

MITSUBISHI HEAVY INDUSTRIES

VRF

INWERTEROWY SYSTEM MULTISPLIT KX



SPECYFIKACJA PROJEKTOWA

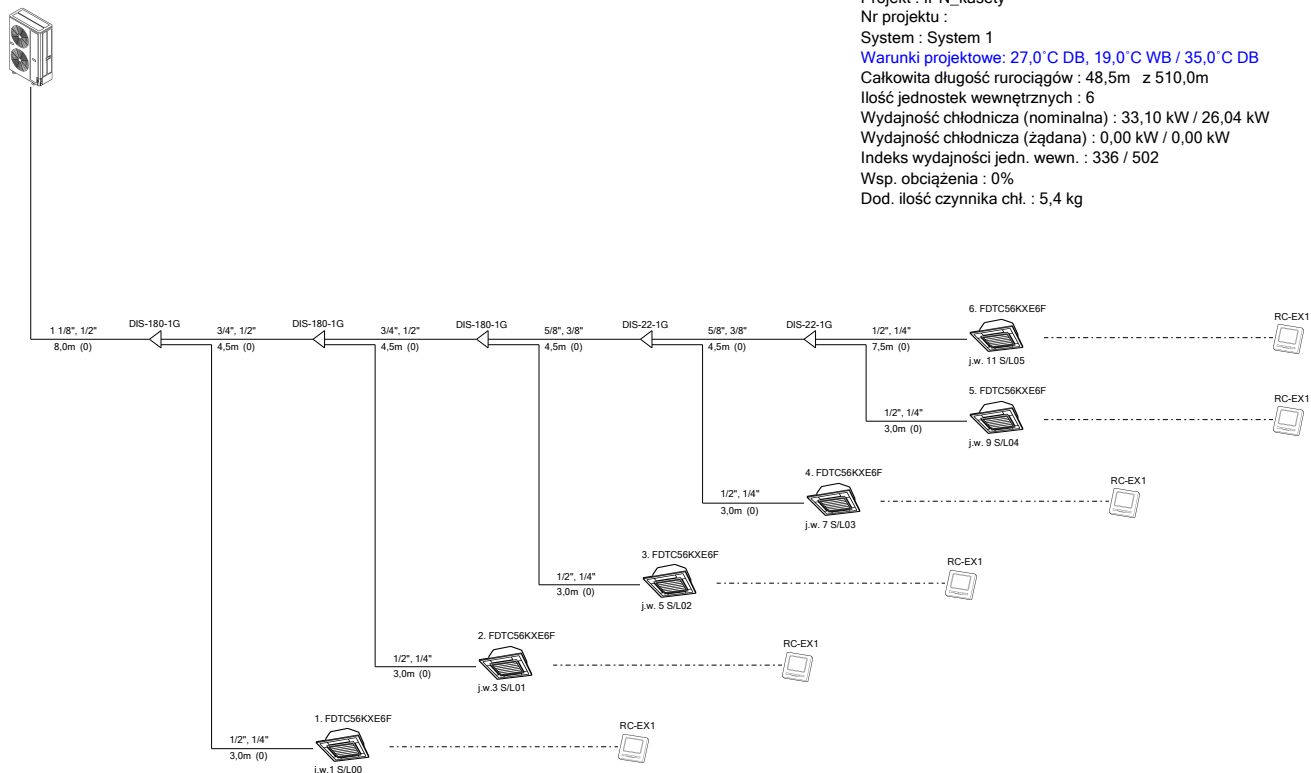
Project: IPN_kasety

Klient:

Przygotował:

Lokalizacja:

