

MITSUBISHI HEAVY INDUSTRIES

VRF

KX INVERTER MULTI SYSTEMS



PROJECT SCHEDULE

Project: Wayside Celtic

System: Resized System - Hi COP

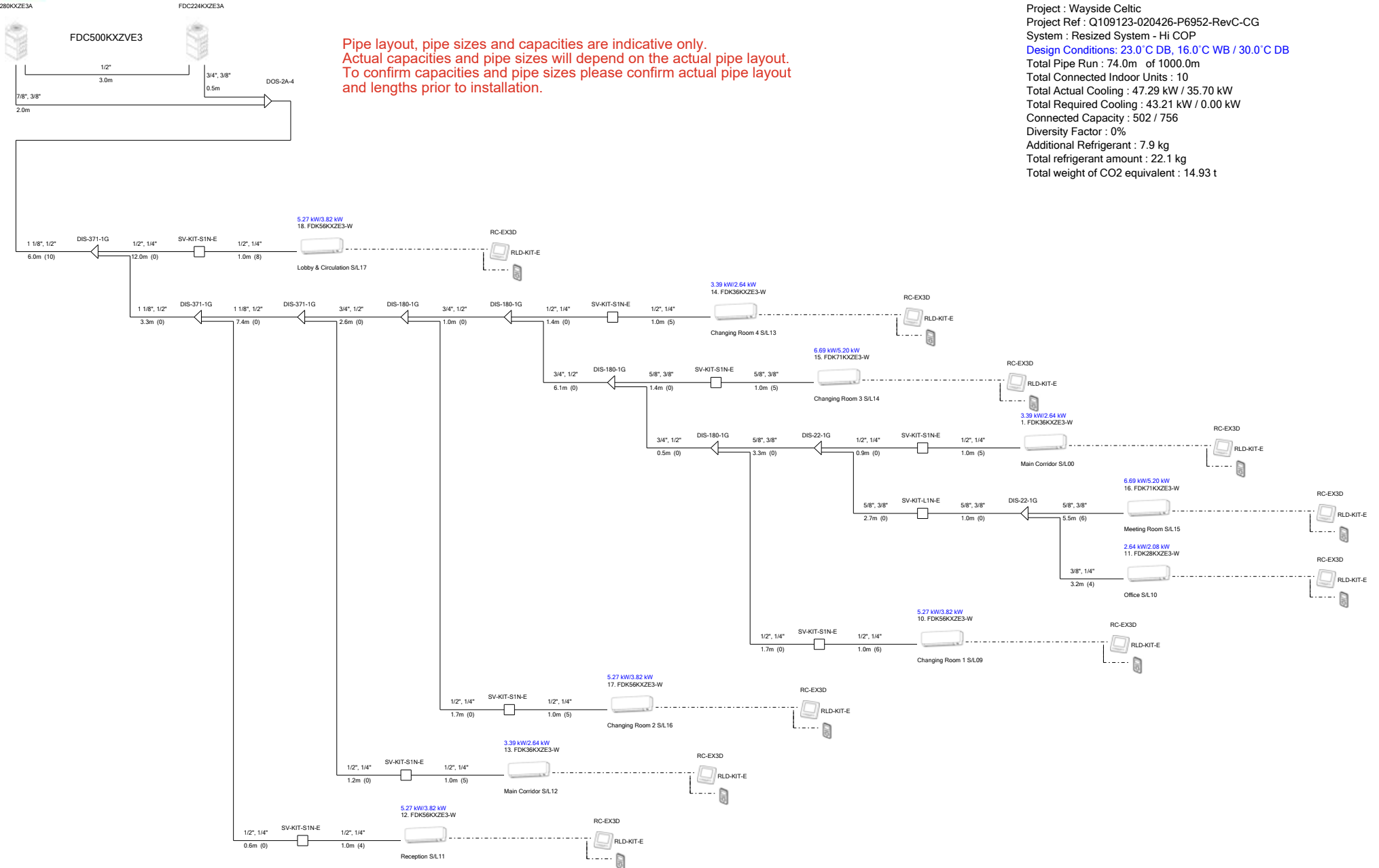
Client: SE Systems IE

Prepared By: cg

Location: cambs

Report Date/Time: 02/04/26 16:31

Because of our policy of continuous improvement, we reserve right to make changes in all specification without notice



Project : Wayside Celtic
Project Ref : Q109123-020426-P6952-RevC-CG

System : Resized System - Hi COP

Temperature Conditions (cooling)

outdoor dry bulb

30.0°C

indoor wet bulb

16.0°C

Temperature Conditions (heating)

outdoor wet bulb

-6.0°C

indoor dry bulb

20.0°C

Unit	Room Name	Model	Nominal Capacity (kW)			Actual Capacity (kW)			Indoor Unit Position (m)		Actual Length (m)	Piping Length (m)	Address		
			Total	Sensible	Heating	Total	Sensible	Heating					S/L	O/U	I/U
		FDC500KXZVE3	50.40	-	50.40	47.29	-	34.34					1	01	-
1	Main Corridor	FDK36KXZE3-W	3.60	2.74	4.00	3.37	2.64	2.18	Above	1.8	34.1	39.6	1	01	00
10	Changing Room	FDK56KXZE3-W	5.60	3.92	6.30	5.25	3.81	3.45	Above	1.8	31.6	37.3	1	01	09
11	Office	FDK28KXZE3-W	2.80	2.15	3.20	2.62	2.07	1.74	Above	1.8	39.1	44.2	1	01	10
12	Reception	FDK56KXZE3-W	5.60	3.92	6.30	5.25	3.81	3.45	Above	1.8	12.9	18.2	1	01	11
13	Main Corridor	FDK36KXZE3-W	3.60	2.74	4.00	3.37	2.64	2.18	Above	1.8	20.9	26.4	1	01	12
14	Changing Room	FDK36KXZE3-W	3.60	2.74	4.00	3.37	2.64	2.18	Above	1.8	24.7	30.2	1	01	13
15	Changing Room	FDK71KXZE3-W	7.10	5.38	8.00	6.66	5.19	4.40	Above	1.8	30.8	36.6	1	01	14
16	Meeting Room	FDK71KXZE3-W	7.10	5.38	8.00	6.66	5.19	4.40	Above	1.8	41.4	47.4	1	01	15
17	Changing Room	FDK56KXZE3-W	5.60	3.92	6.30	5.25	3.81	3.45	Below	0.0	24.0	29.5	1	01	16
18	Lobby &	FDK56KXZE3-W	5.60	3.92	6.30	5.25	3.81	3.45	Above	5.8	21.0	27.1	1	01	17
TOTAL			50.20	36.79	56.40	47.06	35.59	30.89							

					Connecting Rooms		
Uni	Room	Model	Area size (m2)	Height (m)	Area size (m2)	Height (m)	LUFB
1	Main	FDK36KXZE3-W	52.367	2.89	0	0	No
10	Changing	FDK56KXZE3-W	34.276	2.89	0	0	No
11	Office	FDK28KXZE3-W	13.634	2.89	0	0	No
12	Reception	FDK56KXZE3-W	21.949	2.89	0	0	No
13	Main	FDK36KXZE3-W	52.367	2.89	0	0	No
14	Changing	FDK36KXZE3-W	18.521	2.89	0	0	No
15	Changing	FDK71KXZE3-W	37.05	2.89	0	0	No
16	Meeting	FDK71KXZE3-W	35.554	2.89	0	0	No
17	Changing	FDK56KXZE3-W	28.244	2.89	0	0	No
18	Lobby &	FDK56KXZE3-W	21.922	2.89	0	0	No

Project:
Wayside Celtic

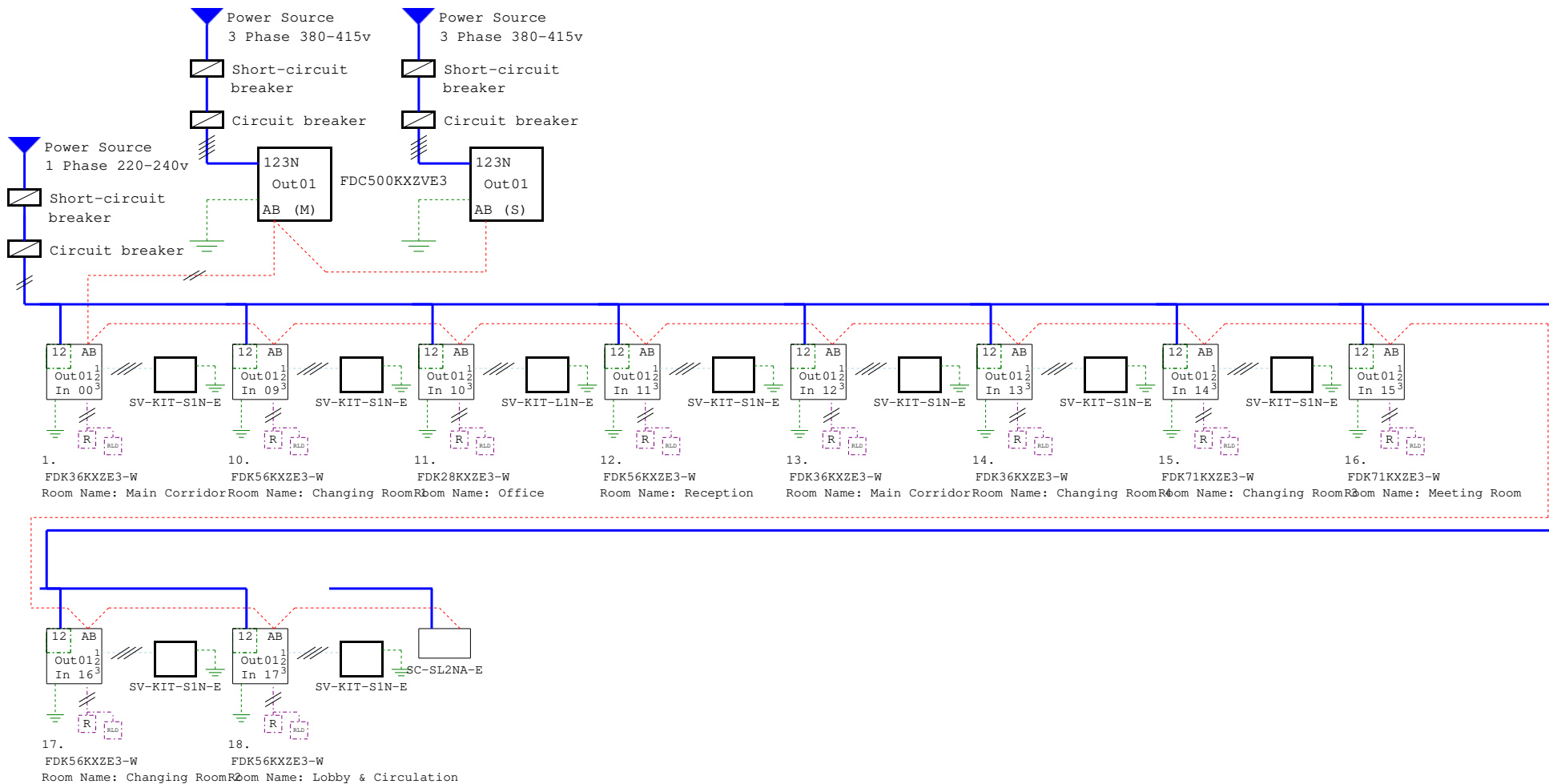
Project Ref:
Q109123-020426-

System:
Resized System - Hi

Outdoor Unit	380v	415v
Running Current (A)	21.80/17.60	19.90/16.10
Power (%)	95/95	95/95
Inrush Current (A)	10.00	
Max Current (A)	23.2+20.7	
Input (kW)	13.60/10.90	

Indoor Units (Cool/Heat)	220v	240v
Total Input (kW)	0.31/0.31	0.31/0.31
Total Running Current (A)	2.75/2.75	2.53/2.53

Electrical schematic diagrams are for guidance only.
Electrical installations must comply with statutory regulations.



Project Materials List

Project : Wayside Celtic
Project Ref : Q109123-020426-P6952-RevC-CG

Central Controller	Qty
SC-SL2NA-E	1

System Materials List

Project : Wayside Celtic
Project Ref : Q109123-020426-P6952-RevC-CG
System : Resized System - Hi COP

Outdoor Unit	Qty
FDC280KXZE3A	1
FDC224KXZE3A	1

Indoor Unit	Qty
FDK56KXZE3-W	4
FDK36KXZE3-W	3
FDK71KXZE3-W	2
FDK28KXZE3-W	1

Branch	Qty
DIS-371-1G	3
DIS-180-1G	4
DIS-22-1G	2

Shut Off Valve (SOV)	Qty
SV-KIT-S1N-E	8
SV-KIT-L1N-E	1

Outdoor Branch	Qty
DOS-2A-4	1

Remote Controllers	Qty
RC-EX3D	10

Refrigerant Leak Detectors	Qty
RLD-KIT-E	10

Additional Refrigerant	7.9 kg
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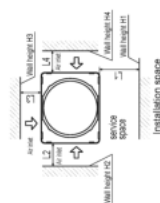
Pipe Diameter	Total Length (m)
1/4"	29.7
3/8"	20.6
1/2"	56.4
5/8"	14.9
3/4"	10.7
7/8"	2.0
1 1/8"	16.7

Additional refrigerant charge shown is indicative only.
To confirm the additional refrigerant charge required, please confirm the actual pipe layout and lengths prior to installation

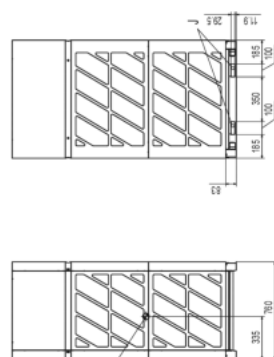
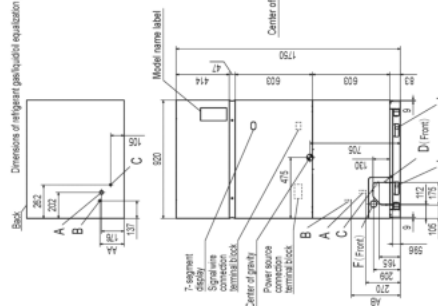
2.2 Exterior dimensions

Models FDC224KXZE3A, 280KXZE3A, 335KXZE3A

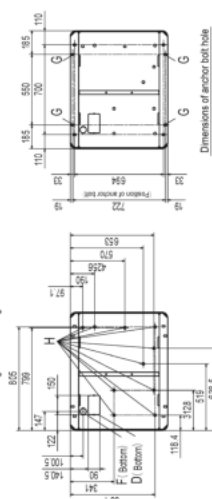
Test item	Installation			
	1	2	3	4
1. Install in a special larger room than shown in the test table	L1	500	500	Open
2. According to the installation conditions, secure sufficient additional space	L2	10	50	50
3. The installation example assumes operation at an ambient temperature around 40°C	L3	300	100/300	300
4. For use at higher ambient temperatures, install according to the dimension in parentheses	L4	10	50	50
	H1	1500	1500	Open
	H2	No limit	No limit	No limit
	H3	500	500	No limit
	H4	No limit	No limit	Open



