50Hz	8	67	30	30	30A 30mA less than 0.1 sec	2	M5
280								
335								

Please note

a) The method of laying cables has been determined pursuant to the Japanese indoor wiring regulations (JEAC8001). (Please adapt it to the regulations in effect in each country)
b) In the case of distributed, separate power source system, the listed data represent those of a heat source unit.
c) For details, please refer to the installation manual supplied with the indoor unit.

(4) Indoor unit power source specifications : Single phase 220-240V

Combined total capacity of indoor units	Cable size for power source (mm^2)	Wire length (m)	Moulded-case circuit breaker (For ground fault, overload and short circuit protection)	Signal wire size (mm^2)
Less than 7A	2	21	20A 100mA less than 0.1 sec	2cores x 0.75-2.0 *
Less than 11A	3.5	21	20A 100mA less than 0.1 sec	
Less than 12A	5.5	33	20A 100mA less than 0.1 sec	
Less than 16A	5.5	24	30A 100mA less than 0.1 sec	
Less than 19A	5.5	20	40A 100mA less than 0.1 sec	
Less than 22A	8	27	40A 100mA less than 0.1 sec	
Less than 28A	8	21	50A 100mA less than 0.1 sec	

* Please use a shielded cable.

Please note

a) The method of laying cables has been determined pursuant to the Japanese indoor wiring regulations (JEAC8001). (Please adapt it to the regulations in effect in each country)
b) Wire length in the table above is the value for when the indoor unit is connect to the power cable in series also the wire size and minimum length when the power drop is less than 2% are shown. If the current exceeds the value in the table above, change the wire size according to the indoor wiring regulations. (Please adapt it to the regulations in effect in each country)
c) For details, please refer to the installation manual supplied with the indoor unit.
d) Wires connected to indoor units are allowed up to 5.5 mm^2. For 8 mm^2 or more, use a dedicated pull box and branch to indoor units with 5.5 mm^2 or less.

6-3. Method of connecting signaling wires

The communication protocol can be choosen from following two types. One of them is the conventional Superlink (hereinafter previous SL) and the other is the new Superlink Ⅱ (hereinafter new SL) . These two communication protocols have the following advantages and restrictions, so please choose a desirable one meeting your installation conditions such as connected indoor units and centralized controller. When signal cables are connected into a network involving outdoor units, indoor units or centralized control equipment that do not support new SL, please select communications in the previous SL mode, even if the refrigerant system is separated from theirs.

Communication protocol	Conventional communication protocol (previous SL)	New communication protocol (new SL)
Outdoor unit setting (SW5-5)	ON	OFF (Factory default)
No. of connectable indoor units	Max. 48	Max. 128
No. of connectable outdoor units in a network	Max. 48	Max. 32
Signal cable (total length)	Up to 1000m for 0.75-2mm^2 shielding wire (MVVS)	Up to 1,500 m for 0.75 mm^2 shielding wire (MVVS) Up to 1,000 m for 1.25 mm^2 shielding wire (MVVS)
Signal cable (furthest length)	Up to 1000m	Up to 1000m
Connectable units to a network	Units not supporting new SL (FD○A△△KXE4·5 series) Units supporting new SL (FD○△△KXE6 series) Can be used together.	Units supporting new SL (FD○△△KXE6 series)

Note: For FDT224 and 280 models, calculate the number of units taking 1 indoor unit as 2 units for the sake of communication.

● **Signal cables are for DC 5 V. Never connect wires for 220/240 V or 380/415 V.** Protective fuse on the PCB will trip.

① Confirm that signal cables are prevented from applying 220/240 V or 380/415 V.

② Before turning the power on, check the resistance on the signal cable terminal block. If it is less than 100Ω, power supply cables may be connected to the signal cable terminal block.

When units of FD○△△KXE6 Series only are connected:

Standard resistance value=5,100/Number of connected units.

When units of FD○A△△KXE4 and 5 Series only are connected:

Standard resistance value=9,200/Number of connected units.

When units of FD○△△KXE6 Series and units of FD○A△△KXE4 and 5 Series are connected in a mixture:

Standard resistance value=46000/[(Number of connected FD○A△△KXE4 and 5 Series units x 5) + (Number of connected FD○△△KXE6 Series units x 9)]

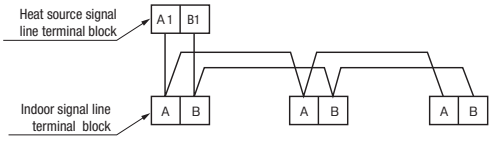
The number of connected units includes those of indoor units, outdoor units and SL devices.

If the resistance value is less than 100Ω, disconnect the signal cables temporarily to divide to more than one network, to reduce the number of indoor units on the same network, and check each network.

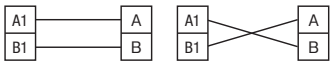
Indoor and heat source units signal cables

- Connect the signal cable between indoor and heat source units and the signal cable between heat source units belonging to the same refrigerant line to A1 and B1.
- Connect the signal line between heat source units on different refrigerant lines to A2 and B2.
- Please use a shielded cable for a signal line and connect a shielding earth at all the indoor units and heat source units.

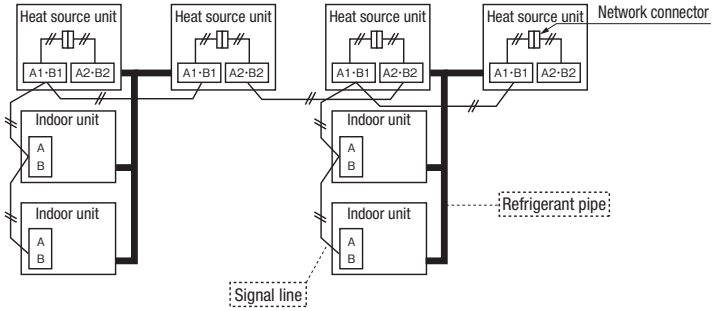
(1) When one heat source unit is used.



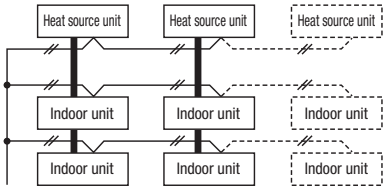
○Indoor and heat source signal lines do not have a polarity. Any of the connections in the following illustration can be made.



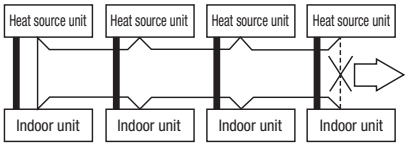
(2) When plural heat source units are used



(3) The signal lines can also be connected using the method shown below.



⚠ Important ○Loop wiring prohibited.



The signal lines cannot form a loop, so the wirings shown as ····· in the diagram are prohibited.

Remote control wiring specifications

(1) **A standard remote control wire is 0.3mm² x 2 cores (FD○△△KXE6 indoor unit).**

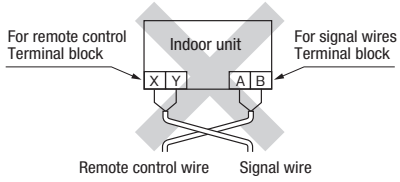
It can be extended **up to 600m. For a remote control wire exceeding 100m,** please upgrade wire size **as specified in the table below**.

Length (m)	Wire size
	FD○△△KXE6 indoor unit
100 to 200	0.5mm² × 2 cores
To 300	0.75mm² × 2 cores
To 400	1.25mm² × 2 cores
To 600	2 mm² × 2 cores

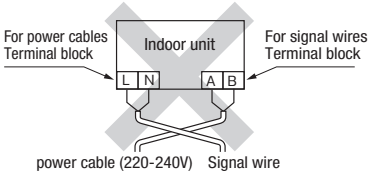
(2) When the remote control wire runs parallel to another power source wire or when it is subject to outside noise, such as from a high-frequency device, use shielded wire. (Be sure to ground only one end of the shielded wire.)

CAUTION In addition to a possible wiring error between indoor and heat source units, there are other possibilities of erroneous wiring as illustrated below.

① Wrong wiring between signaling wires and remote control wires.



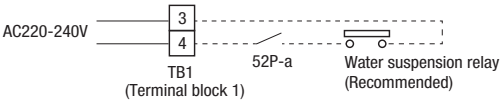
② Connecting power cables to the signaling wire terminal block.



It will result in a blown signal line fuse (CNK).

6-4. Procedure for interlock connection to the circulating water pump

To ensure that the heat source unit operates only when the circulating water pump is running, be sure to connect the pump interlock circuit (auxiliary a-contact of the electromagnetic switch for the circulating water pump) to terminal block 3,4 (TB1) of the heat source unit, as shown below.
The auxiliary a-contact must be AC 220 – 240 V, 75 mA or larger.
In case of a combination unit, connect the interlock circuits to all heat source units.
Heat source unit cannot be operated unless an interlock circuit is connected. If operation is stopped owing to this reason, the error code E64-4 will be displayed on the 7-segment indicator on the PCB of heat source unit.
It is recommended also to install a water suspension relay for protection in the event when the water quantity is depleted as a result of faulty operation of valves on the water pipes, air intrusion, or other.



Circulating water pump ON signal input

7. CONTROL SETTINGS

7-1. Unit address setting

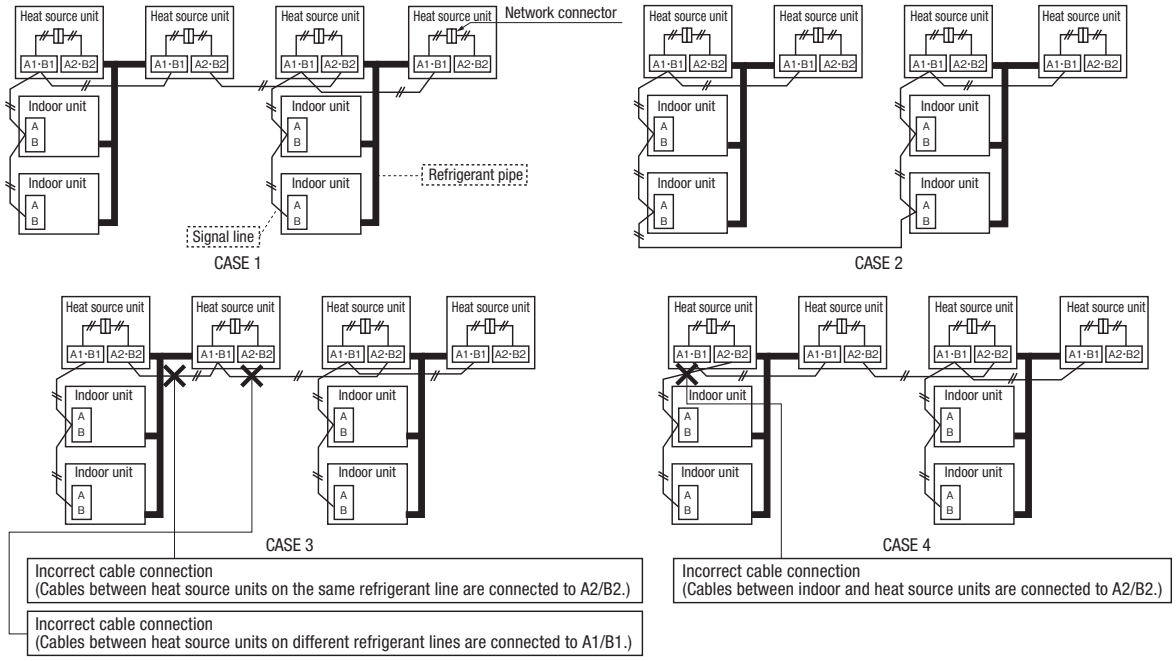
This control system controls the controllers of more than one air conditioner's heat source unit, indoor unit and remote control unit through communication control, using the microcomputers built in the respective controllers. Address setting needs to be done for both heat source and indoor units. Turn on power in the order of the heat source units and then the indoor units.
Use 1 minute as the rule of thumb for an interval between them.
The communication protocol can be chosen from following two types. One of them is the conventional communication protocol (previous SL) and the other is the new communication protocol (new SL). These two communication protocols have their own features and restrictions as shown by Table 6-3. Select them according the indoor units and the centralized control to be connected.
When signal cables are connected into a network involving heat source units, indoor units or centralized control equipment that do not support new SL, please select communications in the previous SL mode, even if the refrigerant system is separated from theirs.
When communication is established after setting addresses, check the communication protocol with the 7 segment display panel of the heat source unit.