Data/czas raportu: 2015-10-19 11:12

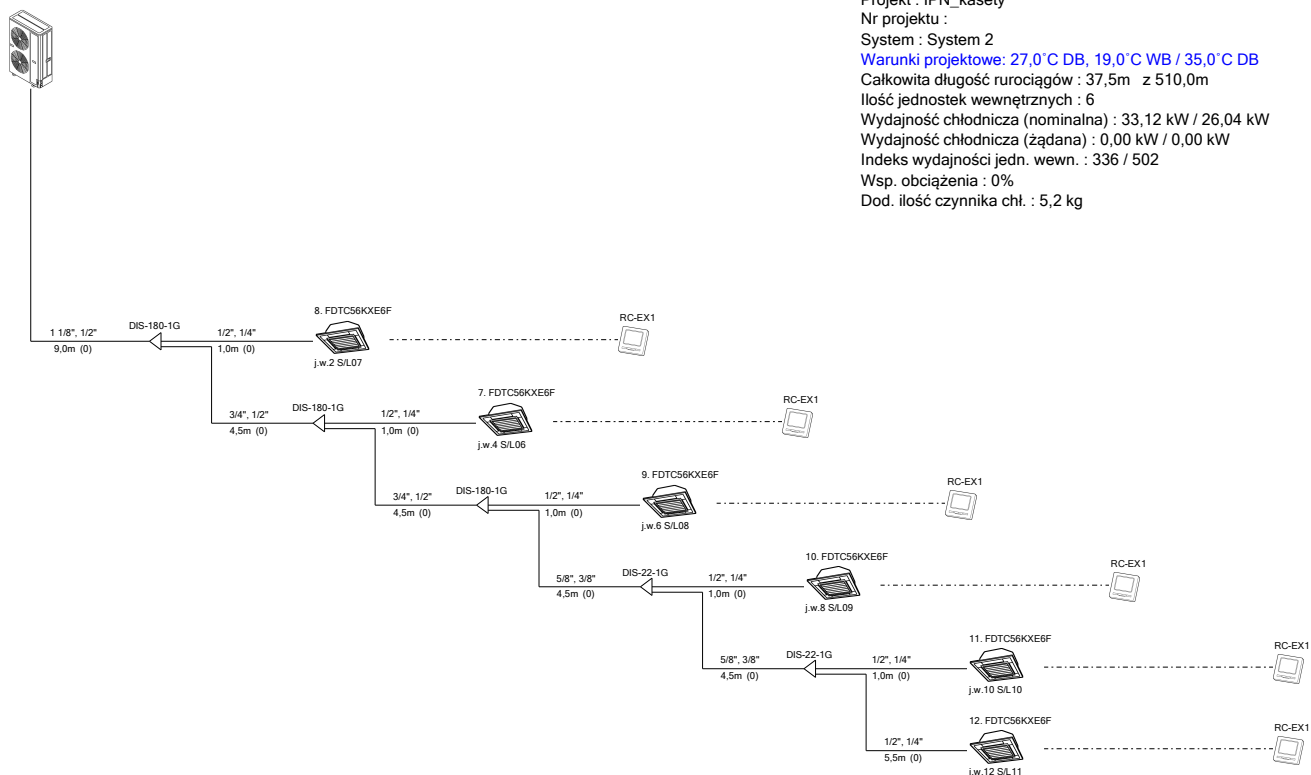


Projekt : IPN_kasety
Nr projektu :
System : System 1
Warunki projektowe: 27,0°C DB, 19,0°C WB / 35,0°C DB
Całkowita długość rurociągów : 48,5m z 510,0m
Ilość jednostek wewnętrznych : 6
Wydajność chłodnicza (nominalna) : 33,10 kW / 26,04 kW
Wydajność chłodnicza (żądana) : 0,00 kW / 0,00 kW
Indeks wydajności jedn. wewn. : 336 / 502
Wsp. obciążenia : 0%
Dod. ilość czynnika chl. : 5,4 kg

Projekt : IPN_kasety
Nr projektu :
System : System 1

Lista uwag

✓ Brak uwag



Projekt : IPN_kasety
Nr projektu :
System : System 2
Warunki projektowe: 27,0°C DB, 19,0°C WB / 35,0°C DB
Całkowita długość rurociągów : 37,5m z 510,0m
Ilość jednostek wewnętrznych : 6
Wydajność chłodnicza (nominalna) : 33,12 kW / 26,04 kW
Wydajność chłodnicza (żądana) : 0,00 kW / 0,00 kW
Indeks wydajności jedn. wewn. : 336 / 502
Wsp. obciążenia : 0%
Dod. ilość czynnika chl. : 5,2 kg