Back Dimensions of refrigerant gas/liquid equalization pipe (inchography)



MARK	Content
A	Refrigerant gas pipe
B	224 415 05 Bituray, 260, 335 422 22 22 (2x) 224 415 05 Bituray, 260, 335 422 22 22 (2x) 224 415 05 Bituray, 260, 335 422 22 22 (2x)
C	Refrigerant liquid pipe
D	Refrigerant of refrigeration pipe
E	Refrigerant of refrigeration pipe
F	Knockout hole for pipes
G	Knockout hole for electrical wiring
H	Anchor bolt hole
I	Drain hole



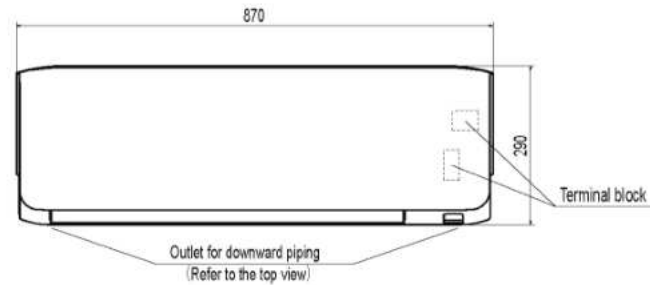
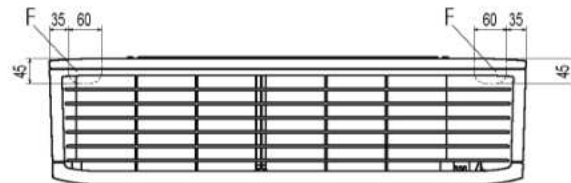
Dimensions of anchor bolt hole

BOOKS	224,280	335
AA	188.5	185.5
AD	20.0	20.0

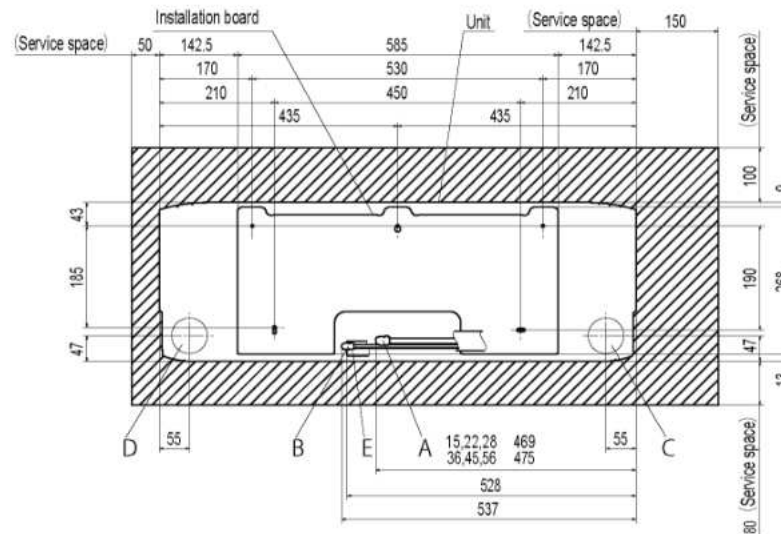
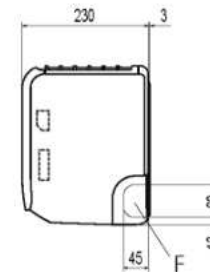
Unit: mm

FDK15KXZE3-W, 22KXZE3-W, 28KXZE3-W, 36KXZE3-W, 45KXZE3-W, 56KXZE3-W

Unit:mm



Symbol	Content		
	Model	15,22,28	36,45,56
A	Gas piping	φ9.52(3/8") (Flare)	φ12.7(1/2") (Flare)
B	Liquid piping	φ6.35(1/4") (Flare)	φ6.35(1/4") (Flare)
C	Hole on wall for right rear piping	φ65	φ65
D	Hole on wall for left rear piping	φ65	φ65
E	Drain hose	VP16 (O.D.22)	VP16 (O.D.22)
F	Outlet for wiring (on both side)		

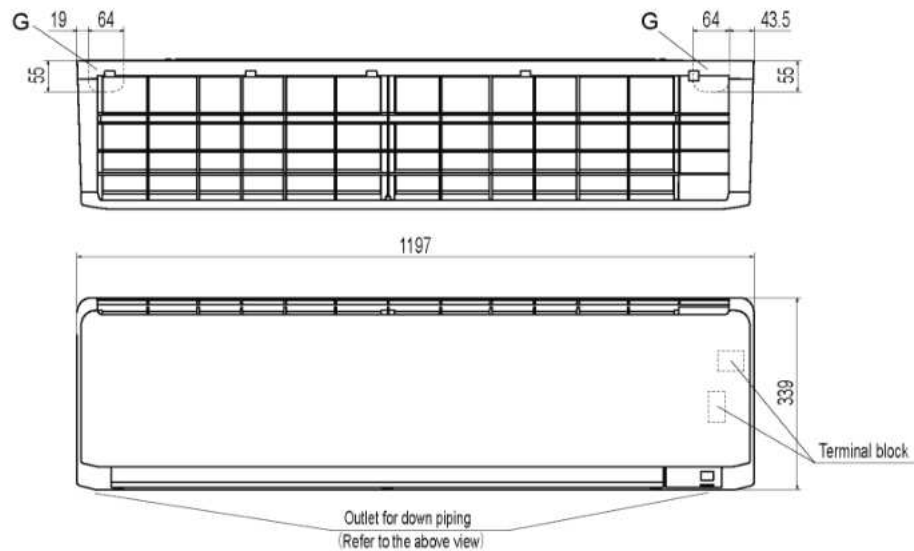


Space for installation and service when viewing from the front

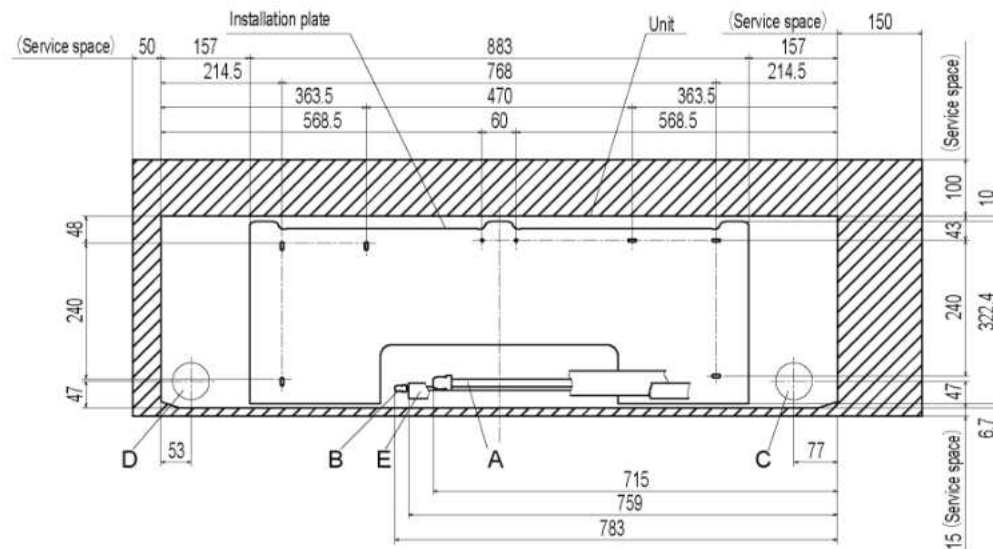
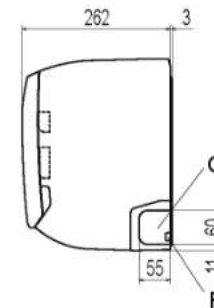
Note The model name label is attached on the right side of the unit.

FDK71KXZE3-W, 90KXZE3-W

Unit:mm



Symbol	Content
A	Gas piping $\phi 15.88 (5/8")$ (Flare)
B	Liquid piping $\phi 9.52 (3/8")$ (Flare)
C	Hole on wall for right rear piping ($\phi 65$)
D	Hole on wall for left rear piping ($\phi 65$)
E	Drain hose VP16 (O.D.22)
F	Outlet for wiring (on both side)
G	Outlet for piping (on both side)



Note The model name label is attached on the underside of the indoor unit.

Space for installation and service when viewing from the front

SV-KIT-S1N-E, SV-KIT-L1N-E

Specification Safety shut-off valve for MHI VRF Air-conditioner

Models		SV-KIT-S1N-E / A	SV-KIT-L1N-E / 1
Power source	—	220 ~ 240V / 1 Phase 50Hz Only	—
Limit connection capacity of indoor units (Based cool)	—	1.5 ~ 9.0	9.1 ~ 26.0
Limit connection number of indoor units	—	1 ~ 6	1 ~ 18
Power consumption	—	—	—
Running current	—	—	—
External dimensions	Height x Width x Depth	254 x 489 x 207 (Except piping)	—
Net weight	—	9	—
Color	—	No painting (Galvanized steel sheet)	—
Refrigerant	—	R32	—
Drain	—	Unnecessary (Drainless)	—
Installation data	Liquid pipe	ø9.52/3/8" of flare piping (Attached ø6.35 piping for use)	ø9.52/3/8" of flare piping (Attached ø12.7 piping for use)
Refrigerant piping size	Gas pipe	ø15.88/5/8" of flare piping (Attached ø12.7/ø9.52 piping for use)	ø15.88/5/8" of flare piping (Attached ø18.05/ø22.22 piping for use)
Design pressure	—	4.15	—
IP code	—	IPX0 (For indoor)	—
Installation direction	—	Only horizontal installation	—
Protective device	—	Fuse	—
Recommended replacement cycle (Recommended period of the replacement parts)	—	Gas shut-off valve (soldered valve, coil Energizing time 3000hr (recommended replacement period: approx. 5 years) *1, *2 Shut-off valve body: the number of open / close operation 3000 times (recommended replacement period: approx. 10 years) *1, *2	—

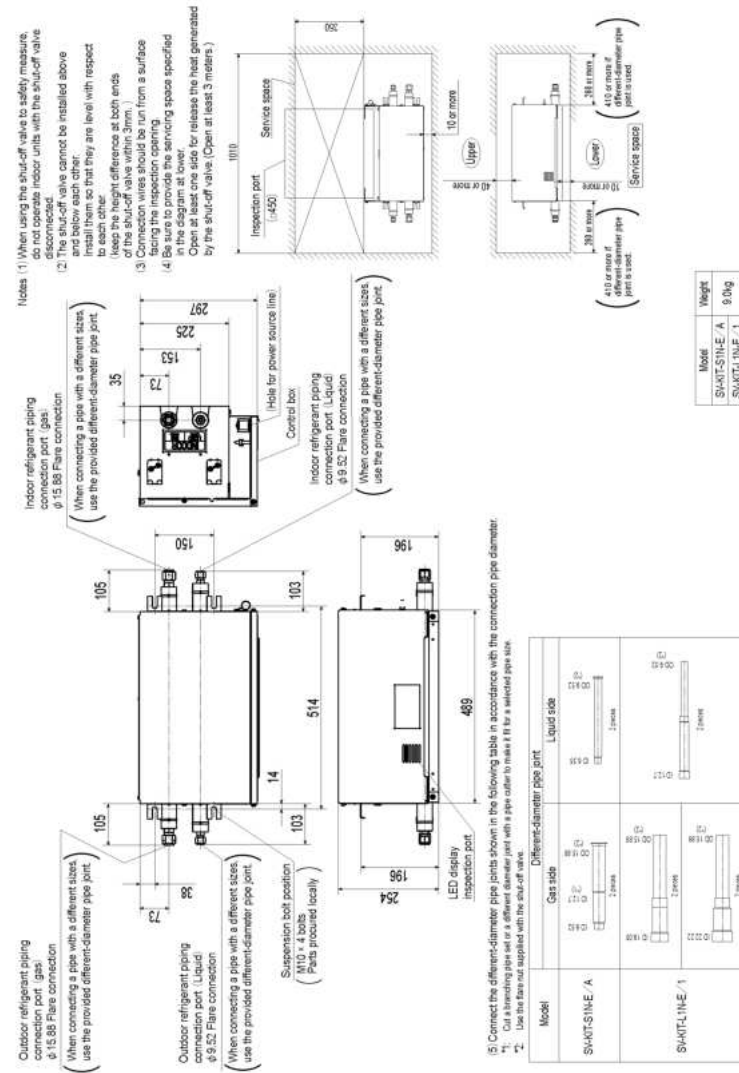
*1: When the parts which need to be replaced exceed the designated number of operation or energizing period, a display prompting replacement is displayed on the remote control.

Operation can continue while the sign urging replacement is displayed, but for safety reasons, it needs to replace as soon as possible.

*2: The recommended replacement period in () is a guideline when the air-conditioner is used for 12 hours a day, 6 days a week.

If the heating and cooling load is high or the operation time is long, the sign may appear sooner.