●Address setting methods

The following address setting methods can be used. The procedure for automatic address setting is different from the conventional one.
Please use the automatic address setting function after reading this manual carefully.

Communication protocol		new SL		previous SL	
Address setting method		Automatic	Manual	Automatic	Manual
When plural refrigerant systems are linked with signal lines (e.g., to implement centralized control)	Case 1 When signal lines linking plural refrigerant systems are provided between heat source units. (When the network connector is disconnected, refrigerant systems are separated each other)	OK*1	OK	×	OK
	Case 2 When signal lines linking plural refrigerant systems are provided between indoor units.	×*2	OK	×	OK
When only one refrigerant system is involved (signal lines do not link plural refrigerant systems)		OK	OK	OK	OK

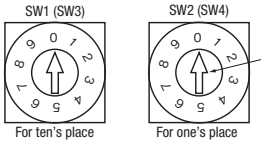
*1 Do not connect the signal line between heat source units on the different refrigerant lines to A1 and B1. Do not connect the signal line between heat source units on the same refrigerant line to A2 and B2. This may interrupt proper address setting. (Case 3)
Do not connect the signal line between indoor unit and heat source unit to A2 and B2. This may interrupt proper address setting. (Case 4)
*2 In Case 2, automatic address setting is not available. Set addresses manually.



●Address No. setting

Set SW1 through 4 and SW5-2 provided on the PCB and SW1 & 2 provided on the heat source unit PCB as shown in the drawings below.

Indoor PCB	SW1, 2 (blue)	For setting indoor No. (The ten's and one's)
	SW3, 4 (green)	For setting heat source No. (The ten's and one's)
	SW5-2	Indoor No. switch (The hundred's Place) [OFF : 0, ON : 1]
Heat source PCB	SW1, 2 (green)	For setting heat source No. (The ten's and one's)



By inserting a flat driver (precision screw driver) into this groove and turn the arrow to point a desired number.

●**Summary of address setting methods (figures in [ ] should be used with previous SL)**

	Units supporting new SL			Units NOT supporting new SL		
	Indoor unit address setting		Heat source unit address setting	Indoor unit address setting		Heat source unit address setting
	Indoor No. switch	Heat source No. switch	Heat source No. switch	Indoor No. switch	Heat source No. switch	Heat source No. switch
Manual address setting (previous SL/new SL)	000－127[47]	00－31[47]	00－31[47]	00－47	00－47	00－47
Automatic address setting for single refrigerant system installation (previous SL/new SL)	000	49	49	49	49	49
Automatic address setting for multiple refrigerant systems installation (with new SL only)	000	49	00－31	×	×	×

Do not set numbers other than those shown in the table, or an error may be generated.

Note: When units supporting new SL are added to a network using previous SL such as one involving FD○A△△KXE4-5 series units, choose previous SL for the communication protocol and set addresses manually.

Since the models FDT224 and 280 have 2 PCBs per unit, set different indoor unit No. and SW on each PCB.

- Heat source unit No., which is used to identify which heat source unit and indoor units are connected in a refrigerant system, is set on heat source unit PCB and indoor unit PCB. Give the same heat source unit No. to all heat source unit and indoor units connected in same refrigerant system.
- An indoor unit No. is used to identify individual indoor units. Assign a unique number that is not assigned to any other indoor units on the network.

Unless stated otherwise, the following procedures apply, when new SL is chosen for the communication protocol.

When previous SL is chosen, use figures shown in [ ] in carrying out these procedures.

Manual address setting　Generally applicable to new SL/previous SL, use figures in [ ] with previous SL.

① Address setting of heat source unit　Before turning on the power, set as follows. The heat source unit address is registered when the power is turned on.

Set **the heat source No. switches** in a range of **00 – 31 [or 00 - 47 for old SL].**

Take care not to duplicate with other heat source unit No. on the network.

In the same way also on the master unit of combination, set the rotary switch for heat sorce No. **in a range of 00 - 31 [or 00 – 47 for old SL]**

For slave units of combination, set the rotary switches for heat source No. at **the same heat source No. as the master unit of combination.**

When 2 units are combined, set the dip switch SW4-7 of slave unit to ON. When 3 units are combined, set the dip switch SW4-7 of slave unit 1 to ON and the dip switch SW4-8 of slave unit 2 to ON. (Use same setting for heat source No. of master unit and slave unit.)

Refrigerant system	Heat source unit	SW1	SW2	SW4-7	Address on network
A	Master	2	2	OFF	22
	Slave	2	2	ON	23
B	Master	2	4	OFF	24
	Slave	2	4	ON	25
C	Master	3	1	OFF	31
	Slave	3	1	ON	00

Above list is an example. **The address on the network is master unit +1 for the slave unit.**

If the slave unit address is larger than 31 [or 47 for old SL], the address is assigned sequentially starting from 00.

When setting sequential addresses, take care not to duplicate the master unit address in the refrigerant system B with addresses of slave units in the refrigerant system A.

Refrigerant system	Heat source unit	SW1	SW2	SW4-7	SW4-8	Address on network
A	Master	2	2	OFF	OFF	22
	Slave 1	2	2	ON	OFF	23
	Slave 2	2	2	OFF	ON	24
B	Master	2	5	OFF	OFF	25
	Slave 1	2	5	ON	OFF	26
	Slave 2	2	5	OFF	ON	27
C	Master	3	1	OFF	OFF	31
	Slave 1	3	1	ON	OFF	00
	Slave 2	3	1	OFF	ON	01

Note:
Slave unit address is master unit +1. Address of second slave unit is master unit +2. When setting the address for master unit, take care to avoid duplication with other systems. Otherwise, it cannot operate. (Error: E-31)

② Address setting of indoor unit　Before turning on the power, set as follows. Indoor address is registered when the power is turned on.

Set **the indoor No. switch** in a range of **000 – 127 [or 00 – 47 for old SL].**

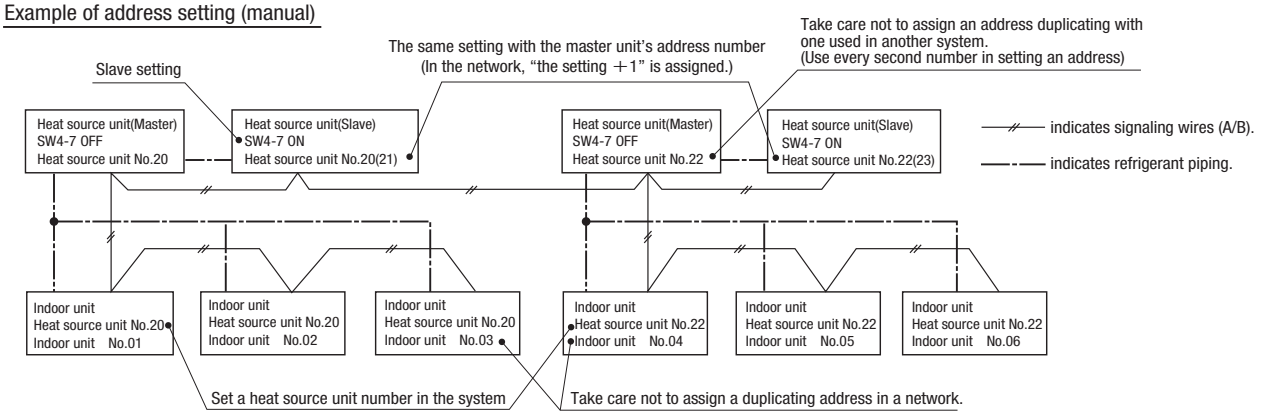
For **the heat source No. switches,** set corresponding heat source No. in a range of **00 – 31 [or 00 – 47 for old SL)].**

Set with care not to duplicate with other indoor No. on the network.

③ Turn on power in order from the heat source unit to indoor units. Give one-minute or longer interval for them.

※When there are some units not supporting new SL connected in the network, set SW5-5 to ON to choose the previous SL communication mode. In the case of previous SL, the maximum number of indoor units connectable in a network is 48.

Example of address setting (manual)



Automatic address setting　Generally applicable to new SL/previous SL, use figures in [ ] with previous SL.

With new SL, you can set indoor unit addresses automatically even for an installation involving multiple refrigerant systems connected with same network, in addition to the conventional automatic address setting of a single refrigerant system installation.

However, an installation must satisfy some additional requirements such as for wiring methods, so please read this manual carefully before you carry out automatic address setting.

(1) In the case of a single refrigerant system installation (Generally applicable to new SL/previous SL, use figures in [ ] with previous SL.)

① Address setting of heat source unit　Before turning on the power, set as follows.

Confirm that **the heat source No. switch** is set **at 49 by the default.**

- **In the same way also on the master unit of combination,** confirm that the rotary switch for heat source No. is set **at 49 by the default.**
- **In the same way also on the slave unit of combination,** confirm that the rotary switch for heat source No. is set **at 49 by the default.**
  When 2 units are combined, set the dip switch SW4-7 of slave unit to ON. When 3 units are combined, set the dip switch 4-7 of slave unit 1 to ON and the dip switch SW4-8 of slave unit 2 to ON.

Heat source unit	SW1	SW2	SW4-7	Address on network
Master	4	9	OFF	49
Slave	4	9	ON	00

Heat source unit	SW1	SW2	SW4-7	SW4-8	Address on network
Master	4	9	OFF	OFF	49
Slave 1	4	9	ON	OFF	00
Slave 2	4	9	OFF	ON	01

CAUTION
If the slave unit is not specified, a compressor failure may result.