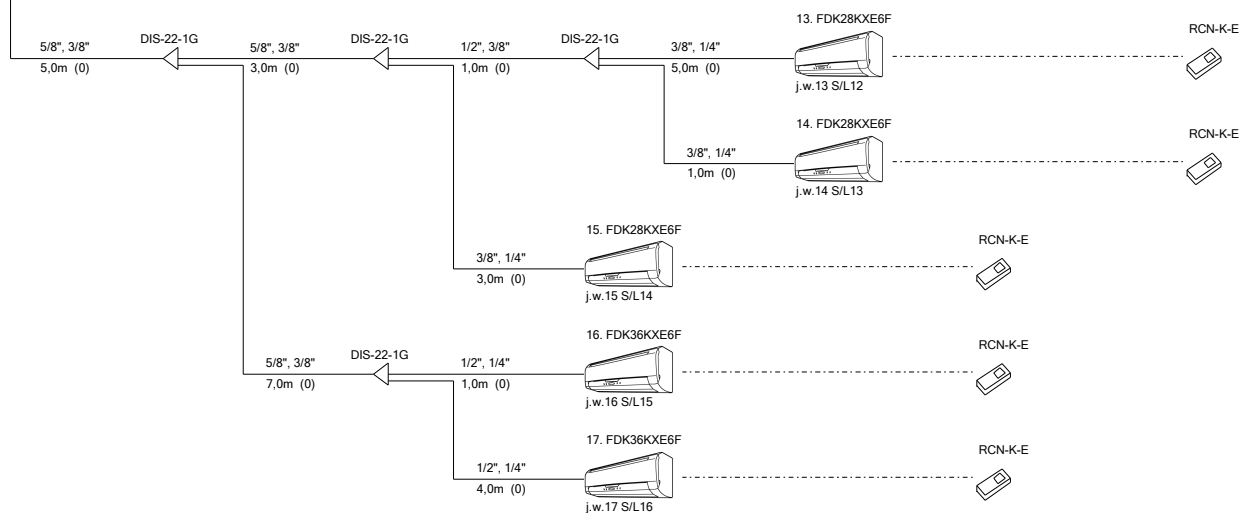
Projekt : IPN_kasety
Nr projektu :
System : System 2

Lista uwag

✓ Brak uwag



Projekt : IPN_kasety
Nr projektu :
System : System 3
Warunki projektowe: 27,0°C DB, 19,0°C WB / 35,0°C DB
Całkowita długość rurociągów : 30,0m z 100,0m
Ilość jednostek wewnętrznych : 5
Wydajność chłodnicza (nominalna) : 14,00 kW / 13,44 kW
Wydajność chłodnicza (żądana) : 0,00 kW / 0,00 kW
Indeks wydajności jedn. wewn. : 156 / 210
Wsp. obciążenia : 0%
Dod. ilość czynnika chl. : 0,0 kg



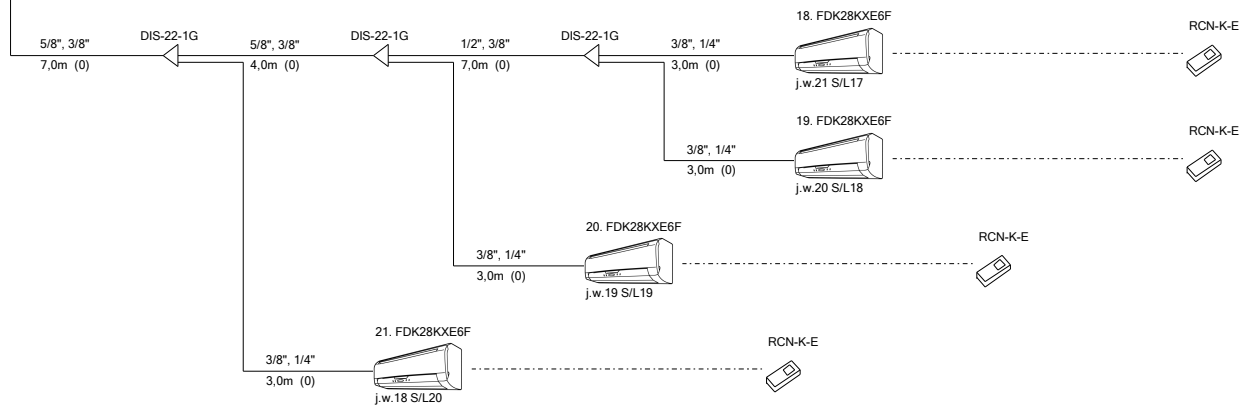
Projekt : IPN_kasety
Nr projektu :
System : System 3