SV-KIT-S1N-E, SV-KIT-L1N-E



2. OUTDOOR UNIT

2.1 Specifications

• Single use (used also for combination)

Models			FDC224KXE3A	FDC280KXE3A	FDC335KXE3A	FDC400KXE3	FDC450KXE3	FDC500KXE3	FDC530KXE3	FDC560KXE3	FDC615KXE3	FDC670KXE3
Capacity	Nominal cooling capacity	kW	22.4	28.0	33.5	40.0	45.0	50.0	53.0	56.0	61.5	67.0
	Nominal heating capacity		22.4	28.0	33.5	40.0	45.0	47.5	53.0	56.0	61.5	65.0
	Maximum heating capacity		25.0	31.5	37.5	45.0	50.0	56.0	59.0	61.5	69.0	75.0
Power consumption	Nominal cooling	kW	5.52	8.05	9.69	11.73	14.88	17.70	15.20	16.20	18.77	24.39
	Nominal heating		4.58	6.35	7.98	8.42	10.14	10.86	11.05	12.34	15.01	15.77
EER			4.06	3.48	3.46	3.41	3.02	2.82	3.48	3.45	3.27	2.74
SEER			9.16	8.96	8.57	8.58	8.10	7.90	7.87	7.84	7.50	7.63
COP			4.90	4.41	4.20	4.75	4.43	4.37	4.79	4.53	4.09	4.12
SCOP			4.82	4.75	4.67	4.52	4.59	4.45	4.68	4.66	4.49	4.63
Power source			3 Phase 380-415V 50Hz / 380V 60Hz									
Current	Cooling running current	A	8.9/8.1	12.9/11.8	15.7/14.4	19.2/17.6	24.1/22.1	28.7/26.2	24.6/22.5	26.2/24.0	30.1/27.5	39.1/35.8
	Heating running current		7.4/6.8	10.2/9.3	12.9/11.9	13.8/12.6	16.6/15.2	17.6/16.1	18.1/16.6	20.0/18.3	24.3/22.3	25.5/23.4
	Starting current		5					8				
Power factor	Maximum current	%	20.7	23.2	25.7	32.4	36.3	40.5	47.4	50.6	52.2	55.4
	Cooling		95	95	94	93	94	94	94	94	95	95
	Heating		95	95	94	93	93	94	93	94	94	94
Sound pressure level	Cooling/Heating	dB(A)	55.0/55.0	56.0/60.0	60.0/63.0	56.0/61.5	59.0/66.0	61.5/67.0	59.0/63.5	59.5/64.0	62.5/67.5	63.0/67.5
Sound power level	Cooling/Heating		76.0/78.0	77.0/83.0	82.0/86.0	79.0/84.5	82.0/89.0	84.5/90.0	81.5/86.0	82.0/86.5	85.0/90.0	85.5/90.0
Exterior dimensions	Height × Width × Depth	mm	1750 × 920 × 760				1750 × 1220 × 760			1750 × 1750 × 760		
Exterior appearance	(Munsell color,RAL)		Stucco white (4.2Y 7.5/1.1), (7044)									
Weight	Net weight	kg	262	274		352			445			
Compressor	Model and Q'ty		GTC5150SC47CF × 1			GUC5185SC47CF × 1			GTC5150SC47CF × 2			
	Motor output	kW	4.8 × 1	6.91 × 1	8.27 × 1	10.38 × 1	13.16 × 1	15.69 × 1	6.67 × 2	7.13 × 2	8.15 × 2	10.73 × 2
	Capacity control	%	18-100	14-100	12-100	16-100	14-100	12-100	14-100	14-100	12-100	10-100
	Crankcase heater	W	33W × 1			40W × 1			33W × 2			
Fan	Type and Q'ty		Propeller fan × 1			Propeller fan × 2						
	Motor output	W	900W × 1			900W × 2						
	Air flow(Standard)	m³/min	159	201	203	224	265	283	345	345	386	386
	Available external static pressure	Pa	Max 90									
Heat exchanger	type		M fins & inner grooved tubing									
	control		Electronic expansion valve									
Refrigerant	type		R32									
	Amount	kg	7.1	7.1	7.7	8.7	8.7	8.7	9.5	9.5	9.5	9.5
Refrigerant oil	type		M-MB75R									
	Amount	L	1.76	1.76	1.76	2.07	2.07	2.07	3.90	3.90	3.90	3.90
Refrigerant piping	Liquid line size	mm (in)	φ9.52 (3/8")			φ12.7 (1/2")						
	Gas line size		φ19.05 (3/4")	φ22.22 (7/8")		φ28.58 (1-1/8")						
	Connecting method		Gas line : Brazing / Liquid line : Flare									
	Insulation for piping		Necessary (both Liquid & Gas lines)									
Shock & vibration absorber			Rubber mount (for compressor)									
Safety equipment			Compressor overheat protection / overcurrent protection / power transistor overheating protection / abnormal high pressure protection									
MAX Pressure		MPa	High 4.15 Low 2.26									
Drain		mm	φ20 × 10				φ20 × 12					
IP number			IP24									

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

Item	Indoor air temperature		Outdoor air temperature		Standards
Operation	DB	WB	DB	WB	
Cooling	27 °C	19 °C	35 °C	24 °C	
Heating	20 °C	—	7 °C	6 °C	ISO5151-T1,H1

(2) SEER/SCOP are based on EN4825:2018 and Commission regulation (EU) No.2016/2281.Temperature conditions for calculating SCOP are based on "Average climate".

(3) This air-conditioner is manufactured and tested in conformity with the ISO.

(4) Sound level indicates the value in an anechoic chamber.

During operation these values are somewhat higher due to ambient conditions.

(5) This air-conditioner is adapted RoHS directive.

Wall Mounted type (FDK)

Models			FDK28KXZE3-W
Nominal cooling capacity*1		kW	2.8
Nominal heating capacity*2			3.2
Power source			220-240V ~ 50Hz / 220V ~ 60Hz
Power consumption	Cool	W	20 - 20 / 20
	Heat		20 - 20 / 20
Running current	Cool	A	0.18 - 0.16 / 0.18
	Heat		0.18 - 0.16 / 0.18
Sound Power Level	Cool	dB(A)	55
	Heat		55
Sound Pressure Level	Cool		P-Hi : 38 Hi : 36 Me : 30 Lo : 27
	Heat		P-Hi : 38 Hi : 36 Me : 30 Lo : 27
Exterior dimensions		mm	290 × 870 × 230
Height x Width x Depth			
Exterior appearance			Fine Snow
(Munsell color)			(8.0Y9.3/0.1) near equivalent
(RAL color)			(RAL 9003) near equivalent
Net weight*3		kg	11
Refrigerant equipment Heat exchanger			Louver fin & inner grooved tubing
Refrigerant control			Electronic Expansion Valve
Air handling equipment Fan type & Q'ty			Tangential fan ×1
Fan Motor		W	42
Starting method			Direct line start
Air flow	Cool	CMM	P-Hi : 8.5 Hi : 8 Me : 6 Lo : 5
	Heat		P-Hi : 8.5 Hi : 8 Me : 6 Lo : 5
Available static pressure		Pa	0
Outside air intake			Not Possible
Air filter, Q'ty			Polypropylene net ×2 (Washable)
Shock & vibration absorber			Rubber sleeve(for fan motor)
Insulation (noise & heat)			Polyurethane form
Operation control			Wired : RC-EX3D,RC-E5,RCH-E3
Remote control switch (option)			Wireless : RCN-K-E2
Room temperature control			Thermostat by electronics
Safety equipment			Overload protection for fan motor Frost protection thermostat
Installation data			Liquid line: φ6.35 (1/4")
Refrigerant piping size			Gas line: φ9.52 (3/8")
Connecting method			Flare piping
Refrigerant			R32
Drain hose			Connectable with VP16(I.D.16)
Insulation for piping			Necessary(both Liquid & Gas line)
Accessories			Mounting kit,Drain hose

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

Item	Indoor air temperature		Outdoor air temperature		Standards
Operation	DB	WB	DB	WB	
Cooling*1	27 °C	19 °C	35 °C	24 °C	ISO5151-T1
Heating*2	20 °C	-	7 °C	6 °C	

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

(3) Sound level indicates the value in an anechoic chamber.

During operation these value are somewhat higher due to ambient conditions

(4) Select the breaker size according to the own national standard.

(5) Refer to the "SAFETY MEASURE MANUAL"
whether Safety equipment for R32 is required.

Wall Mounted type (FDK)

Models			FDK36KXZE3-W
Nominal cooling capacity*1		kW	3.6
Nominal heating capacity*2			4.0
Power source			220-240V ~ 50Hz / 220V ~ 60Hz
Power consumption	Cool	W	30 - 30 / 30
	Heat		30 - 30 / 30
Running current	Cool	A	0.27 - 0.25 / 0.27
	Heat		0.27 - 0.25 / 0.27
Sound Power Level	Cool	dB(A)	58
	Heat		58
Sound Pressure Level	Cool		P-Hi : 40 Hi : 38 Me : 33 Lo : 28
	Heat		P-Hi : 40 Hi : 38 Me : 33 Lo : 28
Exterior dimensions		mm	290 × 870 × 230
Height x Width x Depth			
Exterior appearance			Fine Snow
(Munsell color)			(8.0Y9.3/0.1) near equivalent
(RAL color)			(RAL 9003) near equivalent
Net weight*3		kg	11.5
Refrigerant equipment Heat exchanger			Louver fin & inner grooved tubing
Refrigerant control			Electronic Expansion Valve
Air handling equipment Fan type & Q'ty			Tangential fan ×1
Fan Motor		W	42
Starting method			Direct line start
Air flow	Cool	CMM	P-Hi : 11 Hi : 10 Me : 8 Lo : 7
	Heat		P-Hi : 11 Hi : 10 Me : 8 Lo : 7
Available static pressure		Pa	0
Outside air intake			Not Possible
Air filter, Q'ty			Polypropylene net ×2 (Washable)
Shock & vibration absorber			Rubber sleeve(for fan motor)
Insulation (noise & heat)			Polyurethane form
Operation control			Wired : RC-EX3D,RC-E5,RCH-E3
Remote control switch (option)			Wireless : RCN-K-E2
Room temperature control			Thermostat by electronics
Safety equipment			Overload protection for fan motor Frost protection thermostat
Installation data			Liquid line: φ6.35 (1/4")
Refrigerant piping size			Gas line: φ12.7 (1/2")
Connecting method			Flare piping
Refrigerant			R32
Drain hose			Connectable with VP16(I.D.16)
Insulation for piping			Necessary(both Liquid & Gas line)
Accessories			Mounting kit,Drain hose

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

Item	Indoor air temperature		Outdoor air temperature		Standards
Operation	DB	WB	DB	WB	
Cooling*1	27 °C	19 °C	35 °C	24 °C	ISO5151-T1
Heating*2	20 °C	-	7 °C	6 °C	

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

(3) Sound level indicates the value in an anechoic chamber.

During operation these value are somewhat higher due to ambient conditions

(4) Select the breaker size according to the own national standard.

(5) Refer to the "SAFETY MEASURE MANUAL" whether Safety equipment for R32 is required.

Wall Mounted type (FDK)

Models			FDK56KXZE3-W
Nominal cooling capacity*1		kW	5.6
Nominal heating capacity*2			6.3
Power source			220-240V ~ 50Hz / 220V ~ 60Hz
Power consumption	Cool	W	30 - 30 / 30
	Heat		30 - 30 / 30
Running current	Cool	A	0.27 - 0.25 / 0.27
	Heat		0.27 - 0.25 / 0.27
Sound Power Level	Cool	dB(A)	58
	Heat		61
Sound Pressure Level	Cool		P-Hi : 43 Hi : 41 Me : 36 Lo : 33
	Heat		P-Hi : 44 Hi : 42 Me : 37 Lo : 33
Exterior dimensions		mm	290 × 870 × 230
Height x Width x Depth			
Exterior appearance			Fine Snow
(Munsell color)			(8.0Y9.3/0.1) near equivalent
(RAL color)			(RAL 9003) near equivalent
Net weight*3		kg	11.5
Refrigerant equipment Heat exchanger			Louver fin & inner grooved tubing
Refrigerant control			Electronic Expansion Valve
Air handling equipment Fan type & Q'ty			Tangential fan ×1
Fan Motor		W	42 < Direct line start >
Starting method			Direct line start
Air flow	Cool	CMM	P-Hi : 12 Hi : 11 Me : 9 Lo : 8
	Heat		P-Hi : 13 Hi : 12 Me : 10 Lo : 8
Available static pressure		Pa	0
Outside air intake			Not Possible
Air filter, Q'ty			Polypropylene net ×2 (Washable)
Shock & vibration absorber			Rubber sleeve(for fan motor)
Insulation (noise & heat)			Polyurethane form
Operation control			Wired : RC-EX3D,RC-E5,RCH-E3
Remote control switch (option)			Wireless : RCN-K-E2
Room temperature control			Thermostat by electronics
Safety equipment			Overload protection for fan motor Frost protection thermostat
Installation data			Liquid line: φ6.35 (1/4")
Refrigerant piping size			Gas line: φ12.7 (1/2")
Connecting method			Flare piping
Refrigerant			R32
Drain hose			Connectable with VP16(I.D.16)
Insulation for piping			Necessary(both Liquid & Gas line)
Accessories			Mounting kit, Drain hose

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

Item	Indoor air temperature		Outdoor air temperature		Standards
Operation	DB	WB	DB	WB	
Cooling*1	27 °C	19 °C	35 °C	24 °C	ISO5151-T1
Heating*2	20 °C	-	7 °C	6 °C	

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

(3) Sound level indicates the value in an anechoic chamber.

During operation these value are somewhat higher due to ambient conditions

(4) Select the breaker size according to the own national standard.

(5) Refer to the "SAFETY MEASURE MANUAL"
whether Safety equipment for R32 is required.

Wall Mounted type (FDK)

Models			FDK71KXZE3-W
Nominal cooling capacity*1		kW	7.1
Nominal heating capacity*2			8.0
Power source			220-240V ~ 50Hz / 220V ~ 60Hz
Power consumption	Cool	W	40 - 40 / 40
	Heat		40 - 40 / 40
Running current	Cool	A	0.34 - 0.31 / 0.34
	Heat		0.34 - 0.31 / 0.34
Sound Power Level	Cool	dB(A)	59
	Heat		59
Sound Pressure Level	Cool		P-Hi : 42 Hi : 40 Me : 37 Lo : 35
	Heat		P-Hi : 42 Hi : 40 Me : 37 Lo : 35
Exterior dimensions		mm	339 × 1,197 × 262
Height x Width x Depth			
Exterior appearance			Fine Snow
(Munsell color)			(8.0Y9.3/0.1) near equivalent
(RAL color)			(RAL 9003) near equivalent
Net weight*3		kg	17
Refrigerant equipment Heat exchanger			Louver fin & inner grooved tubing
Refrigerant control			Electronic Expansion Valve
Air handling equipment Fan type & Q'ty			Tangential fan ×1
Fan Motor		W	56 < Direct line start >
Starting method			Direct line start
Air flow	Cool	CMM	P-Hi : 21 Hi : 19 Me : 16 Lo : 14
	Heat		P-Hi : 21 Hi : 19 Me : 16 Lo : 14
Available static pressure		Pa	0
Outside air intake			Not Possible
Air filter, Q'ty			Polypropylene net ×2 (Washable)
Shock & vibration absorber			Rubber sleeve(for fan motor)
Insulation (noise & heat)			Polyurethane form
Operation control			Wired : RC-EX3D,RC-E5,RCH-E3
Remote control switch (option)			Wireless : RCN-K71-E2
Room temperature control			Thermostat by electronics
Safety equipment			Overload protection for fan motor Frost protection thermostat
Installation data			Liquid line: φ9.52 (3/8")
Refrigerant piping size			Gas line: φ15.88 (5/8")
Connecting method			Flare piping
Refrigerant			R32
Drain hose			Connectable with VP16(I.D.16)
Insulation for piping			Necessary(both Liquid & Gas line)
Accessories			Mounting kit, Drain hose

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

Item	Indoor air temperature		Outdoor air temperature		Standards
Operation	DB	WB	DB	WB	
Cooling*1	27 °C	19 °C	35 °C	24 °C	ISO5151-T1
Heating*2	20 °C	-	7 °C	6 °C	

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

(3) Sound level indicates the value in an anechoic chamber.

During operation these value are somewhat higher due to ambient conditions

(4) Select the breaker size according to the own national standard.

(5) Refer to the "SAFETY MEASURE MANUAL"
whether Safety equipment for R32 is required.