② Indoor unit address setting
Set as follows before you turn on power.
Make sure that the **Indoor Unit No. switch** is set to **000 [in the case of previous SL: 49] (factory setting).**
Make sure that the **Heat source Unit No. switch** is set to **49 (factory setting).**

③ Turn on power in order from the heat source unit to indoor units. Give one-minute or longer interval for them. Unlike the procedure set out in (2) below, you need not change settings from the 7-segment display panel.

④ Make sure that the number of indoor units indicated on the 7-segment display panel agrees with the number of the indoor units that are actually connected to the refrigerant system.

(2) In the case of a multiple refrigerant systems installation (Applicable to new SL only. In the case of previous SL, set addresses with some other method.)

(This option is available when the interconnection wiring among refrigerant systems is on the heat source unit side and new SL is chosen as the communication protocol.)

Address setting procedure (perform these steps for each heat source unit)

[STEP1] (Items set before turning on power)

① Address setting of heat source unit
Set as follows before you turn on power.
Set **the Heat source Unit No. switch** to a number **00 - 31**. Set a unique number by avoiding the numbers assigned to other heat source units on the network.
- Similarly for the master unit used in a combined installation, set **the Heat source Unit No. switch to a number 00-31.**
- **For slave units of combination,** set the rotary switches for heat source No. at **the same heat source No. as the master unit of combination.**
  When 2 units are combined, set the dip switch SW4-7 of slave unit to ON. When 3 units are combined, set the dip switch SW4-7 of slave unit 1 to ON and the dip switch SW4-8 of slave unit 2 to ON. (Use same setting for heat source No. of master unit and slave unit.)

② Address setting of indoor unit
Set as follows before you turn on power.
Make sure that the **Indoor Unit No. switch** is set to **000 (factory setting).**
Make sure that the **Heat source Unit No. switch** is set to **49 (factory setting).**

③ Isolate the present refrigerant system from the network.
Disengage the **network connectors (white 2P)** of the heat source units. (Turning on power without isolating each refrigerant system will result in erroneous address setting.)

[STEP2] (Power on and automatic address setting)

④ Turn on power to the heat source unit
Turn on power in order from the heat source unit to indoor units. Give one-minute or longer interval for them.

⑤ Select and enter "1" in P31 on the 7-segment display panel of each heat source unit (master unit in case of combination) to input "Automatic address start."

⑥ Input a starting address and the number of connected indoor units.
Input a starting address in P32 on the 7-segment display panel of each heat source unit (master unit in case of combination).

⑦ When a starting address is entered, the display indication will switch back to the "Number of Connected Indoor Units Input" screen.
Input the number of connected indoor units from the 7-segment display panel of each heat source unit (master unit in case of combination). Please input the number of connected indoor units (on the same refrigerant line in case of combination) for each heat source unit. (You can input it from P33 on the 7-segment display panel.)When the number of connected indoor units is entered, the 7-segment display panel indication will switch to "AUX" and start flickering.

[STEP3] (Automatic address setting completion check)

⑧ Indoor unit address determination

When the indoor unit addresses are all set, the 7-segment display panel indication will switch to "AUE" and start flickering.
If an error is detected in this process, the display will show "A○○."
Check the 7-segment display panel of each heat source unit (master unit in case of combination).
Depending on the number of connected indoor units, it may take **about 10 minutes** before the indoor unit addresses are all set.

[STEP4] (Network definition setting)

⑨ Network connection
When you have confirmed an "AUE" indication on the display of each heat source unit, **engage the network connectors** again.

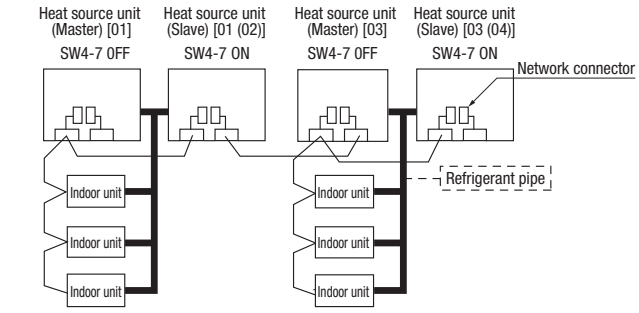
⑩ Network polarity setting

After you have made sure that the network connectors are engaged, select and enter "1" in P34 on the 7-segment display panel of **any heat source unit (on only 1 unit : master unit in case of combination)** to specify network polarity.

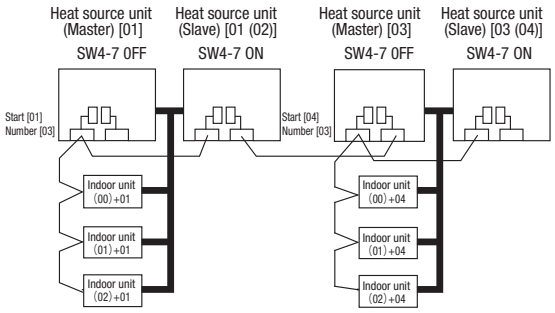
⑪ Network setting completion check
When the network is defined, "End" will appear on the 7-segment display panel. An "End" indication will go off, when some operation is made from the 7-segment display panel or 3 minutes after.

	STEP1	STEP2	STEP3	STEP4
Indoor unit power source	②OFF	④ON	—	—
Heat source unit power source	①OFF	④ON	—	—
Indoor unit (indoor/heat source No.SW)	②indoor000/heat source 49 (factory setting)	—	—	—
Heat source unit (heat source No.SW)	①01,03(Ex)	—	—	—
Network connectors	③Disconnect (each heat source unit)	—	—	⑨Connect(each heat source unit)
Start automatic address setting		⑤ Select "Automatic Address Start" on each heat source unit.	—	—
Set starting address		⑥heat source 01:「01」(Ex) heat source 03:「04」(Ex)	—	—
Set the number of indoor unit		⑦heat source 01:「03」(Ex) heat source 03:「03」(Ex)	—	—
Polarity setting		—	—	⑩ Set in P34 on the 7-segment display panel of any heat source unit.
7-segment display		⑦ 「AUX」(Blink)	⑧ "AUE"(blink), or "A○○" in error events.	⑪ 「End」

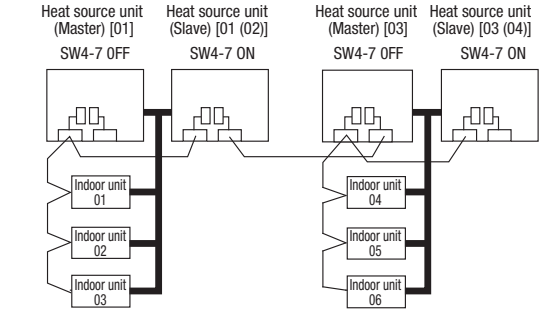
[STEP1]



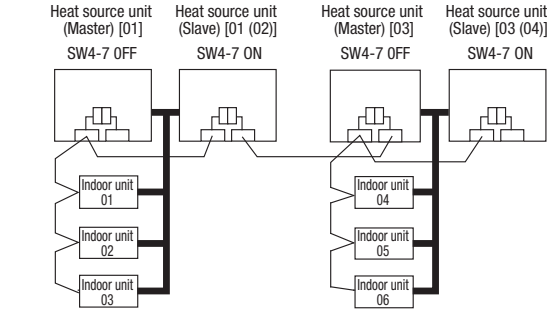
[STEP2]



[STEP3]



[STEP4]



- Within a refrigerant system, indoor units are assigned addresses in the order they are recognized by the heat source unit. Therefore, they are not necessarily assigned addresses in order from the nearest to the heat source unit first as depicted in drawings above.
- Make sure that power has been turned on to all indoor units.
- When addresses are set, you can have the registered indoor unit address No. and the heat source unit address No. displayed on the remote control unit by pressing its CHECK button.
- Automatic address setting can be used for an installation in which prulal indoor units are controlled from one remote control unit.
- Once they are registered, addresses are stored in microcomputers, even if power is turned off.
- If you want to change an address after automatic address setting, you can change it from the remote control unit with its “Address Change” function or by means of manual setting. Set a unique address by avoiding the address assigned to other indoor unit on the network when the address is changed.
- Do not turn on power to centralized control equipment until automatic address setting is completed.
- When addresses are set, be sure to perform a test run and ensure that you can operate all indoor and heat source units normally. Also check the addresses assigned to the indoor units.

Address change (available only with new SL)

“Address Change” is used, **when you want to change an indoor unit address assigned with the “Automatic Address Setting” function from a remote control unit**. Accordingly, the conditions that permit an address change from a remote control unit are as follows.

	Indoor unit address setting		Heat source unit address setting
	Indoor No.SW	Heat source No.SW	Heat source No.SW
Automatic address setting forsingle refrigerant system installation	000	49	49
Automatic address setting for multiple refrigerant systems installation	000	49	00 - 31

If “CHANGE ADD. ▼” is selected with some addresses falling outside these conditions, the following indication will appear for 3 seconds on the remote control ”INVALID OPER” .

Operating procedure

When the eco touch remote control is connected, refer to the installation setting in the installation manual which is packed along with the remote control.

(1) When single indoor unit is connected to the remote control.

	Item	Operation	Display
1	Address change mode	① Press the AIR CON No. switch for 3 seconds or longer.	[CHANGE ADD.▼]
		② Each time when you press the ▲▼ switch, the display indication will be switched.	[CHANGE ADD.▼] ⇔[MASTER I/U▲]
		③ Press the SET switch when the display shows "CHANGE ADD. ▼" and then start the address change mode, changing the display indication to the "Indoor Unit No. Setting" screen from the currently assigned address.	[I/U 001 O/U 01] (1sec) →[▲▼ SET I/U ADD.] (1sec) →[I/U 001 ▲▼] (Blink)
2	To set a new indoor unit No.	④ Set a new indoor unit No. with the ▲▼ switch. A number indicated on the display will increase or decrease by 1 upon pressing the ▲ or ▼ switch respectively.	[I/U 000▲] ⇔[I/U 001 ▲▼] ⇔[I/U 002 ▲▼] ⇔ ・・・ ⇔[I/U 127▼]
		⑤ After selecting an address, press the SET switch, and then the indoor unit address No. is defined.	[I/U 002] (2sec)
3	To set a new heat source unit No.	⑥ After showing the defined indoor address No. for 2 seconds, the display will change to the "heat source Address No. Setting" screen. The currently assigned address is shown as a default value.	[I/U 002] (2sec Lighting) →[▲▼SET O/U ADD.] (1sec) →[O/U 01 ▲▼] (Blink)
		⑦Set a new heat source unit No. with the ▲▼ switch. A number indicated on the display will increase or decrease by 1 upon pressing the ▲ or ▼ switch respectively.	[O/U 00▲] ⇔[O/U 01 ▲▼] ⇔[O/U 02 ▲▼] ⇔ ・・・ ⇔[O/U 31▼]
		⑧ After selecting an address, press the SET switch, and then the heat source unit No. and the indoor unit No. are defined.	[I/U 002 O/U 02] (2sec Lighting) →[SET COMPLETE] (2sec Lighting) →Returns to normal condition.