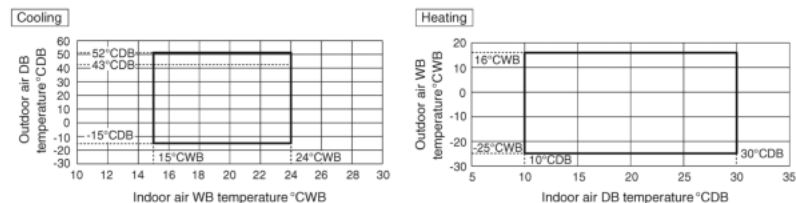
3. RANGE OF USE & LIMITATIONS

3.1 Nominal installation

<Range of use>

Operating temperature range (Upper, lower limits)	Indoor unit Outdoor unit	Cooling : 15~24°CWB Heating : 10~30°CDB (Refer to following figure) Cooling : -15~52°CDB Heating : -25~16°CWB (Refer to following figure)
Indoor unit ambient dew point temperature and humidity (including behind ceiling)	Model : FDT, FDTc, FDTW, FDTs, FDTQ, FDU, FDUM, FDUT, FDUH, FDU-F Model : FDE, FDK, FDFL, FDFU, FDFW	Dew point temperature : 28°C or less Relative humidity : 80% or less Dew point temperature : 23°C or less Relative humidity : 80% or less
Power source voltage	Voltage fluctuation	Within ±10% of rated voltage
	Voltage drop during start	Within -15% of rated voltage
	Phase unbalance	Within 3%
Indoor units combination	Number of connectable units	Refer to 1.1 connectable capacity
	Connectable capacity	

<Operating temperature range>



When outdoor air DB temperature is higher than 43°C, refer to 3.3 Use at high ambient temperature.

“CAUTION” Cooling operation under low ambient air temperature conditions

KXZ models can be operated in cooling mode at low outdoor air temperature condition within above temperature range. However in case of severely low temperature conditions if the following precaution is not observed, it may not be operated in spite of operable temperature range mentioned above and cooling capacity may not be established under certain conditions.

[Precaution]

In case of severely low temperature condition

- 1) Install the outdoor unit at the place where strong wind cannot blow directly into the outdoor unit.
- 2) If there is no installation place where can prevent strong wind from directly blowing into the outdoor unit, prepare a windbreak fence or something like that locally in order to divert the strong wind from the outdoor unit.

[Reason]

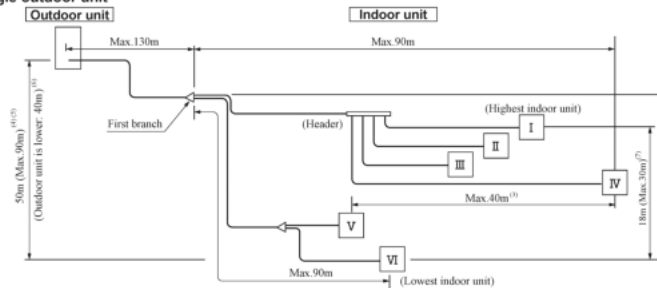
Under the low outdoor air temperature conditions of -5°C or lower, if strong wind directly blow into the outdoor unit, the outdoor heat exchanger temperature will drop, even though the outdoor fan is stopped by outdoor fan control. This makes high and low pressures to drop as well. This low pressure drop makes the indoor heat exchanger temperature to drop and will activate anti-frost control at indoor heat exchanger at frequent intervals, that cooling operation may not be established for any given time.

“CAUTION” 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.

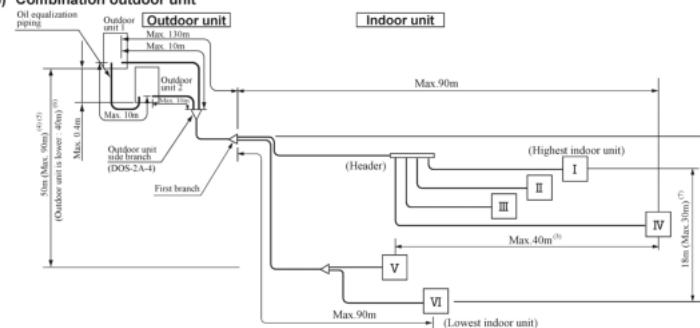
<Allowable length of refrigerant piping length and height difference between units>

Piping length	Total piping	1000m or less (1)
	Main piping	130m or less
	Single direction piping	Actual length : 160m or less Equivalent length : 185m or less (2)
	From first branch to indoor unit	90m or less(difference between the longest and shortest piping length : 40m or less(3))
	Between an outdoor unit branch and an outdoor unit	10m or less
	Oil equalization piping	10m or less
Difference in height	Between an indoor unit and an outdoor unit (Outdoor unit is higher)	50m or less(Max. 90m)(4)(5)
	Between an indoor unit and an outdoor unit (Outdoor unit is lower)	40m or less (6)
	Between indoor units	18m or less (Max. 30m)(7)
	Between outdoor units	0.4m or less
	Between the first branch and an indoor unit	18m or less

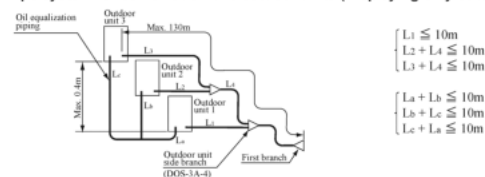
(a) Single outdoor unit



(b) Combination outdoor unit



(c) Pipe system for combination of 3 outdoor units (Displaying only outdoor units)



$$\begin{aligned} L_1 &\leq 10\text{m} \\ L_2 + L_4 &\leq 10\text{m} \\ L_3 + L_4 &\leq 10\text{m} \end{aligned}$$

$$\begin{aligned} L_a + L_b &\leq 10\text{m} \\ L_b + L_c &\leq 10\text{m} \\ L_c + L_a &\leq 10\text{m} \end{aligned}$$

Notes (1) When installing outdoor units in locations where the outdoor ambient temperature may drop below -15°C, the total piping length must be within 510m.

(2) Equivalent piping length can be obtained by calculating as follows.

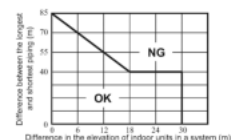
Equivalent piping length = Real gas piping length + Number of bends in gas piping × Equivalent piping length of bends

Equivalent length of each joint (90°elbow)										Unit : m/one part	
Gas piping size	φ 9.52	φ 12.7	φ 15.88	φ 19.05	φ 22.22	φ 25.4	φ 28.58	φ 31.8	φ 34.92	φ 38.1	
Equivalent length	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.55	0.60	0.65	

(3) When the difference between the longest and shortest piping is longer than 40m, adjust the difference in the elevation of indoor units in a system such that it will fall in the OK range on the following graph.

When the difference in the elevation between the indoor and the outdoor units is 50m – 90m or difference in the elevation of indoor units in a system is 18m – 30m, the difference between the longest and shortest piping cannot exceed 40m. Reduce it to less than 40m.

If the refrigerant quantity over occurs when the difference between the longest and shortest piping is longer than 40m, there is a risk that the heating capacity becomes insufficient. Take sufficient care to adjust the additional refrigerant quantity at correct value.



(4) When it is required to install in a range of 50 to 90m, the limitation of use, etc. are different from those described here. For details, refer to 3.2 Installation with large difference in height between units.

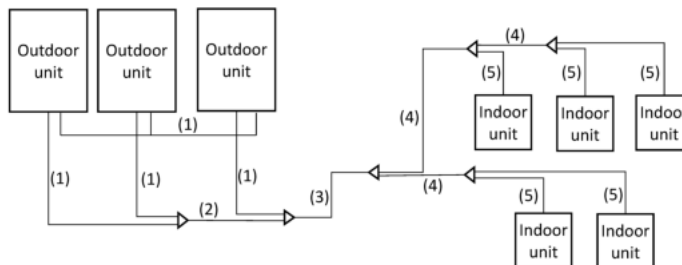
(5) It must be 40m or less, when it is required to use at the outdoor air temperature higher than 43°C.

(6) It must be less than 30m when conducting the cooling operation with the outdoor air temperature lower than 10°C.

(7) If the difference in the elevation is 18 to 30m, the limitation of use, etc. are different from those described here. For details, refer to 3.2 Installation with large difference in height between units.

(8) A branch piping system cannot be connected after a header system.

<Pipe size selection (for normal installation) >



(1) Outdoor unit – Outdoor unit side branching pipe:

Use a pipe conforming to the pipe size specified for outdoor unit connection.
Select it from outdoor unit connecting pipe size table.

Outdoor unit capacity	Outdoor unit outlet pipe specifications					
	Gas pipe		Liquid pipe		Oil equalizing pipe	
	Pipe diameter	Connection method	Pipe diameter	Connection method	Pipe diameter	Connection method
224	φ19.05×t1.0	Brazed	φ9.52×t0.8	Flared	φ12.7×t0.8 ¹	Flared
280	φ22.22×t1.0		φ12.7×t0.8			
335	φ22.22 (φ25.4) ×t1.0					
400	φ28.58 (φ25.4) ×t1.0					
450	φ28.58×t1.0					
500						
530						
560						
615						
670						

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

The pipe size of () is also available to use.

*1 Connect the main and sub units with an oil equalization pipe, when units are used as a combination unit. (It is not required, when a unit is used as a single unit.)

(2) Selection of pipe between outdoor branch pipes for 3-unit combination:

Size of pipe between outdoor branch pipes varies depending on the capacity of outdoor unit which is connected to second branch pipe in the outdoors. Select it from the following table.

Total capacity of outdoor units	Branching pipe size	
	Gas pipe	Liquid pipe
670 or less	φ28.58×t1.0	φ12.7×t0.8
735, 800, 850, 900, 950	φ34.92×t1.2 (φ31.8×t1.1)	φ15.88×t1.0
1000	φ34.92×t1.2	
1060 or more	(φ38.1×t1.35)	φ19.05×t1.0

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

The pipe size of () is also available to use.

(3) Main (Outdoor unit side branching pipe – Indoor unit side first branching pipe):

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

Outdoor unit capacity	Main pipe size (normal)		Pipe size for an actual length of 90m or longer		Outdoor unit capacity																
	Gas pipe	Liquid pipe	Gas pipe ^{*1,2}	Liquid pipe																	
224	φ19.05 × t 1.0	φ9.52 × t 0.8	φ22.22 × t 1.0	φ12.7 × t 0.8	224																
280	φ22.22 × t 1.0		φ22.22 (φ25.4) × t 1.0		φ12.7 × t 0.8	280															
335	φ22.22 (φ25.4) × t 1.0					φ28.58 × t 1.0	φ12.7 × t 0.8	335													
400	φ28.58 (φ25.4) × t 1.0		φ12.7 × t 0.8		φ28.58 × t 1.0			φ15.88 × t 1.0	400												
450	φ28.58 × t 1.0	φ12.7 × t 0.8		φ28.58 × t 1.0		φ15.88 × t 1.0	450														
500							φ28.58 × t 1.0		φ12.7 × t 0.8	φ28.58 × t 1.0	φ15.88 × t 1.0	500									
530												φ28.58 × t 1.0	φ12.7 × t 0.8	φ28.58 × t 1.0	φ15.88 × t 1.0	530					
560																φ28.58 × t 1.0	φ12.7 × t 0.8	φ28.58 × t 1.0	φ15.88 × t 1.0	560	
615																				φ28.58 × t 1.0	φ12.7 × t 0.8
670			φ28.58 × t 1.0		φ12.7 × t 0.8			φ28.58 × t 1.0													
735	φ34.92 × t 1.2 (φ31.8 × t 1.1)	φ15.88 × t 1.0		φ28.58 × t 1.0		φ15.88 × t 1.0															
800							φ34.92 × t 1.2 (φ31.8 × t 1.1)		φ15.88 × t 1.0	φ28.58 × t 1.0	φ15.88 × t 1.0										
850												φ34.92 × t 1.2 (φ31.8 × t 1.1)	φ15.88 × t 1.0	φ28.58 × t 1.0	φ15.88 × t 1.0						
900																φ34.92 × t 1.2 (φ31.8 × t 1.1)	φ15.88 × t 1.0	φ28.58 × t 1.0	φ15.88 × t 1.0		
950																				φ34.92 × t 1.2 (φ31.8 × t 1.1)	φ15.88 × t 1.0
1000			φ34.92 × t 1.2 (φ31.8 × t 1.1)		φ15.88 × t 1.0			φ28.58 × t 1.0													
1060	φ34.92 × t 1.2 (φ31.8 × t 1.1)	φ15.88 × t 1.0		φ28.58 × t 1.0		φ15.88 × t 1.0															
1120							φ34.92 × t 1.2 (φ31.8 × t 1.1)		φ15.88 × t 1.0	φ28.58 × t 1.0	φ15.88 × t 1.0										
1175												φ34.92 × t 1.2 (φ31.8 × t 1.1)	φ15.88 × t 1.0	φ28.58 × t 1.0	φ15.88 × t 1.0						
1230																φ34.92 × t 1.2 (φ31.8 × t 1.1)	φ15.88 × t 1.0	φ28.58 × t 1.0	φ15.88 × t 1.0		
1285																				φ34.92 × t 1.2 (φ31.8 × t 1.1)	φ15.88 × t 1.0
1340			φ34.92 × t 1.2 (φ31.8 × t 1.1)		φ15.88 × t 1.0			φ28.58 × t 1.0													
1400	φ34.92 × t 1.2 (φ31.8 × t 1.1)	φ15.88 × t 1.0		φ28.58 × t 1.0		φ15.88 × t 1.0															
1450							φ34.92 × t 1.2 (φ31.8 × t 1.1)		φ15.88 × t 1.0	φ28.58 × t 1.0	φ15.88 × t 1.0										
1500												φ34.92 × t 1.2 (φ31.8 × t 1.1)	φ15.88 × t 1.0	φ28.58 × t 1.0	φ15.88 × t 1.0						
1560																φ34.92 × t 1.2 (φ31.8 × t 1.1)	φ15.88 × t 1.0	φ28.58 × t 1.0	φ15.88 × t 1.0		
1620																				φ34.92 × t 1.2 (φ31.8 × t 1.1)	φ15.88 × t 1.0
1680			φ34.92 × t 1.2 (φ31.8 × t 1.1)		φ15.88 × t 1.0			φ28.58 × t 1.0													
1735	φ41.28 × t 1.45 (φ34.92 × t 1.2 φ38.1 × t 1.35)	φ19.05 × t 1.0		φ41.28 × t 1.45 (φ34.92 × t 1.2 φ38.1 × t 1.35)		φ22.22 × t 1.0															
1790							φ41.28 × t 1.45 (φ34.92 × t 1.2 φ38.1 × t 1.35)		φ19.05 × t 1.0	φ41.28 × t 1.45 (φ34.92 × t 1.2 φ38.1 × t 1.35)	φ22.22 × t 1.0										
1845												φ41.28 × t 1.45 (φ34.92 × t 1.2 φ38.1 × t 1.35)	φ19.05 × t 1.0	φ41.28 × t 1.45 (φ34.92 × t 1.2 φ38.1 × t 1.35)	φ22.22 × t 1.0						
1900																φ41.28 × t 1.45 (φ34.92 × t 1.2 φ38.1 × t 1.35)	φ19.05 × t 1.0	φ41.28 × t 1.45 (φ34.92 × t 1.2 φ38.1 × t 1.35)	φ22.22 × t 1.0		
1955																				φ41.28 × t 1.45 (φ34.92 × t 1.2 φ38.1 × t 1.35)	φ19.05 × t 1.0
2010			φ41.28 × t 1.45 (φ34.92 × t 1.2 φ38.1 × t 1.35)		φ19.05 × t 1.0			φ41.28 × t 1.45 (φ34.92 × t 1.2 φ38.1 × t 1.35)													
	φ41.28 × t 1.45	φ22.22 × t 1.0		φ44.45 × t 1.55		φ28.58 (φ25.4) × t 1.0															
							φ41.28 × t 1.45		φ22.22 × t 1.0	φ44.45 × t 1.55	φ28.58 (φ25.4) × t 1.0										
												φ41.28 × t 1.45	φ22.22 × t 1.0	φ44.45 × t 1.55	φ28.58 (φ25.4) × t 1.0						
																φ41.28 × t 1.45	φ22.22 × t 1.0	φ44.45 × t 1.55	φ28.58 (φ25.4) × t 1.0		
																				φ41.28 × t 1.45	φ22.22 × t 1.0
			φ41.28 × t 1.45		φ22.22 × t 1.0			φ44.45 × t 1.55													

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

The pipe size of () is also available to use.

CAUTION

*1 When installed in a location where the outdoor air temperature may drop below -15°C, use piping of same size as normal for main gas pipe even if actual length is 90m or longer.

*2 When Outdoor unit is FDC500, if one of the following conditions is met, use piping of same size as normal for main gas pipe even if actual length is 90m or longer.

(a) When outdoor units are installed in the upper position and height difference between outdoor and indoor units is 70m or more.

(b) When installed in a location where the outdoor air temperature may exceed 50°C

(4) Indoor unit side first branching pipe – Indoor unit side branching pipe:

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.**
If it exceeds the main pipe size, use the main pipe size.

Total capacity of indoor units	Gas pipe	Liquid pipe
Less than 70	φ 12.7 × 1.0.8	φ 9.52 × 1.0.8
70 or more and less than 180	φ 15.88 × 1.1.0	
180 or more and less than 371	φ 19.05 × 1.1.0 *1	φ 12.7 × 1.0.8
371 or more and less than 540	φ 28.58 × 1.1.0 (φ 25.4)	φ 15.88 × 1.1.0
540 or more and less than 700	φ 28.58 × 1.1.0	
700 or more and less than 1100	φ 34.92 × 1.1.2 (φ 31.8 × 1.1.1)	φ 19.05 × 1.1.0
1100 or more	φ 34.92 × 1.1.2 (φ 38.1 × 1.1.35)	

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

*1: When connecting indoor units with the capacity of 280 at the downstream and the main gas pipe size is φ22.22 or larger, use the pipe of φ22.22 × 1.1.0.

(5) Indoor unit side branching pipe – Indoor unit:

Select it from indoor unit connection pipe size table.

	Capacity	Gas pipe	Liquid pipe
	15, 22, 28	φ 9.52 × 1.0.8	φ 6.35 × 1.0.8
Indoor unit	36, 45, 56	φ 12.7 × 1.0.8	
	71, 90, 112, 140, 160	φ 15.88 × 1.1.0	φ 9.52 × 1.0.8
	224	φ 19.05 × 1.1.0	
	280	φ 22.22 × 1.1.0	

Use C1220T-1/2H for φ 19.05 or larger pipes.

3.2 Installation with large difference in height between units

3.2.1 The height difference between the indoor and the outdoor units is more than 50m

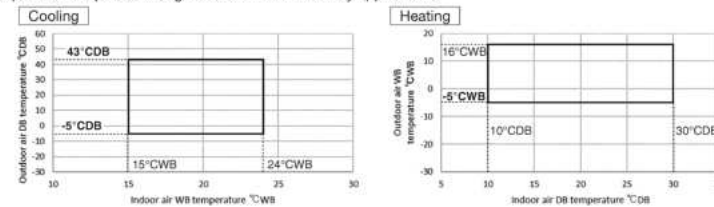
In case when the outdoor unit is installed at a higher place and **the difference in the elevation between the indoor and the outdoor units is larger than 50m**, the limitation on application differs partially from ordinary applications and, instead, the following specification applies. The pipe size, refrigerant amount and way of switch setting become also different. In the range of use, **the outdoor air temperature (lower limit), indoor units allowed to combine, total piping length and difference in the elevation between indoor units in the same system** are different from ordinary applications.

<Range of use>

Operating temperature range (Upper, lower limits)	Indoor unit	Cooling : 15~24°CWB Heating : 10~30°CDB (Refer to following figure)
	Outdoor unit	Cooling : -5~43°CDB Heating : -5~16°CWB (Refer to following figure)
Indoor unit ambient dew point temperature and humidity (including behind ceiling)	Model : FDT, FDTG, FDTW, FDTG, FDTQ, FDU, FDUM, FDUT, FDUH, FDU-F	Dew point temperature : 28°C or less Relative humidity : 80% or less
	Model : FDE, FDK, FDFL, FDFU, FDFW	Dew point temperature : 23°C or less Relative humidity : 80% or less
Power source voltage	Voltage fluctuation	Within ±10% of rated voltage
	Voltage drop during start	Within -15% of rated voltage
	Phase unbalance	Within 3%
Indoor units combination	Number of connectable units	Refer to below Connectable indoor unit capacity
	Connectable capacity	

• Operating temperature range

Operation temperature range is different from ordinary applications.



• Connectable indoor unit capacity

Connectable indoor unit capacity is up to 100%.

Model	Item	Number of connectable units	Connectable capacity
FDC224KXZE3A		1 to 14	112 ~ 224
FDC280KXZE3A		1 to 18	140 ~ 280
FDC335KXZE3A		1 to 22	168 ~ 335
FDC400KXZE3		1 to 26	200 ~ 400
FDC450KXZE3		1 to 30	224 ~ 450
FDC500KXZE3		1 to 33	250 ~ 504
FDC530KXZE3		1 to 35	265 ~ 530
FDC560KXZE3		1 to 37	280 ~ 560
FDC615KXZE3		2 to 41	308 ~ 615
FDC670KXZE3		2 to 44	335 ~ 670
FDC735KXZE3		2 to 49	364 ~ 735

Model	Item	Number of connectable units	Connectable capacity
FDC800KXZE3		2 to 53	392 – 800
FDC800KXZE3			
FDC850KXZE3		2 to 56	420 – 850
FDC850KXZE3			
FDC900KXZE3		2 to 60	448 – 900
FDC900KXZE3			
FDC950KXZE3		2 to 63	475 – 950
FDC950KXZE3			
FDC1000KXZE3		2 to 67	500 – 1005
FDC1000KXZE3			
FDC1060KXZE3		2 to 71	530 – 1070
FDC1120KXZE3		2 to 75	560 – 1135
FDC1175KXZE3		3 to 80	588 – 1200
FDC1230KXZE3		3 to 80	615 – 1250
FDC1285KXZE3		3 to 80	643 – 1300
FDC1340KXZE3		3 to 80	670 – 1350
FDC1400KXZE3		3 to 80	700 – 1400
FDC1450KXZE3		3 to 80	725 – 1450
FDC1500KXZE3		3 to 80	750 – 1500
FDC1560KXZE3		3 to 80	780 – 1560
FDC1620KXZE3		3 to 80	810 – 1620
FDC1680KXZE3		3 to 80	840 – 1680
FDC1735KXZE3		4 to 80	868 – 1735
FDC1790KXZE3		4 to 80	895 – 1790
FDC1845KXZE3		4 to 80	923 – 1845
FDC1900KXZE3		4 to 80	950 – 1900
FDC1955KXZE3		4 to 80	978 – 1955
FDC2010KXZE3		4 to 80	1005 – 2010

<Refrigerant piping>

Total piping length and height difference between indoor units is different from ordinary applications.

Piping length	Total piping	510m or less
	Main piping	130m or less
	Single direction piping	Actual length : 160m or less Equivalent length : 185m or less (1)
	from first branch to indoor unit	90m or less (difference between the longest and shortest piping length : 40m or less(2))
	Between an outdoor unit branch and an outdoor unit	10m or less
	Oil equalization piping	10m or less
Difference in height	Between an indoor unit and an outdoor unit (Outdoor unit is higher)	90m or less
	Between an indoor unit and an outdoor unit (Outdoor unit is lower)	40m or less(3)
	Between indoor units	15m or less
	Between outdoor units	0.4m or less
	Between the first branch and an indoor unit	15m or less

Notes (1) Equivalent piping length can be obtained by calculating as follows.

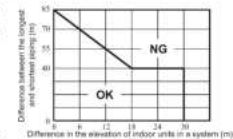
Equivalent piping length = Real gas piping length + Number of bends in gas piping × Equivalent piping length of bends

Equivalent length of each joint (90°elbow)										Unit : m/one part	
Gas piping size	φ 9.52	φ 12.7	φ 15.88	φ 19.05	φ 22.22	φ 25.4	φ 28.58	φ 31.8	φ 34.92	φ 38.1	
Equivalent length	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.55	0.60	0.65	

(2) When the difference between the longest and shortest piping is longer than 40m, adjust the difference in the elevation of indoor units in a system such that it will fall in the OK range on the following graph.

When the difference in the elevation between the indoor and the outdoor units is 50m – 90m or difference in the elevation of indoor units in a system is 18m – 30m, the difference between the longest and shortest piping cannot exceed 40m. Reduce it to less than 40m.

If the refrigerant quantity over occurs when the difference between the longest and shortest piping is longer than 40m, there is a risk that the heating capacity becomes insufficient. Take sufficient care to adjust the additional refrigerant quantity at correct value.



(3) It must be less than 30m when conducting the cooling operation with the outdoor air temperature lower than 10°C.

<Pipe size selection>

(1) Outdoor unit - Outdoor unit side branching pipe

There is no difference from ordinary applications.

Outdoor unit capacity	Outdoor unit outlet pipe specifications					
	Gas pipe		Liquid pipe		Oil equalizing pipe	
	Pipe diameter	Connection method	Pipe diameter	Connection method	Pipe diameter	Connection method
224	φ19.05×t1.0	Braze	φ9.52×t0.8	Flared	φ12.7×t0.8 ^{*1}	Flared
280	φ22.22×t1.0		φ12.7×t0.8			
335	φ22.22 (φ25.4) ×t1.0					
400	φ28.58 (φ25.4) ×t1.0					
450	φ28.58×t1.0					
500						
530						
560						
615						
670						

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

The pipe size of () is also available to use.

*1 Connect the main and sub units with an oil equalization pipe, when units are used as a combination unit. (It is not required, when a unit is used as a single unit.)

(2) Selection of pipe between outdoor branch piping for 3-unit combination

There is no difference from ordinary applications.

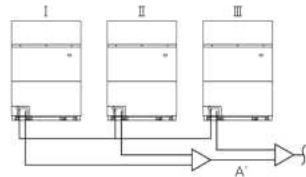
When three outdoor units are combined

Select the pipe size for A' in the figure from the table below based on the total capacity of the outdoor units connected upstream (sum of I and II).

Total capacity of outdoor units	Branching pipe size	
	Gas pipe	Liquid pipe
670 or less	φ28.58×t1.0	φ12.7×t0.8
735, 800, 850, 900, 950	φ34.92×t1.2 (φ31.8×t1.1)	φ15.88×t1.0
1000	φ34.92×t1.2	
1060 or more	(φ38.1×t1.35)	φ19.05×t1.0

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

The pipe size of () is also available to use.



(3) Main (Outdoor unit side branching pipe - Indoor unit side first branching pipe)

The size of liquid pipes shown with underline is one size larger than ordinary applications.

Outdoor unit capacity	Main pipe size (normal)		Pipe size for an actual length of 90m or longer		Outdoor unit capacity			
	Gas pipe	Liquid pipe	Gas pipe ^{*1,2}	Liquid pipe				
224	φ19.05 × t 1.0	φ12.7 × t 0.8	φ22.22 × t 1.0	φ15.88 × t 0.8	224			
280	φ22.22 × t 1.0		φ22.22 (φ25.4) × t 1.0		280			
335	φ22.22 (φ25.4) × t 1.0	φ15.88 × t 0.8		φ28.58 × t 1.0	335			
400	φ28.58 (φ25.4) × t 1.0		400					
450	φ28.58 × t 1.0		φ28.58 × t 1.0 (φ31.8 × t 1.1)	450				
500				φ15.88 × t 1.0	500			
530					530			
560					560			
615					615			
670				670				
735	φ34.92 × t 1.2 (φ31.8 × t 1.1)	φ19.05 × t 1.0	φ34.92 × t 1.2 (φ38.1 × t 1.35)	φ19.05 × t 1.0	735			
800					800			
850					850			
900					900			
950					950			
1000	φ34.92 × t 1.2 (φ38.1 × t 1.35)	φ22.22 × t 1.0	φ41.28 × t 1.45 (φ34.92 × t 1.2 φ38.1 × t 1.35)	φ22.22 × t 1.0	1000			
1060					1060			
1120					1120			
1175					1175			
1230					1230			
1285					1285			
1340					1340			
1400					1400			
1450	φ41.28 × t 1.45 (φ34.92 × t 1.2 φ38.1 × t 1.35)				1450			
1500					1500			
1560					1560			
1620					1620			
1680	φ41.28 × t 1.45	φ28.58 (φ25.4) × t 1.0	φ44.45 × t 1.55	φ28.58 (φ25.4) × t 1.0	1680			
1735					1735			
1790					1790			
1845					1845			
1900					1900			
1955					1955			
2010					2010			

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

The pipe size of () is also available to use.

CAUTION

*1 When installed in a location where the outdoor air temperature may drop below -15°C, use piping of same size as normal for main gas pipe even if actual length is 90m or longer.

*2 When Outdoor unit is FDC500, if one of the following conditions is met, use piping of same size as normal for main gas pipe even if actual length is 90m or longer.

(a) When outdoor units are installed in the upper position and height difference between outdoor and indoor units is 70m or more.

(b) When installed in a location where the outdoor air temperature may exceed 50°C

(4) Indoor unit side first branching pipe - Indoor unit side branching pipe

There is no difference from ordinary applications.

Total capacity of indoor units	Gas pipe	Liquid pipe
Less than 70	$\phi 12.7 \times 1.0$	$\phi 9.52 \times 1.0$
70 or more and less than 180	$\phi 15.88 \times 1.0$	
180 or more and less than 371	$\phi 19.05 \times 1.0$ *1	$\phi 12.7 \times 1.0$
371 or more and less than 540	$\phi 28.58 \times 1.0$ ($\phi 25.4$)	
540 or more and less than 700	$\phi 28.58 \times 1.0$	$\phi 15.88 \times 1.0$
700 or more and less than 1100	$\phi 34.92 \times 1.1$ 2 ($\phi 31.8 \times 1.1$)	
1100 or more	$\phi 34.92 \times 1.2$ ($\phi 38.1 \times 1.35$)	$\phi 19.05 \times 1.0$

Use C1220T-1/2H for $\phi 19.05$ or larger pipes.