(2) When plural indoor units are connected to the remote control.

When plural indoor units are connected, you can change their addresses without altering their cable connection.

	Item	Operation	Display
1	Address change mode	① Press the AIR CON Unit No. switch for 3 seconds or longer.	[CHANGE ADD▼]
		② Each time when you press the ▲▼ switch, the display indication will be switched.	[CHANGE ADD▼] ⇔[MASTER I/U▲]
		③ Press the SET switch when the display shows "CHANGE ADD. ▼" The lowest indoor unit No. among the indoor units connected to the remote control unit will be shown.	[▲▼SELECT I/U] (1sec) →[I/U 001 O/U 01▲] (Blink)
2	Selecting an indoor unit to be changed address	④ Pressing the ▲▼ switch will change the display indication cyclically to show the unit No.'s of the indoor units connected to the remote control and the unit No.'s of the heat source units connected with them.	[I/U 001 O/U 01▲] ⇔[I/U 002 O/U 01 ▲▼] ⇔[I/U 003 O/U 01 ▲▼] ⇔ ・・・ ⇔[I/U 016 O/U 01▼]
		⑤ Then the address No. of the indoor unit to be changed is determined and the screen switches to the display " ▲▼ SET I/U ADD."	[▲▼ SET I/U ADD.] (1sec) →[I/U 001 ▲▼](Blink)
3	Setting a new indoor unit No.	⑥ Set a new indoor unit No. with the ▲▼ switch. A number indicated on the display will increase or decrease by 1 upon pressing the ▲ or ▼ switch respectively.	[I/U 000▲] ⇔[I/U 001 ▲▼] ⇔[I/U 002 ▲▼] ⇔ ・・・ ⇔[I/U 127▼]
		⑦ After selecting an address, press the SET switch. Then the address No.of the indoor unit is determined.	[I/U 002] (2sec)
4	Setting a new heat source unit No.	⑧ The display will indicate the determined indoor address No. for 2 seconds and then switch to the " ▲▼ SET O/U ADD." screen. A default value shown on the display is the current address.	[I/U 002] (2sec lighting) ⇔[▲▼ SET O/U ADD.](1sec) ⇔[O/U 01 ▲▼] (Blink)
		⑨ Set a new heat source unit No. with the ▲▼ switch. A number indicated on the display will increase or decrease by 1 upon pressing the ▲ or ▼ switch respectively.	[O/U 00▲] ⇔[O/U 01 ▲▼] ⇔[O/U 02 ▲▼] ⇔ ・・・ ⇔[O/U 31▼]
		⑩ After selecting an address, press the SET switch. Then the address of the indoor unit and heat source unit are determined.	[I/U 002 O/U 02](2sec lighting) →[▲▼ SELECT](1sec lighting) →[I/U SELECTION▼](lighting)
		⑪ If you want to continue to change addresses, return to step ④.	[Press the ▲▼switch](1sec) →[SET COMPLETE] (2-10sec lighting)
5	Ending the session	⑫ If you want to end the session (and reflect new address settings) In Step ⑩, press the ▼ switch to select "END ▲." If you have finished changing addresses, press the SET switch while "END ▲" is shown. While new settings are being transmitted, "SET COMPLETE" will be indicated. Then the remote control display will change to the normal state.	[END▲] →[SET COMPLETE] (2-10sec lighting) →Normal state
		⑬ If you want to end the session (without reflecting new address settings) Before you complete the present address setting session, press the "ON/OFF" switch. Then the display is change to exit from this mode and switch the display to the normal state. All address settings changed in the session will be aborted and not reflected.	[ON/OFF] →Forced termination

The ▲▼switch will continuously change the display indication to the next one in every 0.25 seconds when it is pressed for 0.75 seconds or longer.
If the Reset switch is pressed during an operation, the display indication returns to the one that was shown before the last Set switch operation.
Even if an indoor unit No. is changed in this mode, the registered indoor unit No. before address change mode is displayed when [I/U SELECTION▼] is shown.
When "SET COMPLETE" is shown, indoor unit No. is registered.

NOTICE Turn on power to centralized control equipment after the addresses are determined.
Turning on power in wrong order may result in a failure to recognize addresses.

● 7-segment display indication in automatic address setting

Items that are to be set by the customer

Code	Contents of a display
P30	Communication protocol 0: Previous SL mode 1: New SL mode (The communication plotocol is displayed ; display only)
P31	Automatic address start
P32	Input starting address Specify a starting indoor unit address in automatic address setting.
P33	Input number of connected indoor units Specify the number of indoor units connected in the refrigerant system in automatic address setting.
P34	Polarity difinition 0: Network polarity not defined. 1: Network polarity defined.

7-segment display indication in automatic address setting.

Code	Contents of a display
AUX	During automatic address setting. X: The number of indoor units recognized by the heat source unit.
AUE	Indoor unit address setting is completed normally.
End	Polarity is defined. (Automatic address) Completed normally.

Address setting failure indication

Code	Contents of a display	Please check
A01	The number of the indoor units that can be actually communicated with is less than the number specified in P33 on the 7-segment display panel.	Are signal lines connected properly without any loose connections? Input the number of connected indoor units again.
A02	The number of the indoor units that can be actually communicated with is more than the number specified in P33 on the 7-segment display panel.	Are signal lines connected properly without any loose connections? Are the network connectors coupled properly? Input the number of connected indoor units again.
A03	Starting address (P32) + Number of connected indoor units (P33) > 128	Input the starting address again. Input the number of connected indoor units again.
A04	While some units are operating in the previous SL mode on the network, the automatic address setting on multiple refrigerant systems is attempted.	Perform manual address setting. Separate previous SL setting unit from the network Arrange all units to operate in the new SL.

Error indication

Code	Contents of a display	Cause
E31	Duplicating heat source unit address.	Plural heat source units are exist as same address in same network.
E46	Incorrect setting.	Automatic address setting and manual address setting are mixed.

7-2. Control mode switching

Controls of heat source unit may be selected as follows using the dip switches on the PCB and P○○ on the 7-segment.
To change P○○ on the 7-segment, hold down SW8 (increasing a number shown on the 7-segment display panel: one's place), SW9 (increasing a number shown on the 7-segment display panel: tens place) and SW7 (Data write/Enter).

Control selecting method		Content of control
SW setting on PCB	P○○ on 7-segment	
SW3-7 to ON *1	Set external input function allocation to "2" *1	Forced cooling/heating operation mode (It can be fixed at cooling with external input terminals open, or at heating with them closed.)
SW5-1 to ON + SW5-2 to ON	—	Cooling test run
SW5-1 to ON + SW5-2 to OFF	—	Heating test run
Close the fluid operation valve on heat source unit and set as follows: (1) SW5-2 on PCB to ON (2) SW5-3 on PCB to ON (3) SW5-1 on PCB to ON	—	Pump down operation
SW4-5:OFF, SW4-6:OFF*1 80% (at shipping) SW4-5:ON , SW4-6:OFF*1 60% SW4-5:OFF, SW4-6:ON*1 40% SW4-5:ON , SW4-6:ON*1 00%	Set allocation of external input function to "1" *1	Inputting signals to external input terminals selects the demand mode. (J13 shorted: Level input, J13 open: Pulse input)
SW5-5	—	Communication method selection ON: Previous SL communication, OFF: New SL communication
J13: Shorted (at shipping), J13: Open	—	External input switing (CnS1, CnS2 only) shorted : Level input, Open: Pulse input
—	P01	Operation priority select 0: First push preferred (at shipping) 1: Last push preferred
—	P04	2 stage demand mode *2 OFF: Disabled (at shipping) 000, 040, 060, 080 [%]
—	P05	Silent mode setting 0 (at shipping) – 3 : Larger values for large effect
—	P06	Allocation of external output (CnZ1)
—	P07	Allocation of external input (CnS1)
—	P08	Allocation of external input (CnS2)
—	P09	Allocation of external input (CnG1)
—	P10	Allocation of external input (CnG2)

*1 Control is switched when both the allocation of external input function (P07-10) and SW are changed.
(Example: To use CnS1 for the input of forced cooling/heating operation mode, set P07 at 2 and SW3-7 at ON. To use CnS2 for the input of forced cooling/heating operation mode, set P08 at 2 and SW3-7 at ON.)

*2 To enable the 2 stage demand mode, set J13 shorted and allocation of external input function to "1".

By changing the allocation of external input functions (P07-10) on the 7-segment, functions of external input terminals may be selected. Inputting signals to external input terminals enable the following functions.

Setting value for allocation of external input function	With external input terminals shorted	With external input terminals open
"0" : External operation input	Allowing	Prohibition
"1" : Demand input	Invalid	Valid
"2" : Cooling/heating forced input	Heating	Cooling
"3" : Silent mode	Valid	Invalid
"6" : Test run external input 1 (equivalent to SW5-1)	Test run start	Normal
"7" : Test run external input 2 (equivalent to SW5-2)	Cooling	Heating
"9" : 2 stage demand input	Invalid	Valid

By changing the allocation of external output function (P06) on the 7-segment, functions of external output terminal (CnZ1) may be selected.

"0" : Operation output
"1" : Error output
"2" : Compressor ON output

7-3. External input and output terminals specifications

Name	Purpose (at shipping)	Specification	Operating side connector
External input CnS1	External operation input (Shorted at shipping)	Non-voltage contactor (DC12V)	J. S. T (NICHIATSU) B02B-XAMK-1 (LF) (SN)
External input CnS2	Demand input (Shorted at shipping)	Non-voltage contactor (DC12V)	J. S. T (NICHIATSU) B02B-XARK-1 (LF) (SN)
External input CnG1	Cooling / Heating forced input (Open at shipping)	Non-voltage contactor (DC12V)	J. S. T (NICHIATSU) B02B-XAEK-1 (LF) (SN)
External input CnG2	Silencing mode input (Open at shipping)	Non-voltage contactor (DC12V)	J. S. T (NICHIATSU) B02B-XASK-1 (LF) (SN)
External output CnZ1	Spare output (External output)	DC12V output	MOLEX 5566-02A-RE
External output CnH	Operation output	DC12V output	MOLEX 5286-02A-BU
External output CnY	Error output	DC12V output	MOLEX 5266-02A

8. TEST OPERATION AND TRANSFER

8-1. Before starting operation

(1) **Make sure that a measurement between the power source terminal block and ground, when measured with a 500V megger, is greater than 1 MΩ.**
When the unit is left for a long time with power OFF or just after the installation, there is possibility that the refrigerant is accumulated in the compressor and the insulation resistance between the contact terminals for power source and grounding decreases to 1MΩ or around.
When the insulation resistance is 1MΩ or less, the insulation resistance will rise with crank case heater power ON for 6 hours or more because the refrigerant in the compressor is evaporated.

(2) Please check the resistance of the signaling wire terminal block before power is turned on. If a resistance measurement is 100Ω or less, it suggests a possibility that power cables are connected to the signaling wire terminal block. (Please refer to Section 6-3. Standard resistance value.)

(3) **Be sure to turn on the crank case heater 6 hours before operation.**

(4) **Make sure that the bottom of the compressor casing is warm.** (higher than ambient temperature +5°C)

(5) Be sure to fully open the operation valves (liquid,gas and Equalizen oil piping (for a combined installation only)) for the outdoor unit.
Operating the outdoor unit with the valves closed may damage the compressor.

(6) **Check that the power to all indoor units has been turned on. If not, water leakage may occur.**

(7) Run the circulating water pump, and confirm that the water temperature and flow rate are within the limitation for use.

> **CAUTION**
> Please make sure that the operation valves (gas, liquid, oil equalization pipe (for a combined installation only)) are full open before a test run. Conducing a test run with any of them in a closed position can result in a compressor failure.

8-2. Check operation

It is recommended to practice the check operation in precedent to the test run.
[Even if the check operation is not practiced, the test run and normal operations can be performed.]
For further details regarding the check operation refer to the technical data.

Important

- Practice the check operation after completing the address setting for the indoor and heat source units and also after charging the refrigerant.
- To assure accurate checking, proper amount of refrigerant must be retained.
- Check operation cannot be done when the system is stopped by an error.
- Check operation cannot be done when the total capacity of connected indoor units is less than 80% of the heat source unit capacity.
- Check operation cannot be done when the system communication method is previous SL.
- Don't perform the check operation simultaneously on more than one refrigerant line. Accurate checking cannot be obtained.
- Practice the check operation within the operation temperature ranges (Ambient temperature: 0 – 40°C, room temperature: 10 – 32°C). Check operation will not start out of these ranges.
- Outdoor air processing unit cannot be checked. (It is possible to check indoor units other than the outdoor air processing unit of the same refrigerant line.)
- It is impossible to check operation when connecting only one indoor unit.
- It is impossible to check operation when demand rate is setting 0%.
- If the compressor under dome superheat degree is lower than 15°C, check operation may not work with a protective control.
- Be sure to turn on the crank case heater 6 hours before check operation.

(1) **Check items**

Check operation allows proving the following points.

- Whether or not the operation valve is left open (Operation valve open/close check). (In case of combination, however, all operation valves need to be closed on master and slave units to obtain accurate judgment.)
- Whether or not the refrigerant pipes and signal cables are connected properly between indoor and heat source units. (Mismatch check)
- Whether or not the indoor expansion valve operates properly. (Expansion valve failure check)

(2) **Method of check operation**

(a) Starting the check operation

- Confirm that all of the following switches are turned OFF: SW3-7 (Forced cooling/heating operation mode), SW5-1 (Test run), SW5-2 (Test run cooling setting) and SW5-3 (Pump-down operation). (In case of combination, on both master and slave units)
- At the next, turn the SW3-5 (Check operation) OFF →ON (only on master unit in case of combination) so that the check operation will start.
- It takes 15 – 30 minutes normally (max. 80 min) from the start to the end of check operation.

(b) End the check operation and the result display

- When the check operation is over, the system stops automatically. The 7-segment indicator shows the result (only on master unit in case of combination).

<Normal ending>

- 7-segment indicator shows "CHO End".
- Return the SW3-5 to OFF. The 7-segment indicator returns to normal display.

<Abnormal ending>

- 7-segment indicator shows an error alarm.
- Referring to the section [Inspect here], repair the faulty section and return the SW3-5 to OFF.
- At the next, repeat the check operation from the Step (2) above.

Display on 7-segent indicator during check operation

Code indicator	Data indicator	Display contents
H1	Max. remaining time	Check operation preparation on. Indicates max. remaining time (min). (In case of combination, indicated on master unit only.)
H2	Max. remaining time	Check operation on. Indicates max. remaining time (min). (In case of combination, indicated on master unit only.)
CHO	End	Normal ending of check operation. (In case of combination, indicated on master unit only.)

Error display on 7-segment indicator after ending the check operation

Code indicator	Data indicator	Display contents	Check following points
CHL	– – –	Operation valve is closed. (Refrigerant circuit is shut off partially.)	・Isn't the operation valve of heat source unit left open? ・Is the low pressure sensor normal? (Detected pressure can be seen on the 7-segment indicator.) ・Is the connector of indoor unit expansion valve coil connected? ・Isn't the indoor unit expansion valve coil disconnected from the expansion valve body? ・Is the indoor unit heat exchanger sensor normal? (Check if the sensor is disconnected.)
CHU	Abnormal indoor unit No.	Mismatch between refrigerant pipes and signal cables. Refrigerant is not circulated to the indoor unit of which No. is displayed.	・Are the refrigerant pipes and signal cables connected properly between the indoor and heat source units? ・Is the connector of indoor unit expansion valve coil connected? ・Isn't the indoor unit expansion valve coil disconnected from the expansion valve body? ・Is the indoor unit heat exchanger sensor normal? (Check if the sensor is disconnected.)
CHJ	Abnormal indoor unit No.	Expansion valve on the indoor unit of which No. is displayed is not operating properly.	・Is the connector of indoor unit expansion valve coil connected? ・Isn't the indoor unit expansion valve coil disconnected from the expansion valve body? ・Is the indoor unit heat exchanger sensor normal? (Check if the sensor is disconnected.)
CHE	– – –	Abnormal ending of check operation.	・Isn't any error displayed (E??) on the indoor unit or heat source unit? ・Are signal cables connected without play? ・Hasn't the SW setting been changed during the check operation?

※ When any error is detected, errors other than those listed above may be displayed. In such occasion, refer to the separate technical data.

8-3. Test operation

(1) Test run from a heat source unit.

Whether external inputs are set to ON or OFF, you can start a test run by using the SW5-1 and SW5-2 switches provided on the heat source unit board.
Select the test run mode first.
Please set SW5-2 to ON for a cooling test run or OFF for a heating test run. (It is set to OFF at the factory for shipment)
Turning SW5-1 from OFF to ON next will cause all connected indoor units to start.
When a test run is completed, please set SW5-1 to OFF.
Note: During a test run, an indoor unit cannot be operated from the remote control unit (to change settings). ("Under centralized control" is indicated)

(2) Method of starting a test run for a cooling operation from a heat source unit: please operate a remote control unit according to the following steps.

(a) Start of a cooling test run
○Operate the unit by pressing the START/STOP button.
○Select the "COOLING" mode with the MODE button.
○Press the TEST RUN button for 3 seconds or longer.
The screen display will be switched from "Select with ITEM▲▼"→"Determine with SET"→"Cooling test run▼."
○When the SET button is pressed while "Cooling test run▼ " is displayed, a cooling test run will start. The screen display will be switched to "COOLING TEST RUN."

(b) Termination of a cooling test run
○When the START/STOP button or the "TEMP SET ▽△" button is pressed, a cooling test run will be terminated.

Notes : for engineers undertaking piping or electrical installation work

When a test run is completed, please make sure again that the electrical component box cover and the main body panel have been attached before you turn the unit over to the customer.

8-4. TRANSFER

○Use the instruction manual that came with the heat source unit to explain the operation method to the customer.
Please ask the customer to keep this installation manual together with the operation manual of his indoor units.
○Instruct the customer that the power should not be turned off even if the unit is not to be used for a long time. This will enable operation of the air conditioner any time.
(Since the compressor bottom is warmed by the crank case heater, seasonal compressor trouble can be prevented.)

9. CAUTIONS FOR SERVICING (for R410A and compatible machines)

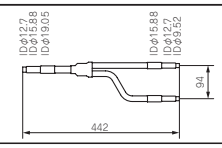
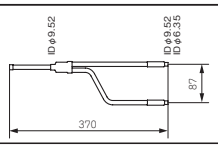
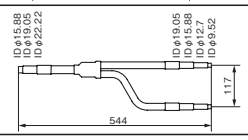
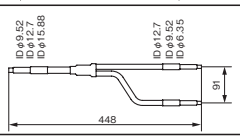
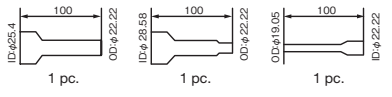
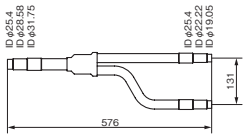
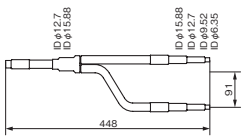
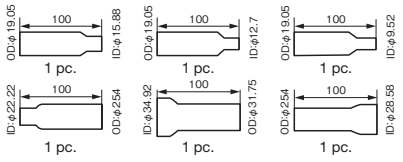
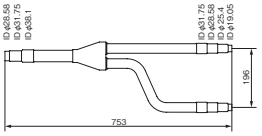
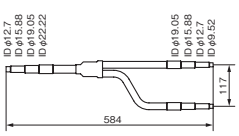
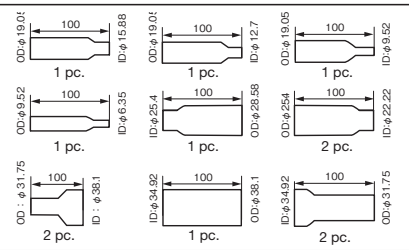
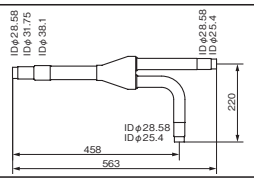
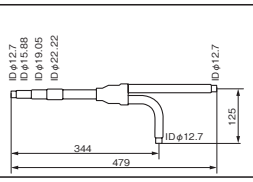
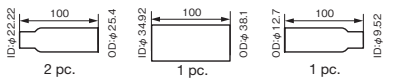
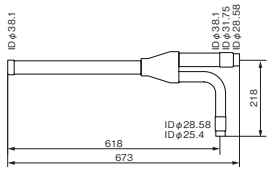
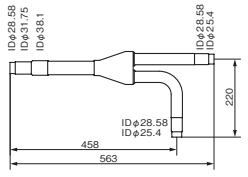
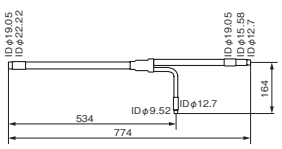
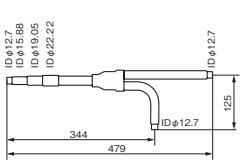
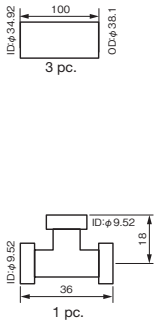
(1) To avoid mixing of different types of oil, use separate tools for each type of refrigerant.
(2) To avoid moisture from being absorbed by the refrigerant oil, the time for when the refrigerant circuit is open should be kept as short as possible. (Within 10 min. is ideal.)
(3) For other piping work, airtighteness testing , vacuuming, and refrigerant charging, refer to section 5, Refrigerant piping.
(4) Diagnostic Inspection Procedures
For the meanings of failure diagnosis messages, please refer to the nameplate provided on the unit (on the control lid)
(5) 7-segment LED indication
Data are indicated when so chosen with the indication selector switch. For the details of indication, please refer to the cable name plate attached on the unit. (On the control lid)
(6) Internal wiring
After maintenance, all wiring, wiring ties and the like, should be returned to their original state and wiring route, and the necessary clearance from all metal parts should be secured.
(7) When it becomes necessary to recover the refrigerant for maintenance or in the event of the pump-down operation for removal or relocation of the heat source unit, drain water completely from the water heat exchanger or continue to circulate heat source water.
There is a risk of puncture on the water heat exchanger, if water freezes.
(8) Confirm at periodic inspections that the temperature, flow rate and quality of heat source water are within the limitation for use.