*1: When connecting indoor unit with the capacity of 224 at the downstream and the main gas pipe size is $\phi 22.22$ or larger, use $\phi 22.22 \times 1.0$.

When connecting indoor unit with the capacity of 280 at the downstream and the main gas pipe size is $\phi 28.58$ ($\phi 25.4$) or larger, use $\phi 28.58$ ($\phi 25.4$) $\times 1.0$.

(5) Indoor unit side branching pipe - Indoor unit

The size of gas pipes shown with underline is one size larger than ordinary applications.

Indoor unit capacity	Gas pipe	Liquid pipe
15, 22, 28	$\phi 9.52 \times 1.0$	$\phi 6.35 \times 1.0$
36, 45, 56	$\phi 12.7 \times 1.0$	
71, 90	$\phi 15.88 \times 1.0$	$\phi 9.52 \times 1.0$
112, 140, 160	<u>$\phi 19.05 \times 1.0$</u>	
224	<u>$\phi 22.22 \times 1.0$</u>	
280	<u>$\phi 28.58$ ($\phi 25.4$) $\times 1.0$</u>	

<Additional refrigerant charge>

Additional refrigerant quantity for indoor unit is different from ordinary applications.

Additional refrigerant quantity for indoor unit[kg] = Total indoor unit capacity[kW] $\times$ 0.090[kg/kW]

Additional refrigerant quantity for piping is same as ordinary applications.

<Control setting>

Setting of microcomputer control needs to be changed when the outdoor unit is installed upwards and the difference in elevation is larger than 50m and less than 90m. Make sure to set SW6-4 and SW10-5 at below table position on both the main and sub units, before turning the power on.

Elevation difference	Setting	
	SW6-4	SW10-5
0m - 50m	OFF	OFF
50m - 70m	ON	OFF
70m - 90m	ON	ON

3.2.2 The height difference between the indoor units is more than 18m

In case of **the difference in the elevation between the indoor unit in a system is larger than 18m**, the limitation on application differs partially from ordinary applications and, instead, the following specification applies.

In the range of use, **indoor units allowed to combine, and allowable difference in the elevation between outdoor unit and indoor units in the same system** are different from ordinary applications.

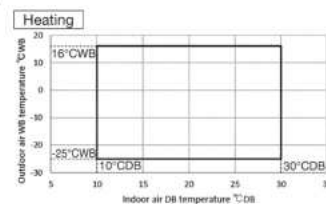
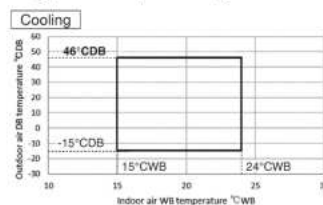
<Range of use>

Operating temperature range (Upper, lower limits)	Indoor unit	Cooling : 15~24°CWB Heating : 10~30°CDB (Refer to following figure)
	Outdoor unit	Cooling : -15~46°CDB Heating : -25~16°CWB (Refer to following figure)
Indoor unit ambient dew point temperature and humidity (including behind ceiling)	Model : FDT, FDTG, FDTW, FDTS, FDTQ, FDU, FDUM, FDUT, FDUH, FDU-F	Dew point temperature : 28°C or less Relative humidity : 80% or less
	Model : FDE, FDK, FDFL, FDFU, FDFW	Dew point temperature : 23°C or less Relative humidity : 80% or less
Power source voltage	Voltage fluctuation	Within ±10% of rated voltage
	Voltage drop during start	Within -15% of rated voltage
	Phase unbalance	Within 3%
Indoor units combination	Number of connectable units	Refer to below Connectable indoor unit capacity
	Connectable capacity	

• Operating temperature range

Cooling operation temperature range is different from ordinary applications.

Heating operation temperature range is same as ordinary applications.



• Connectable indoor unit capacity

Connectable indoor unit capacity is up to 100%.

Model	Item	Number of connectable units	Connectable capacity
FDC224KXZE3A		1 to 14	112 ~ 224
FDC280KXZE3A		1 to 18	140 ~ 280
FDC335KXZE3A		1 to 22	168 ~ 335
FDC400KXZE3		1 to 26	200 ~ 400
FDC450KXZE3		1 to 30	224 ~ 450
FDC500KXZE3		1 to 33	250 ~ 504
FDC530KXZE3		1 to 35	265 ~ 530
FDC560KXZE3		1 to 37	280 ~ 560
FDC615KXZE3		2 to 41	308 ~ 615
FDC670KXZE3		2 to 44	335 ~ 670
FDC735KXZE3		2 to 49	364 ~ 735

Model	Item	Number of connectable units	Connectable capacity
FDC800KXZE3		2 to 53	392 – 800
FDC800KXZE3			
FDC850KXZE3		2 to 56	420 – 850
FDC850KXZE3			
FDC900KXZE3		2 to 60	448 – 900
FDC900KXZE3			
FDC950KXZE3		2 to 63	475 – 950
FDC950KXZE3			
FDC1000KXZE3		2 to 67	500 – 1005
FDC1000KXZE3			
FDC1060KXZE3		2 to 71	530 – 1070
FDC1120KXZE3		2 to 75	560 – 1135
FDC1175KXZE3		3 to 80	588 – 1200
FDC1230KXZE3		3 to 80	615 – 1250
FDC1285KXZE3		3 to 80	643 – 1300
FDC1340KXZE3		3 to 80	670 – 1350
FDC1400KXZE3		3 to 80	700 – 1400
FDC1450KXZE3		3 to 80	725 – 1450
FDC1500KXZE3		3 to 80	750 – 1500
FDC1560KXZE3		3 to 80	780 – 1560
FDC1620KXZE3		3 to 80	810 – 1620
FDC1680KXZE3		3 to 80	840 – 1680
FDC1735KXZE3		4 to 80	868 – 1735
FDC1790KXZE3		4 to 80	895 – 1790
FDC1845KXZE3		4 to 80	923 – 1845
FDC1900KXZE3		4 to 80	950 – 1900
FDC1955KXZE3		4 to 80	978 – 1955
FDC2010KXZE3		4 to 80	1005 – 2010

<Refrigerant piping>

Total piping length and height difference between indoor units is different from nominal installation.

Piping length	Total piping	1000m or less (1)
	Main piping	130m or less
	Single direction piping	Actual length : 160m or less Equivalent length : 185m or less (2)
	from first branch to indoor unit	90m or less (difference between the longest and shortest piping length : 40m or less (3))
	Between an outdoor unit branch and an outdoor unit	10m or less
	Oil equalization piping	10m or less
Difference in height	Between an indoor unit and an outdoor unit (Outdoor unit is higher)	50m or less (4)
	Between an indoor unit and an outdoor unit (Outdoor unit is lower)	40m or less (5)
	Between indoor units	30m or less
	Between outdoor units	0.4m or less
	Between the first branch and an indoor unit	30m or less

Notes (1) When installing outdoor units in locations where the outdoor ambient temperature may drop below -15°C, the total piping length must be within 510m.

(2) Equivalent piping length can be obtained by calculating as follows.

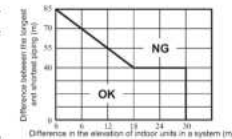
Equivalent piping length = Real gas piping length + Number of bends in gas piping × Equivalent piping length of bends :

Equivalent length of each joint (90°/elbow)											Unit : m/one part
Gas piping size	φ 9.52	φ 12.7	φ 15.88	φ 19.05	φ 22.22	φ 25.4	φ 28.58	φ 31.8	φ 34.92	φ 38.1	
Equivalent length	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.55	0.60	0.65	

(3) When the difference between the longest and shortest piping is longer than 40m, adjust the difference in the elevation of indoor units in a system such that it will fall in the OK range on the following graph.

When the difference in the elevation between the indoor and the outdoor units is 50m – 90m or difference in the elevation of indoor units in a system is 18m – 30m, the difference between the longest and shortest piping cannot exceed 40m. Reduce it to less than 40m.

If the refrigerant quantity over occurs when the difference between the longest and shortest piping is longer than 40m, there is a risk that the heating capacity becomes insufficient. Take sufficient care to adjust the additional refrigerant quantity at correct value.



(4) It must be 40m or less, when it is required to use at the outdoor air temperature higher than 43°C.

(5) It must be less than 30m when conducting the cooling operation with the outdoor air temperature lower than 10°C.

(1) Outdoor unit – Outdoor unit side branching pipe:

There is no difference from ordinary applications.

Outdoor unit capacity	Outdoor unit outlet pipe specifications					
	Gas pipe		Liquid pipe		Oil equalizing pipe	
	Pipe diameter	Connection method	Pipe diameter	Connection method	Pipe diameter	Connection method
224	φ19.05×11.0	Braze	φ9.52×0.8	Flared	φ12.7×0.8 ^{*1}	Flared
280	φ22.22×11.0		φ12.7×0.8			
335	φ22.22 (φ25.4) ×11.0					
400	φ28.58 (φ25.4) ×11.0					
450	φ28.58×11.0					
500						
530						
560						
615						
670						

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

The pipe size of () is also available to use.

*1 Connect the main and sub units with an oil equalization pipe, when units are used as a combination unit. (It is not required, when a unit is used as a single unit.)

(2) Selection of pipe between outdoor branch piping for 3-unit combination

There is no difference from ordinary applications.

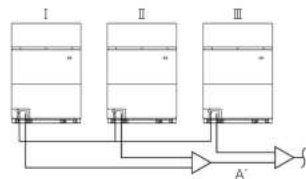
When three outdoor units are combined

Select the pipe size for A' in the figure from the table below based on the total capacity of the outdoor units connected upstream (sum of I and II).

Total capacity of outdoor units	Branching pipe size	
	Gas pipe	Liquid pipe
670 or less	φ28.58×t1.0	φ12.7×t0.8
735, 800, 850, 900, 950	φ34.92×t1.2 (φ31.8×t1.1)	φ15.88×t1.0
1000	φ34.92×t1.2	
1060 or more	(φ38.1×t1.35)	φ19.05×t1.0

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

The pipe size of () is also available to use.



(3) Main (Outdoor unit side branching pipe - Indoor unit side first branching pipe)

There is no difference from ordinary applications.

Outdoor unit capacity	Main pipe size (normal)		Pipe size for an actual length of 90m or longer		Outdoor unit capacity								
	Gas pipe	Liquid pipe	Gas pipe ^{*1,2}	Liquid pipe									
224	φ19.05 × t 1.0	φ9.52 × t 0.8	φ22.22 × t 1.0	φ12.7 × t 0.8	224								
280	φ22.22 × t 1.0		φ22.22 (φ25.4) × t 1.0			280							
335	φ22.22 (φ25.4) × t 1.0					φ28.58 × t 1.0		335					
400	φ28.58 (φ25.4) × t 1.0		φ12.7 × t 0.8		φ28.58 × t 1.0 (φ31.8 × t 1.1)			φ15.88 × t 1.0	400				
450	φ28.58 × t 1.0					450							
500									500				
530											530		
560													560
615													
670			670										
735					735								
800							800						
850									850				
900											900		
950											950		
1000											1000		
1060											1060		
1120											1120		
1175											1175		
1230											1230		
1285											1285		
1340											1340		
1400											1400		
1450											1450		
1500											1500		
1560											1560		
1620											1620		
1680											1680		
1735											1735		
1790											1790		
1845											1845		
1900											1900		
1955											1955		
2010											2010		

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

The pipe size of () is also available to use.

CAUTION

*1 When installed in a location where the outdoor air temperature may drop below -15°C, use piping of same size as normal for main gas pipe even if actual length is 90m or longer.

*2 When Outdoor unit is FDC500, if one of the following conditions is met, use piping of same size as normal for main gas pipe even if actual length is 90m or longer.

(a) When outdoor units are installed in the upper position and height difference between outdoor and indoor units is 70m or more.

(b) When installed in a location where the outdoor air temperature may exceed 50°C

(4) Indoor unit side first branching pipe - Indoor unit side branching pipe

The size of gas pipe shown with underline is one size smaller than ordinary applications.

Total indoor unit capacity	Gas pipe	Liquid pipe
Less than 70	<u>φ 9.52 × t 0.8</u>	φ 9.52 × t 0.8
70 or more and less than 180	<u>φ 12.7 × t 0.8</u>	
180 or more and less than 371	φ 19.05 × t 1.0	φ 12.7 × t 0.8
371 or more and less than 540	φ 28.58 (φ 25.4) × t 1.0	φ 15.88 × t 0.8
540 or more and less than 700	φ 28.58 × t 1.0	
700 or more and less than 1100	φ 34.92 × t 1.2	φ 19.05 × t 1.0
	(φ 31.8 × t 1.1)	
1100 or more	φ 34.92 × t 1.2 (φ 38.1 × t 1.35)	

Use C1220T-1/2H for φ 19.05 or larger pipe

*1: When 280 indoor unit is connected at the downstream and the main gas pipe is φ 22.22 or larger, use φ 22.22 × t 1.0.

(5) Indoor unit side branching pipe - Indoor unit

The size of gas pipe shown with underline is one size larger than ordinary applications.

Indoor unit capacity	Gas pipe	Liquid pipe
15, 22	<u>φ 6.35 × t 0.8</u>	φ 6.35 × t 0.8
28	φ 9.52 × t 0.8	
36, 45	<u>φ 9.52 × t 0.8</u>	
56	φ 12.7 × t 0.8	
71	<u>φ 12.7 × t 0.8</u>	φ 9.52 × t 0.8
90, 112, 140, 160	φ 15.88 × t 0.8	
224	φ 19.05 × t 1.0	
280	φ 22.22 × t 1.0	

Use C1220T-1/2H for φ 19.05 or larger pipe

<Control setting>

Setting of microcomputer control needs to be changed when the outdoor unit is installed and the difference in elevation is larger than 18m and less than 30m. Make sure to set SW10-6 at below table position on both the main and sub units, before turning the power on.

Elevation difference	Setting
0m—18m	SW10-6 OFF
18—30m	ON

3.3 Use at high ambient temperature

In case the outdoor unit is installed where the ambient temperature is higher than 43°C the following specification applies.

<Refrigerant piping>

Height difference between outdoor and indoor unit is different from ordinary applications.

<Outdoor unit is higher>

Outdoor air DB temperature	Allowable difference in height between indoor and outdoor units
≤ 43°C (Standard range)	90m
43°C < , ≤ 50°C	※
50°C < , ≤ 52°C	20m

※ If main pipe max length ≤ 90m : 40m or less
If main pipe max length > 90m : 30m or less

When outdoor unit is lower, there is no difference from ordinary applications.