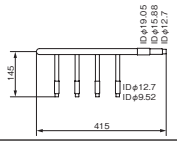
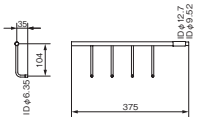
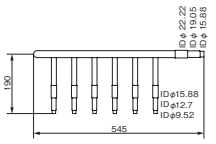
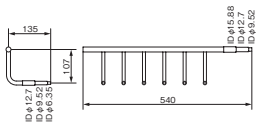
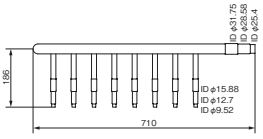
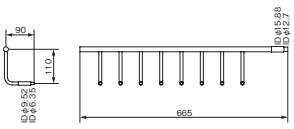
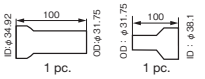
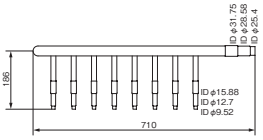
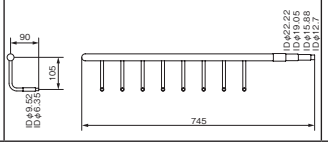
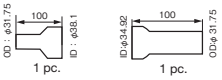
5.2 Instructions for installing the branch pipe set

PSB012D855D

◎ This manual describes the specifications of branching pipe set and header set installation. For heat source unit installation and indoor unit installation, please refer to the respective installation manuals supplied with your heat source unit and indoor unit.
◎ Before you set about installation work, please read this manual carefully so that you can carry out installation work according to the instructions contained herein.
● Please read the safety instructions contained in the installation manual supplied with your heat source unit carefully and carry out installation work unerringly.
● When installation work is completed, conduct a test run to check the installation for any anomaly. Please also give the customer necessary instructions as to the operation and maintenance of the unit pursuant to the instruction manual (supplied with the indoor unit).
● Please ask the customer to keep the installation manual on the customer's part together with the instruction manual.

PARTS LIST

Branching pipe set type		Gas side	Liquid side	Different diameter pipe joint
Branching pipe set	DIS-22-1G			None
	DIS-180-1G			
	DIS-371-1G			
	DIS-540-3			
Outdoor (Heat source) unit's branching pipe set	DOS-2A-3			
	DOS-3A-3	Branch pipe 1  Branch pipe 2 	Branch pipe 1  Branch pipe 2 	

Branching pipe set type	Gas side	Liquid side	Different diameter pipe joint
HEAD4-22-1G			None
HEAD6-180-1G			
HEAD8-371-2			
HEAD8-540-3			

INSTALLATION PROCEDURE

(1) Please select an appropriate branching pipe set model and a pipe size by consulting with the installation manual of the indoor unit or other relevant technical documents.

Attention

① Use a pipe conforming to a pipe size specified for indoor unit connection for the section between an indoor unit and a branching pipe.

② Use a pipe conforming to a pipe size specified for heat source unit connection for the section between heat source unit's branching pipe and heat source unit.

(2) Cut a branching pipe set or a different diameter joint with a pipe cutter to make it fit for a selected pipe size before application.

Attention

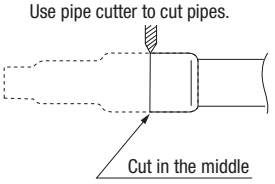
① In cutting pipes, always use a pipe cutter. Remove burrs from a cut end when you cut a pipe. In doing so, keep a cut end downward so that no chips or burrs may enter the pipe.

② Take utmost care so that no foreign matter such as dust or water may enter piping during installation work.

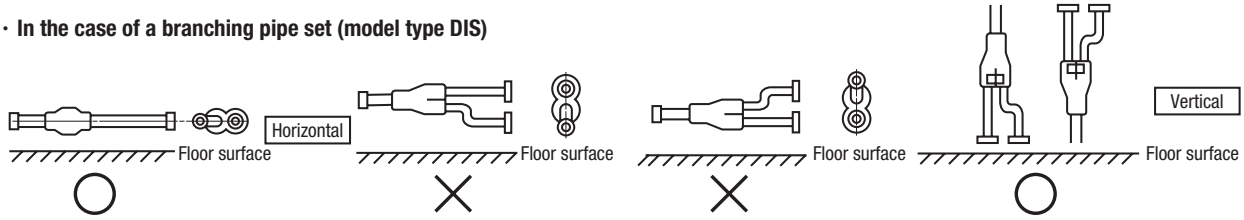
- Please cover all the open ends of piping until installation work is completed. Particularly, any openings in the section of piping laid outdoors should be sealed stringently.
- As long as possible, avoid open ends left facing upward. Make them face either horizontally or downward.

③ A branching joint (for both gas and liquid) must always be positioned in such a way that it branches either horizontally or vertically.

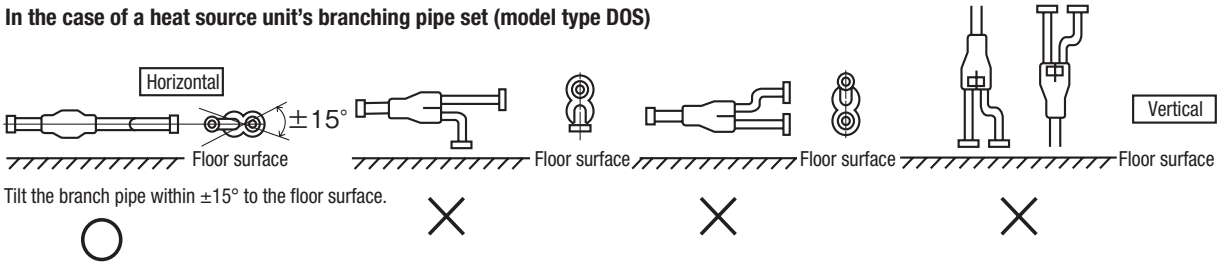
Use pipe cutter to cut pipes.



- **In the case of a branching pipe set (model type DIS)**

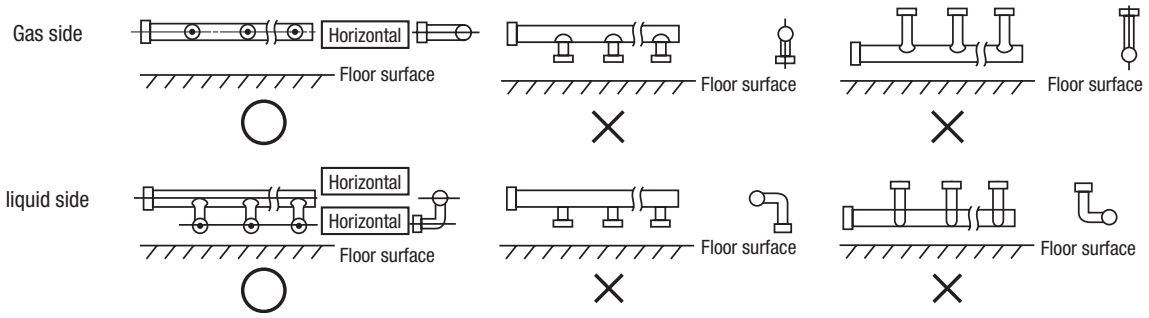


- **In the case of a heat source unit's branching pipe set (model type DOS)**

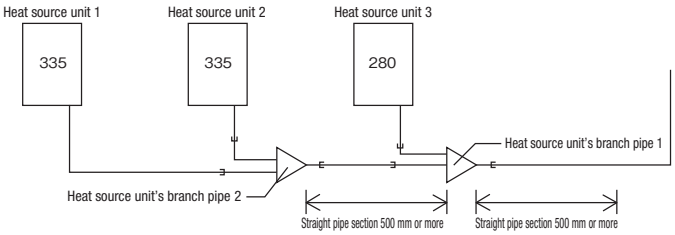


Tilt the branch pipe within ±15° to the floor surface.

・**In the case of a header set (model type HEAD)**



④ When using the heat source unit's branch pipe set, make sure to secure a straight section of 500 mm or more for both the gas and liquid pipes before branching them.



⑤ Always apply nitrogen gas when soldering joints. If nitrogen gas is not applied, a large amount of film oxide will be formed which could lead to a critical failure in the unit. Use caution to prevent moisture or any foreign matters from entering the pipe when connecting pipe ends.

For the method of air tightness testing and pulling air, please refer to the installation manual of the heat source unit.

⑥ Do not leave piping with any open ends uncovered to prevent water or foreign matters from entering inside.

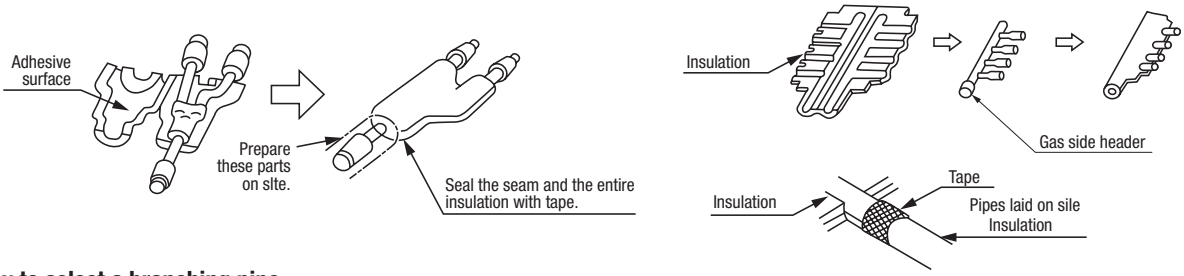
(3) Please dress it with an attached insulation sheet for heat insulation. (Please dress both liquid and gas sides)

Attention

① A1pply an attached insulation sheet along a pipe, tape the joining line with a joint tape (to be procured on the installer's part) for complete sealing, and wrap the pipe and insulation sheet entirely with a tape.

② Dress both liquid and gas pipes with attached insulation sheets for heat insulation.

③ Ensure that the liquid pipe is given the heat insulation as good as that of the gas pipe. The absence of heat insulation can cause dripping water from dew condensing on the pipe or performance degradation.



(4) How to select a branching pipe

(1) Method to select a branch pipe set (Type DIS)

● An appropriate branching pipe size varies depending on the capacity of connected indoor units (combined total capacity connected downstream), so please choose from the table below.

● In the case of a 140/160 (5/6HP) outdoor unit, however, select DIS-22-1G. (Even if the capacity of connected indoor units reaches 180 or higher, select DIS-22-1G.)

Total capacity downstream	Branching pipe set model type
less than 180	DIS-22-1G
180 or higher – less than 371	DIS-180-1G
371 or higher – less than 540	DIS-371-1G
540 or more	DIS-540-3

Attention

① Use a pipe conforming to a pipe size specified for indoor unit connection for the section between an indoor unit and an indoor unit side branching pipe.

② A branching joint (for both gas and liquid) must always be positioned in such a way that it branches either horizontally or vertically.

(2) How to select a header set

● Depending on the number of units connected, connect plugged pipes (to be procured on the installer's part) at a branching point (on the indoor unit connection side).

● For the size of a plugged pipe, please refer to the documentation for a header set (optional part).

● In the case of a 140/160 (5/6HP) outdoor unit, however, select HEAD4-22-1G. (Even if the capacity of connected indoor units reaches 180 or higher, select HEAD4-22-1G.)

Total capacity downstream	Header set model type	Number of branches
less than 180	HEAD4-22-1G	Up to 4 branches
180 or higher – less than 371	HEAD6-180-1G	Up to 6 branches
371 or higher – less than 540	HEAD8-371-2	Up to 8 branches
540 or more	HEAD8-540-3	Up to 8 branches

Attention

① Use a pipe conforming to a pipe size specified for indoor unit connection for the section between a header and an indoor unit.

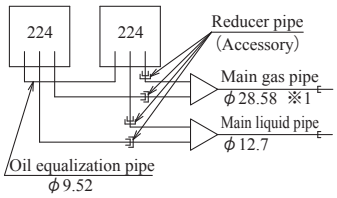
② Always position a header (both gas and liquid headers) in such a way that it branches horizontally.

③ No 224 or 280 indoor unit is connectable to a header.

(5) Example of piping

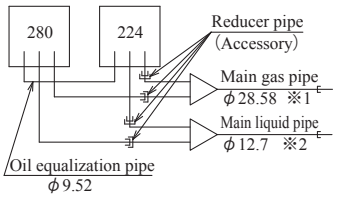
(a) Combination use

FDC450KXZWE1
Combination：FDC224KXZWE1＋FDC224KXZWE1
［Branching pipe set:DOS-2A-3］



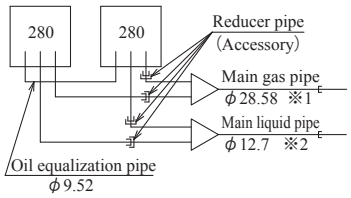
If the longest distance is 90m or longer (actual length)
※1 ϕ31.75 (ϕ28.58)

FDC500KXZWE1
Combination：FDC224KXZWE1＋FDC280KXZWE1
［Branching pipe set:DOS-2A-3］



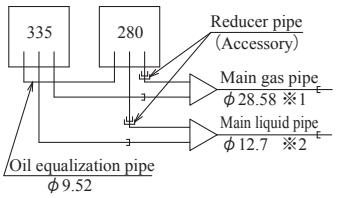
If the longest distance is 90m or longer (actual length)
※1 ϕ31.75 (ϕ28.58), ※2 ϕ15.88

FDC560KXZWE1
Combination：FDC280KXZWE1＋FDC280KXZWE1
［Branching pipe set:DOS-2A-3］



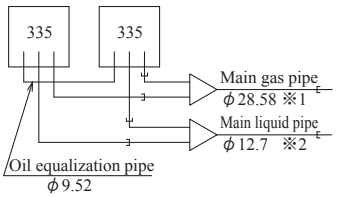
If the longest distance is 90m or longer (actual length)
※1 ϕ31.75 (ϕ28.58), ※2 ϕ15.88

FDC615KXZWE1
Combination：FDC280KXZWE1＋FDC335KXZWE1
［Branching pipe set:DOS-2A-3］



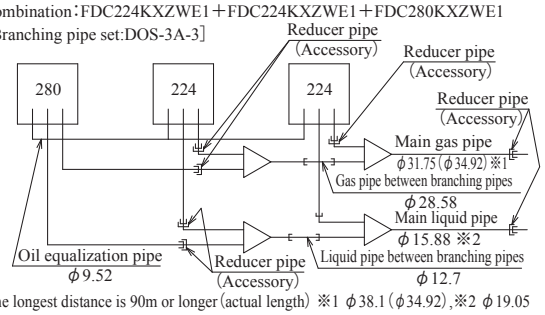
If the longest distance is 90m or longer (actual length)
※1 ϕ31.75 (ϕ28.58), ※2 ϕ15.88

FDC670KXZWE1
Combination：FDC335KXZWE1＋FDC335KXZWE1
［Branching pipe set:DOS-2A-3］



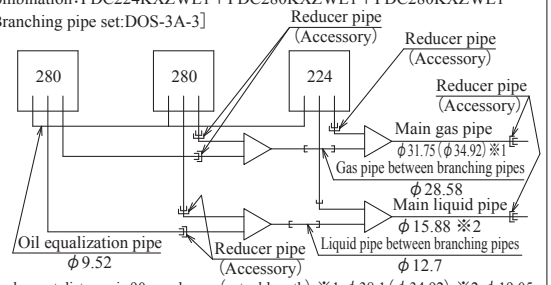
If the longest distance is 90m or longer (actual length)
※1 ϕ31.75 (ϕ28.58), ※2 ϕ15.88

FDC730KXZWE1
Combination：FDC224KXZWE1＋FDC224KXZWE1＋FDC280KXZWE1
［Branching pipe set:DOS-3A-3］



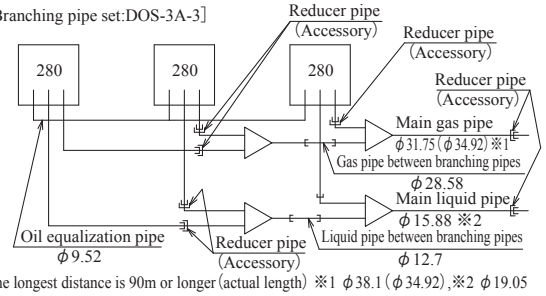
If the longest distance is 90m or longer (actual length) ※1 ϕ38.1 (ϕ34.92), ※2 ϕ19.05

FDC775KXZWE1
Combination：FDC224KXZWE1＋FDC280KXZWE1＋FDC280KXZWE1
［Branching pipe set:DOS-3A-3］



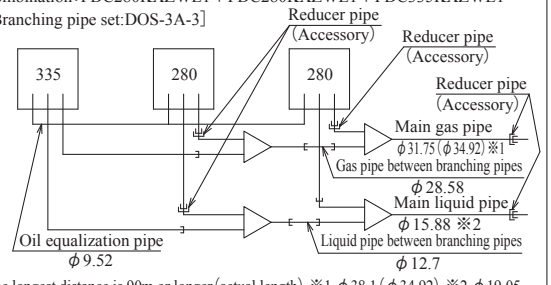
If the longest distance is 90m or longer (actual length) ※1 ϕ38.1 (ϕ34.92), ※2 ϕ19.05

FDC850KXZWE1
Combination：FDC280KXZWE1＋FDC280KXZWE1＋FDC280KXZWE1
［Branching pipe set:DOS-3A-3］



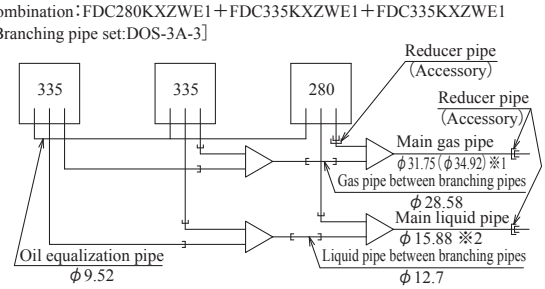
If the longest distance is 90m or longer (actual length) ※1 ϕ38.1 (ϕ34.92), ※2 ϕ19.05

FDC900KXZWE1
Combination：FDC280KXZWE1＋FDC280KXZWE1＋FDC335KXZWE1
［Branching pipe set:DOS-3A-3］



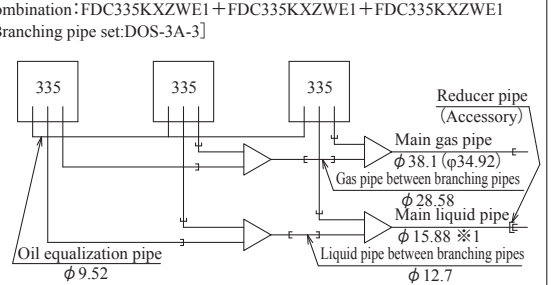
If the longest distance is 90m or longer (actual length) ※1 ϕ38.1 (ϕ34.92), ※2 ϕ19.05

FDC950KXZWE1
Combination：FDC280KXZWE1＋FDC335KXZWE1＋FDC335KXZWE1
［Branching pipe set:DOS-3A-3］



If the longest distance is 90m or longer (actual length) ※1 ϕ38.1 (ϕ34.92), ※2 ϕ19.05

FDC1000KXZWE1
Combination：FDC335KXZWE1＋FDC335KXZWE1＋FDC335KXZWE1
［Branching pipe set:DOS-3A-3］



If the longest distance is 90m or longer (actual length) ※1 ϕ19.05

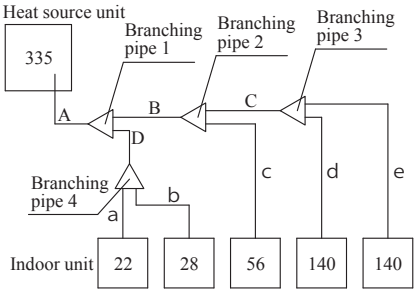
Refrigerant piping size applicable to European installations are shown in parentheses.