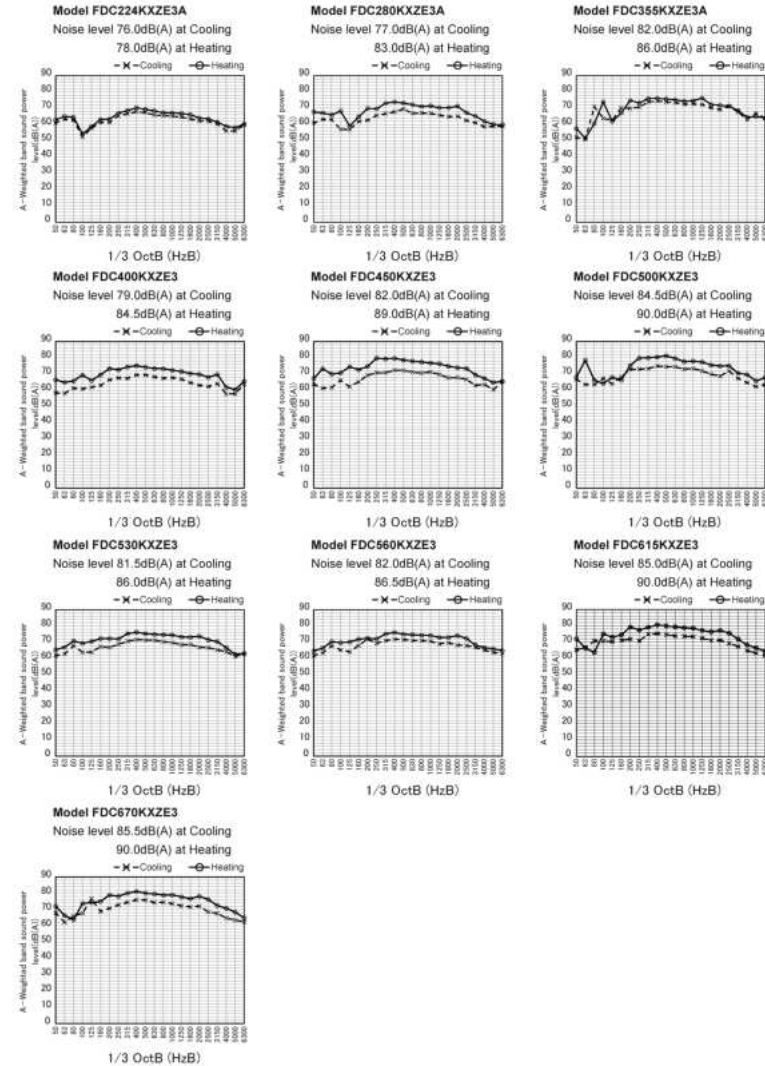
In case of installing at high temperature (more than 46°C) in cooling operation, allowable difference in height between indoor units is limited 18m or less.

<Installation space>

If it is expected to be used in high outside temperatures, more installation space is required than usual.
Refer to Installation manual of outdoor unit.

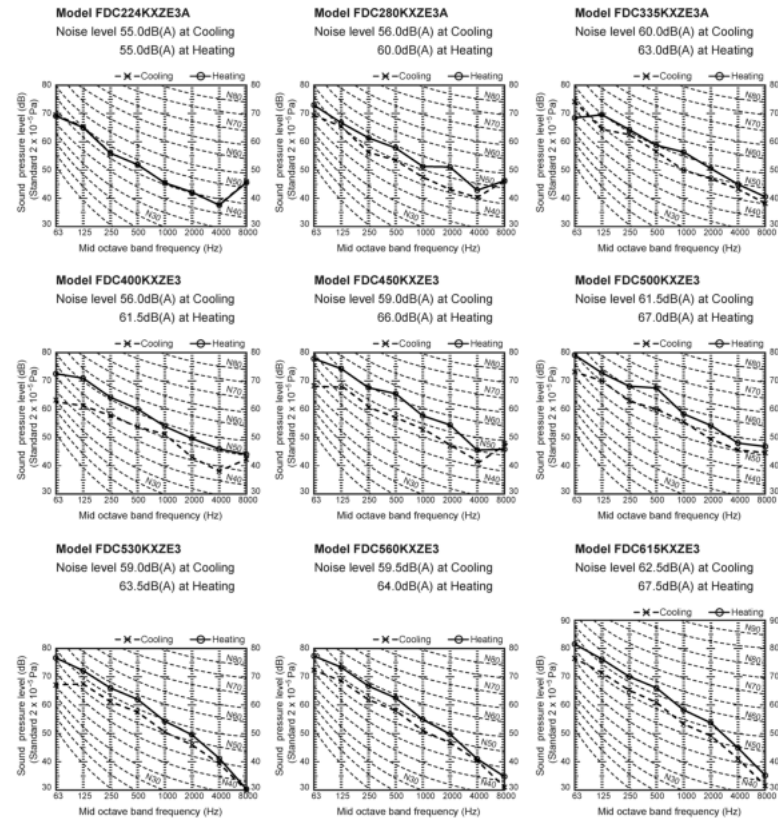
2.5 Noise level

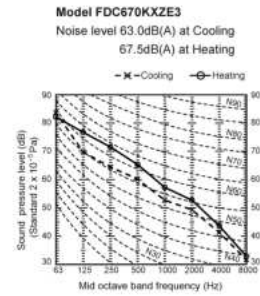
(a) Sound power level



(b) Sound pressure level

Mike position as highest noise level in position as below
Distance from front side 1m
Height 1m





(c) Noise level in silent mode

The following table is reference value. The noise level changes depending on the operating conditions.

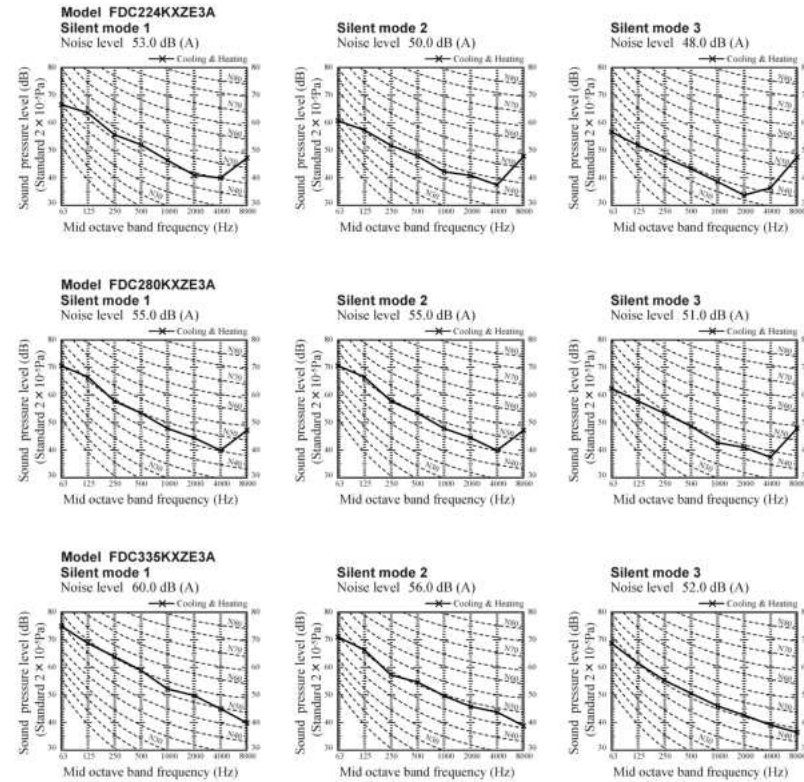
Refer to page 94 for silent mode setting procedure.

When an outdoor unit is set to silent mode, the capacity is changed. Refer to 5.2.

		[dB(A)]				
		Silent mode0		Silent mode1	Silent mode2	Silent mode3
		Cooling	Heating	Cooling & Heating		
FDC224	PWL	76.0	78.0	75.0	71.0	67.0
	SPL	55.0	55.0	53.0	50.0	48.0
FDC280	PWL	77.0	83.0	75.0	75.0	71.0
	SPL	56.0	60.0	55.0	55.0	51.0
FDC335	PWL	82.0	86.0	82.0	78.0	74.0
	SPL	60.0	63.0	60.0	56.0	52.0
FDC400	PWL	79.0	84.5	75.5	72.0	68.0
	SPL	56.0	61.5	55.5	52.5	47.0
FDC450	PWL	82.0	89.0	79.0	75.5	72.0
	SPL	59.0	66.0	59.5	55.5	52.5
FDC500	PWL	84.5	90.0	82.0	79.0	75.5
	SPL	61.5	67.0	62.0	59.5	55.5
FDC530	PWL	81.5	86.0	77.5	75.5	72.0
	SPL	59.0	63.5	59.5	57.0	54.0
FDC560	PWL	82.0	86.5	77.5	75.5	72.0
	SPL	59.5	64.0	59.5	57.0	54.0
FDC615	PWL	85.0	90.0	78.0	77.0	73.0
	SPL	62.5	67.5	59.5	58.5	55.0
FDC670	PWL	85.5	90.0	84.0	77.5	75.5
	SPL	63.0	67.5	64.0	59.5	57.0

(d) Sound pressure level in silent mode

Mike position as highest noise level in position as below
Distance from front side 1m
Height 1m



Noise level

Note (1) The data are based on the following conditions.

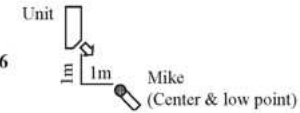
Ambient air temperature: Indoor unit 27°C DB, 19°C WB, Outdoor unit 35°C DB

(2) The data in the chart are measured in an anechoic room.

(3) The noise levels measured in the field are usually higher than the data because of reflection.

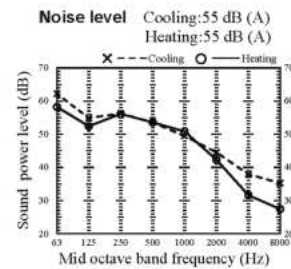
Measured based on JIS B 8616

Mike position as right



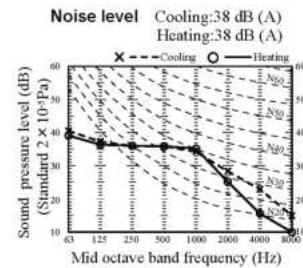
Model FDK28KXZE3-W

(a) Sound power level

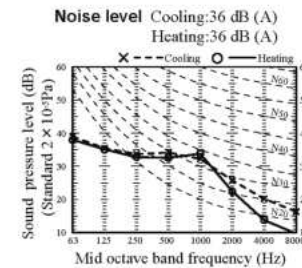


(b) Sound pressure level

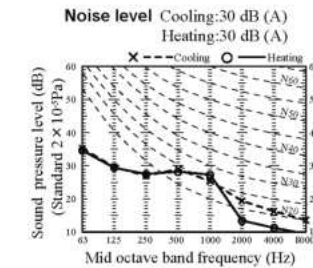
(i) Air flow : P-Hi



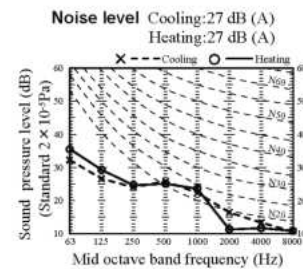
(ii) Air flow : Hi



(iii) Air flow : Me



(iv) Air flow : Lo



Noise level

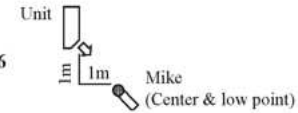
Note (1) The data are based on the following conditions.

Ambient air temperature: Indoor unit 27°C DB, 19°C WB, Outdoor unit 35°C DB

(2) The data in the chart are measured in an anechoic room.

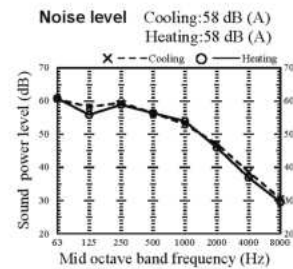
(3) The noise levels measured in the field are usually higher than the data because of reflection.

Measured based on JIS B 8616
Mike position as right



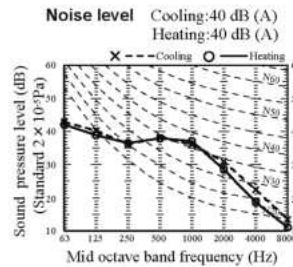
Model FDK36KXZE3-W

(a) Sound power level

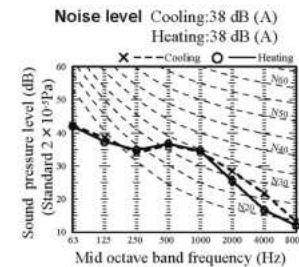


(b) Sound pressure level

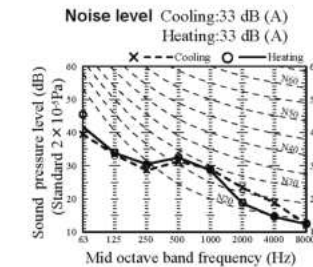
(i) Air flow : P-Hi



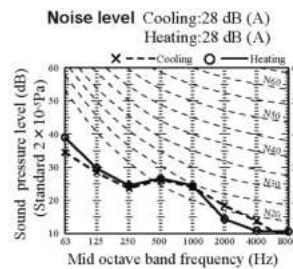
(ii) Air flow : Hi



(iii) Air flow : Me



(iv) Air flow : Lo



Noise level

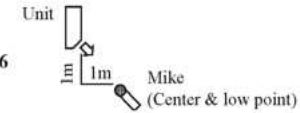
Note (1) The data are based on the following conditions.

Ambient air temperature: Indoor unit 27°C DB, 19°C WB, Outdoor unit 35°C DB

(2) The data in the chart are measured in an anechoic room.

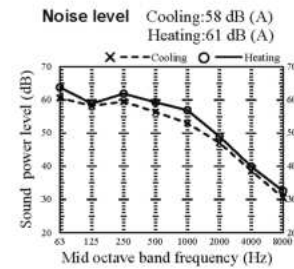
(3) The noise levels measured in the field are usually higher than the data because of reflection.

Measured based on JIS B 8616
Mike position as right



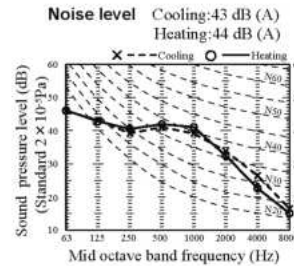
Model FDK56KXZE3-W

(a) Sound power level

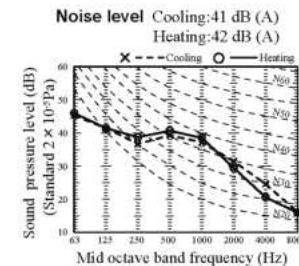


(b) Sound pressure level

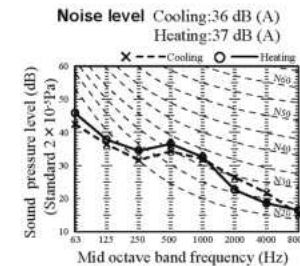
(i) Air flow : P-Hi



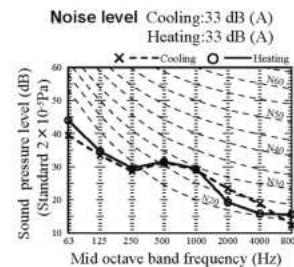
(ii) Air flow : Hi



(iii) Air flow : Me



(iv) Air flow : Lo



Noise level

Note (1) The data are based on the following conditions.