PCB003Z847

(b) Heat source unit connection

Example 1：Branch system

Connecting capacity：386



Selecting piping size

Item	Selection procedure	Piping size		Selection table of PCB003Z847
		Gas pipe	Liquid pipe	
A	If the longest distance is less than 90m (actual length)	φ25.4 (φ22.22)	φ12.7	Table 1 and table 3
	If the longest distance is 90m or longer (actual length)	φ25.4 (φ22.22)	φ12.7	
B	Downstream indoor unit capacity total (56+140+140) =336	φ19.05	φ12.7	Table 4
C	Downstream indoor unit capacity total (140+140) =280	φ19.05	φ12.7	Table 4
D	Downstream indoor unit capacity total (22+28) =50	φ12.7	φ9.52	Table 4
a	Indoor unit piping size (22)	φ9.52	φ6.35	Table 5
b	Indoor unit piping size (28)	φ9.52	φ6.35	Table 5
c	Indoor unit piping size (56)	φ12.7	φ6.35	Table 5
d	Indoor unit piping size (140)	φ15.88	φ9.52	Table 5
e	Indoor unit piping size (140)	φ15.88	φ9.52	Table 5

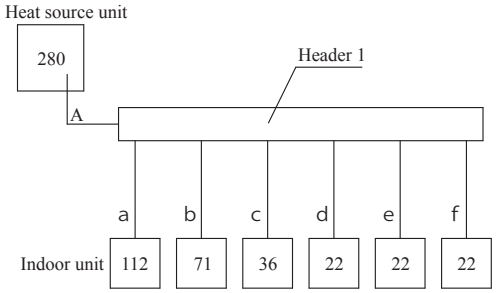
Selection of branching pipe set. (Than table 7 of PCB003Z847)

Item	Selection procedure	Branching pipe set
Branching pipe 1	Downstream indoor unit capacity total (22+28+56+140+140) =386	DIS-371-1G
Branching pipe 2	Downstream indoor unit capacity total (56+140+140) =336	DIS-180-1G
Branching pipe 3	Downstream indoor unit capacity total (140+140) =280	DIS-180-1G
Branching pipe 4	Downstream indoor unit capacity total (22+28) =50	DIS-22-1G

Refrigerant piping size applicable to European installations are shown in parentheses.

Example 2：Header system

Connecting capacity：285



Selecting piping size

Item	Selection procedure	Piping size		Selection table of PCB003Z847
		Gas pipe	Liquid pipe	
A	If the longest distance is less than 90m (actual length)	φ22.22	φ9.52	Table 1 and table 3
	If the longest distance is 90m or longer (actual length)	φ25.4 (φ22.22)	φ12.7	
a	Indoor unit piping size (112)	φ15.88	φ9.52	Table 5
b	Indoor unit piping size (71)	φ15.88	φ9.52	Table 5
c	Indoor unit piping size (36)	φ12.7	φ6.35	Table 5
d	Indoor unit piping size (22)	φ9.52	φ6.35	Table 5
e	Indoor unit piping size (22)	φ9.52	φ6.35	Table 5
f	Indoor unit piping size (22)	φ9.52	φ6.35	Table 5

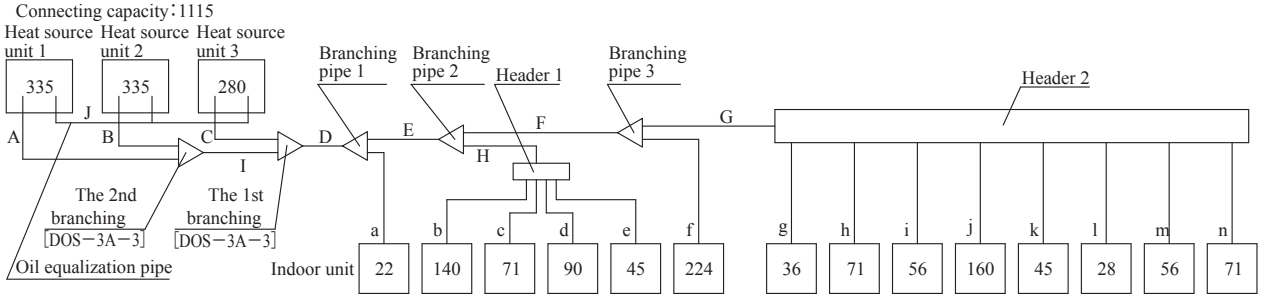
Refrigerant piping size applicable to European installations are shown in parentheses.

Selection header set. (Than table 8 of PCB003Z847)

Item	Selection procedure	Header set
Header 1	Downstream indoor unit capacity total (112+71+36+22+22+22) =285	HEAD6-180-1G

Example 3：Branch system + Header system

Connecting capacity：1115



Selecting piping size

Item	Selection procedure	Piping size		Selection table of PCB003Z847
		Gas pipe	Liquid pipe	
A	Heat source unit piping size (335)	φ25.4 (φ22.22)	φ12.7	Table 1
B	Heat source unit piping size (335)	φ25.4 (φ22.22)	φ12.7	Table 1
C	Heat source unit piping size (280)	φ22.22	φ9.52	Table 1
D	If the longest distance is less than 90m (actual length)	φ31.75 (φ34.92)	φ15.88	Table 3
	If the longest distance is 90m or longer (actual length)	φ38.1 (φ34.92)	φ19.05	
E	Downstream indoor unit capacity total (140+71+90+45+224 +36+71+56+160+45 +28+56+71) =1093	φ38.1 (φ34.92)	φ19.05	Table 4
F	Downstream indoor unit capacity total (224+36+71+56+160 +45+28+56+71) =747	φ31.75	φ15.88	Table 4
G	Downstream indoor unit capacity total (36+71+56+160+45 +28+56+71) =523	φ25.4 (φ28.58)	φ12.7	Table 4
H	Downstream indoor unit capacity total (140+71+90+45) =346	φ22.22	φ12.7	Table 4

Item	Selection procedure	Piping size		Selection table of PCB003Z847
		Gas pipe	Liquid pipe	
I	Heat source unit capacity total connect to the 2nd branching (335+335) =670	φ28.58	φ12.7	Table 2
a	Indoor unit piping size (22)	φ9.52	φ6.35	Table 5
b	Indoor unit piping size (140)	φ15.88	φ9.52	Table 5
c	Indoor unit piping size (71)	φ15.88	φ9.52	Table 5
d	Indoor unit piping size (90)	φ15.88	φ9.52	Table 5
e	Indoor unit piping size (45)	φ12.7	φ6.35	Table 5
f	Indoor unit piping size (224)	φ19.05	φ9.52	Table 5
g	Indoor unit piping size (36)	φ12.7	φ6.35	Table 5
h	Indoor unit piping size (71)	φ15.88	φ9.52	Table 5
i	Indoor unit piping size (56)	φ12.7	φ6.35	Table 5
j	Indoor unit piping size (160)	φ15.88	φ9.52	Table 5
k	Indoor unit piping size (45)	φ12.7	φ6.35	Table 5
l	Indoor unit piping size (28)	φ9.52	φ6.35	Table 5
m	Indoor unit piping size (56)	φ12.7	φ6.35	Table 5
n	Indoor unit piping size (71)	φ15.88	φ9.52	Table 5

Item	Selection procedure	Piping size	Selection table of PCB003Z847
J	Oil equalization pipe	φ9.52	Table 1

Selection of branching pipe set. (Than table 7 of PCB003Z847)

Item	Selection procedure	Branching pipe set
Branching pipe 1	Downstream indoor unit capacity total (22+140+71+90+45+224 +36+71+56+160+45 +28+56+71) =1115	DIS-540-3
Branching pipe 2	Downstream indoor unit capacity total (140+71+90+45+224 +36+71+56+160 +45+28+56+71) =1093	DIS-540-3
Branching pipe 3	Downstream indoor unit capacity total (224+36+71+56+160 +45+28+56+71) =747	DIS-540-3

Selection header set. (Than table 8 of PCB003Z847)

Item	Selection procedure	Header set
Header 1	Downstream indoor unit capacity total (140+71+90+45) =346	HEAD8-180-1G
Header 2	Downstream indoor unit capacity total (36+71+56+160+45+28 +56+71) =523	HEAD8-371-1G

Refrigerant piping size applicable to European installations are shown in parentheses.

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6. WARNINGS ON REFRIGERANT LEAKAGE

Check of concentration limit

The room in which the air conditioner is to be installed requires a design that in the event of refrigerant gas leaking out, its concentration will not exceed a set limit.

The refrigerant R410A which is used in the air conditioner is safe, without the toxicity or combustibility of ammonia, and is not restricted by laws to be imposed which protect the ozone layer. However, since it contains more than air, it poses the risk of suffocation if its concentration should rise excessively.

Suffocation from leakage of R410A is almost nonexistent. With the recent increase in the number of high concentration buildings, however, the installation of multi air conditioner systems is on the increase because of the need for effective use of floor space, individual control, energy conservation by curtailing heat and carrying power etc.

Most importantly, the multi air conditioner system is able to replenish a large amount of refrigerant compared with conventional individual air conditioners. If a single unit of the multi conditioner system is to be installed in a small room, select a suitable model and installation procedure so that if the refrigerant accidentally leaks out, its concentration dose not reach the limit (and in the event of an emergency, measures can be made before injury can occur).

In a room where the concentration may exceed the limit, create an opening with adjacent rooms, or install mechanical ventilation combined with a gas leak detection device.

The concentration is as given below.

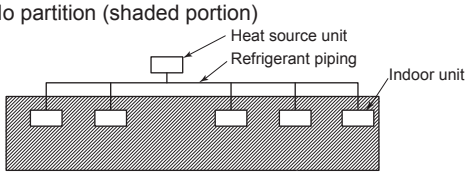
$$\frac{\text{Total amount of refrigerant (kg)}}{\text{Min. volume of the indoor unit installed room (m}^3\text{)}} \leq \text{Concentration limit (kg/m}^3\text{)}$$

The concentration limit of R410A which is used in multi air conditioners is 0.42kg/m^3. (ISO5149)

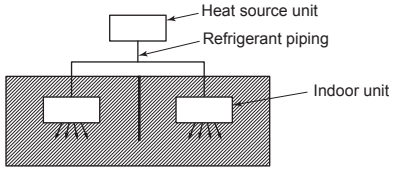
Important

Note(1) The standards for minimum room volume are as follows.

① No partition (shaded portion)

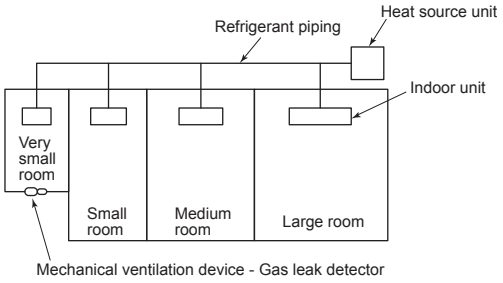


② When there is an effective opening with the adjacent room for ventilation of leaking refrigerant gas (opening without a door, or an opening 0.15% or larger than the respective floor spaces at the top or bottom of the door).

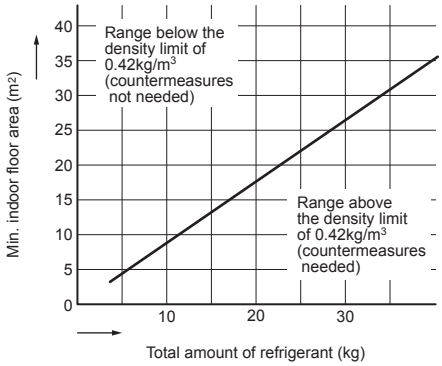


③ If an indoor unit is installed in each partitioned room and the refrigerant tubing is interconnected, the smallest of course becomes the object.

But when a mechanical ventilation is installed interlocked with a gas leakage detector in the smallest room where the density limit is exceeded, the volume of the next smallest room becomes the object.



Note(2) The minimum indoor floor area compared with the amount of refrigerant is roughly as follows: (When the ceiling is 2.7m high)



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