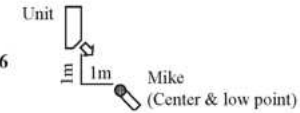
Ambient air temperature: Indoor unit 27°C DB, 19°C WB, Outdoor unit 35°C DB

(2) The data in the chart are measured in an anechoic room.

(3) The noise levels measured in the field are usually higher than the data because of reflection.

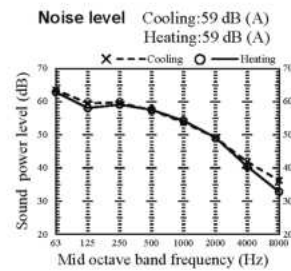
Measured based on JIS B 8616

Mike position as right



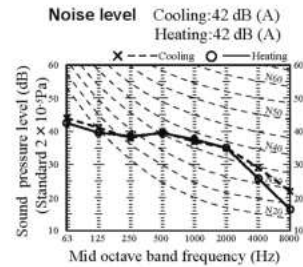
Model FDK71KXZE3-W

(a) Sound power level

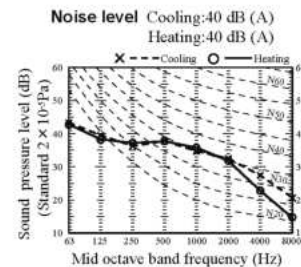


(b) Sound pressure level

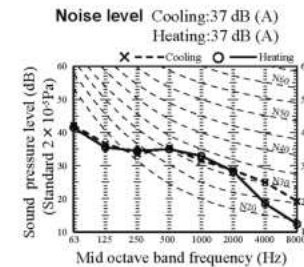
(i) Air flow : P-Hi



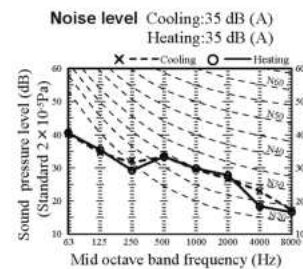
(ii) Air flow : Hi



(iii) Air flow : Me

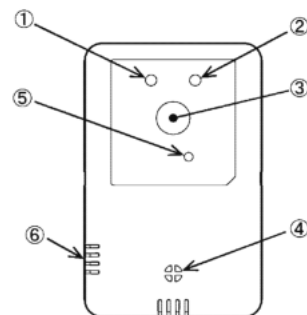


(iv) Air flow : Lo



RLD-KIT-E

RLD-KIT-E is MHI option refrigerant leak detector.
It is recommended to use RLD-KIT-E as a refrigerant leak detector.



① Operation light (Green)

This light is turned on when normally (When refrigerant is not leaking).
Depending on the condition of the refrigerant leak detector, it may flashing.

② Error light (Red)

This light is turned off when normally (When refrigerant is not leaking).
It is flashing when a refrigerant leak is detected or when there is something wrong with the refrigerant leak detector.

③ Switch

Following operations are possible depending on the setting of internal switches:

- Stopping alarm sound when refrigerant leak is detected.
- Stop of light flashing for refrigerant sensor replacement notice

④ Refrigerant detection part (Refrigerant sensor)

The part where refrigerant concentration is measured.

⑤ Alarm

The part where sound an alarm.

⑥ Room temperature detection part (R/C sensor)

The part where room temperatures is measured.

Set this function ON or OFF from the remote control.

• Do not install the remote control at following places.

- It could cause break down or deformation of remote control.
 - Where it is exposed to direct sunlight
 - Where the ambient temperature becomes 0°C or below, or 40°C or above
 - Where the surface is not flat
 - Where the strength of installation area is insufficient
- Moisture may be attached to internal parts of the remote controller, resulting in a display failure.
 - Place with high humidity where condensation occurs on the remote control
 - Where the remote control gets wet
- Accurate room temperature may not be detected using the temperature sensor of the remote control.
 - Where the average room temperature cannot be detected
 - Place near the equipment to generate heat
 - Place affected by outside air in opening/closing the door
 - Place exposed to direct sunlight or wind from air-conditioner
 - Where the difference between wall and room temperature is large

• When installing the unit at a hospital, telecommunication facility, etc., take measures to suppress electric noises.

It could cause malfunction or break-down due to hazardous effects on the inverter, private power generator, high frequency medical equipment, radio communication equipment, etc.
The influences transmitted from the remote control to medical or communication equipment could disrupt medical activities, video broadcasting or cause noise interference.

SC-SL2NA-E

Specifications

Description		Central control SC-SL2NA-E(*7)
Model Name		SC-SL2NA-E
Applicable model		SuperLink compatible indoor unit(*1)
Ambient temperature at operation		0~40°C
Power supply		1phase, 100 - 240V, 50/60Hz
Power consumption		7W
External dimensions (Height × Width × Depth)		120mm × 215mm × (25+35 ²)mm
Net weight		1kg
Maximum number of connected indoor units		New SL: Max. 64 units, Previous SL: Max. 48 units
Number of groups		Max. 16 groups
Input	External timer input *3	1 point, Non-voltage contact point "a" input (Open→Close: RUN, Close→Open: STOP)
	Emergency stop signal input *3	1point, Non-voltage contact point "a" input, Continuous input (Close; Center & Stop all units)
	Demand signal input *3	1point, Non-voltage contact point "a" input, Continuous input (Close; Center & Fan mode)
Output	Operation output *4	All indoor units at STOP; Open If there is any unit operating; Close
	Error output *4	All indoor units normal; Open If there is any abnormal unit; Close
Number of connected combination in a network *5		New SL : 8 units, Previous SL : 3 units

*1 Some of the new functions cannot be used depending on the indoor unit model

*2 35 indicates embedded portion in the wall.

*3 The selected relay obtained at the site should have the following specifications:
Non-voltage contact point "a" input and capable of withstanding a minimum applied load of DC 12V and 10mA or less.
Even if it is reset within 2 minutes after input, the input state is retained.

*4 The selected relay obtained at the site should have the following specifications:
rated voltage of DC 12V and maximum power consumption of DC 0.9W or less (80mA or less)

*5 Number of connected combination SL2N-E and SL1N-E at a network (new SL).

SL2N-E	0	1,2	3,4	5-8
SL1N-E	12	8	4	0

Refer to high-rank model specifications for the combination with high-rank central control model.

In case of Prev. SL, the number of connected combination is same to SC-SLA2A-ER.

*6 When the connecting network consists of previous SL, it is necessary to set the control switch SW5 to "OFF".

*7 The SC-SL2NA-E has an additional 4th fan speed (Powerful mode) function added for the indoor unit D type. (see p. 2 *4)

Other Information

· This central control is electronic and independently mounted control.

· The type of this central control is automatic action for which the manufacturing deviation and the drift of its operating value, operating time or operating sequence have not been declared, and tested under the standard.

· The actions of this central control are full-disconnection on operation, a trip-free mechanism which cannot even momentarily be reclosed against the fault, an action which can only be reset by the use of a tool, and an action that does not require any external auxiliary energy source of electrical supply for its intended operation.

· The rated impulse voltage (impulse withstand voltage) is 2500V.

· The definitions of types of control are electrical control, automatic control, and operating control.

· Control functions are not intended to be relied upon for the safety of the equipment.

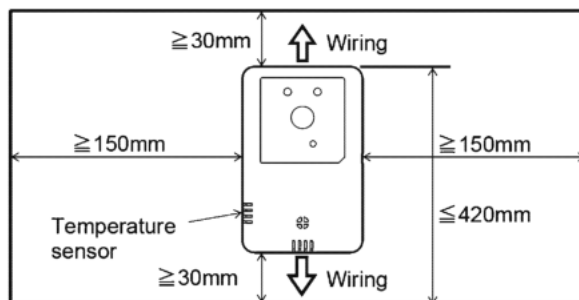
Definition of New and Previous SuperLink (New and Prev. SL)

New SuperLink(New SL): All units connected to the network are models compatible with New SuperLink (KXE6 model or later models .Central controller and I/F are from "N" models.) and SL setting is unchanged from shipment ("New" or "AUTO").

Previous SuperLink (Prev. SL) : Units do not meet the conditions of New SL. When even a single unit connected to the network is an earlier model than KXE4 or the connected model is not compatible with New SL. Setting explained in *6 is required.

RLD-KIT-E

Installation space



Secure minimum spaces for disassembling the case.

Left/Right side... 150mm or more

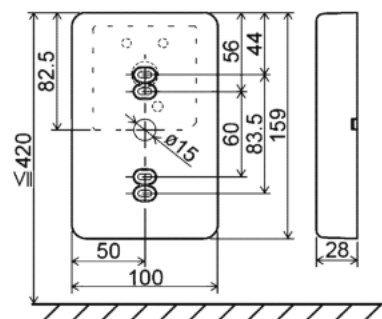
If using L-shaped screwdriver, 50mm or more is available.

The refrigerant detection part is within 300mm above floor (make the height of top face of detector not higher than 420mm from the floor surface).

Horizontal distance from the center of the indoor unit is less than 10m.

If there is any obstacle such as partition between the indoor unit and the detector, the horizontal distance from the center of the indoor unit must be within 7m.

Dimensions (Viewed from front)



R/C cable: 0.3mm² × 2 cores

When the cable length is longer than 100m, the max size for wires used in the R/C case is 0.5mm². Connect them to wires of larger size near the outside of R/C. When wires are connected, take measures to prevent water, etc. from entering inside.

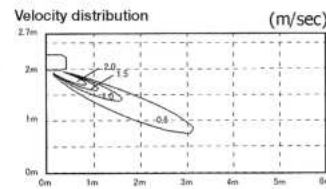
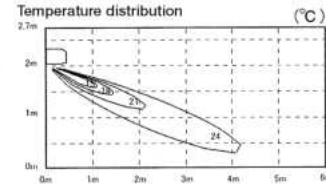
≤ 200m	0.5mm ² × 2 cores
≤ 300m	0.75mm ² × 2 cores
≤ 400m	1.25mm ² × 2 cores
≤ 600m	2.0mm ² × 2 cores

Temperature and velocity distribution

FDK22KXE3-W, 28KXE3-W

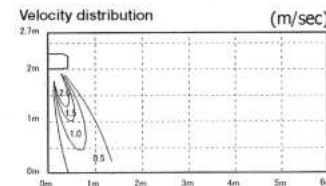
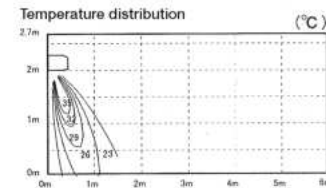
Cooling Air flow:P-Hi

Louver position



Heating Air flow:P-Hi

Louver position



indoor temperature

Cooling 27°CDB/ 19°CWB

Heating 20°CDB

Note:

These figures represent the typical main range of temperature and velocity distribution at the center of air outlet within the published conditions.

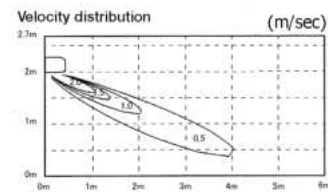
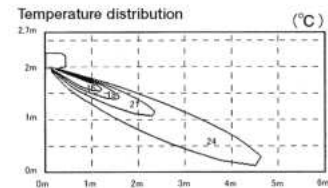
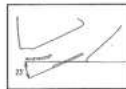
In the actual installation, they may differ from the typical figures under the influence of air temperature conditions, ceiling height, operation conditions and obstacles.

Temperature and velocity distribution

FDK36KXZE3-W

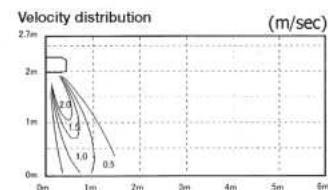
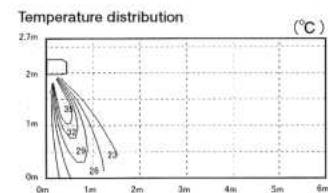
Cooling Air flow:P-H

Louver position



Heating Air flow:P-Hi

Louver position



Indoor temperature

Cooling 27°CDB/ 19°CWB
Heating 20°CDB

Note:

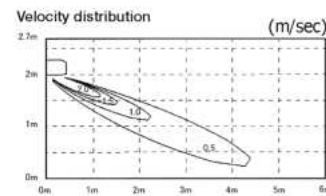
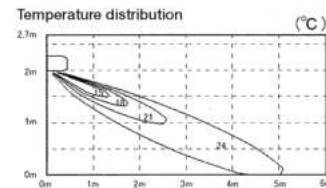
These figures represent the typical main range of temperature and velocity distribution at the center of air outlet within the published conditions.
In the actual installation, they may differ from the typical figures under the influence of air temperature conditions, ceiling height, operation conditions and obstacles.

Temperature and velocity distribution

FDK56KXZE3-W

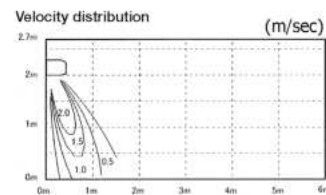
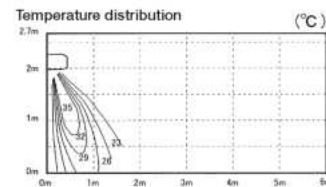
Cooling Air flow:P-Hi

Louver position



Heating Air flow:P-Hi

Louver position



Indoor temperature

Cooling 27°CDB/ 19°CWB

Heating 20°CDB

Note:

These figures represent the typical main range of temperature and velocity distribution at the center of air outlet within the published conditions.

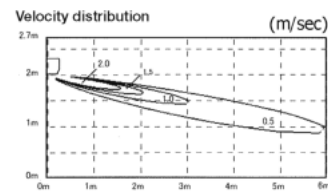
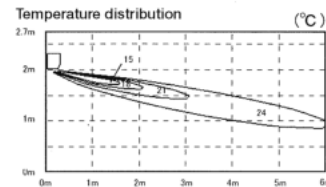
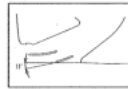
In the actual installation, they may differ from the typical figures under the influence of air temperature conditions, ceiling height, operation conditions and obstacles.

Temperature and velocity distribution

FDK71KXZE3-W

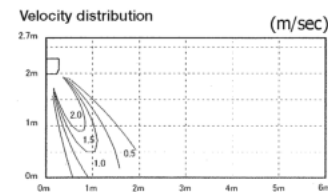
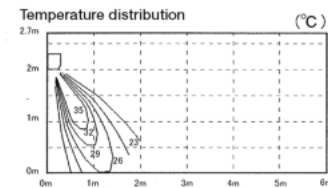
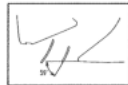
Cooling Air flow: P-H

Louver position



Heating Air flow: P-H

Louver position



Indoor temperature

Cooling 27°CDB/ 19°CWB

Heating 20°CDB

Note:

These figures represent the typical main range of temperature and velocity distribution at the center of air outlet within the published conditions.

In the actual installation, they may differ from the typical figures under the influence of air temperature conditions, ceiling height, operation conditions and obstacles.