Lista uwag

✓ Brak uwag



Projekt : IPN_kasety
Nr projektu :
System : System 4
Warunki projektowe: 27,0°C DB, 19,0°C WB / 35,0°C DB
Całkowita długość rurociągów : 30,0m z 100,0m
Ilość jednostek wewnętrznych : 4
Wydajność chłodnicza (nominalna) : 10,83 kW / 10,40 kW
Wydajność chłodnicza (żądana) : 0,00 kW / 0,00 kW
Indeks wydajności jedn. wewn. : 112 / 168
Wsp. obciążenia : 0%
Dod. ilość czynnika chl. : 0,0 kg



Projekt : IPN_kasety
Nr projektu :
System : System 4

Lista uwag

✓ Brak uwag

Projekt : IPN_kasety
Nr projektu :

System : System 1

Temperatury projektowe (chłodzenie) Temperatury projektowe (ogrzewanie)
temp. zewn. DB temp. wewn. WB temp. zewn. WB temp. wewn. DB
35,0°C 19,0°C 6,0°C 20,0°C

Jed.	Pomieszczenie	Model	Wyd. nom. (kW)			Wyd. rzeczyw. (kW)			Jedn.wewn. Lokalizacja (m)		Rzecz. Dł. (m)	Ruroci Dł. (m)	Adres		
			Całkowita	Jawna	Ogrzew.	Całkowita	Jawna	Ogrzew.					S/L	O/U	I/U
		FDC335KXE6	33,50	-	37,50	33,10	-	37,16					1	00	-
1	j.w.1	FDT56KXE6F	5,60	4,37	6,30	5,52	4,34	6,19	Poniżej	0,0	11,0	11,0	1	00	00
2	j.w.3	FDT56KXE6F	5,60	4,37	6,30	5,52	4,34	6,19	Poniżej	0,0	15,5	15,5	1	00	01
3	j.w.5	FDT56KXE6F	5,60	4,37	6,30	5,52	4,34	6,19	Poniżej	0,0	20,0	20,0	1	00	02
4	j.w.7	FDT56KXE6F	5,60	4,37	6,30	5,52	4,34	6,19	Poniżej	0,0	24,5	24,5	1	00	03
5	j.w.9	FDT56KXE6F	5,60	4,37	6,30	5,52	4,34	6,19	Poniżej	0,0	29,0	29,0	1	00	04
6	j.w.11	FDT56KXE6F	5,60	4,37	6,30	5,52	4,34	6,19	Poniżej	0,0	33,5	33,5	1	00	05
ŁĄCZNIE			33,60	26,23	37,80	33,10	26,04	37,16							

System : System 2

Temperatury projektowe (chłodzenie) Temperatury projektowe (ogrzewanie)
temp. zewn. DB temp. wewn. WB temp. zewn. WB temp. wewn. DB
35,0°C 19,0°C 6,0°C 20,0°C

Jed.	Pomieszczenie	Model	Wyd. nom. (kW)			Wyd. rzeczyw. (kW)			Jedn.wewn. Lokalizacja (m)		Rzecz. Dł. (m)	Ruroci Dł. (m)	Adres		
			Całkowita	Jawna	Ogrzew.	Całkowita	Jawna	Ogrzew.					S/L	O/U	I/U
		FDC335KXE6	33,50	-	37,50	33,12	-	37,18					1	01	-
7	j.w.4	FDT56KXE6F	5,60	4,37	6,30	5,52	4,34	6,20	Poniżej	0,0	14,5	14,5	1	01	06
8	j.w.2	FDT56KXE6F	5,60	4,37	6,30	5,52	4,34	6,20	Poniżej	0,0	10,0	10,0	1	01	07
9	j.w.6	FDT56KXE6F	5,60	4,37	6,30	5,52	4,34	6,20	Poniżej	0,0	19,0	19,0	1	01	08
10	j.w.8	FDT56KXE6F	5,60	4,37	6,30	5,52	4,34	6,20	Poniżej	0,0	23,5	23,5	1	01	09
11	j.w.10	FDT56KXE6F	5,60	4,37	6,30	5,52	4,34	6,20	Poniżej	0,0	28,0	28,0	1	01	10
12	j.w.12	FDT56KXE6F	5,60	4,37	6,30	5,52	4,34	6,20	Poniżej	0,0	32,5	32,5	1	01	11
ŁĄCZNIE			33,60	26,23	37,80	33,12	26,04	37,18							

System : System 3

Temperatury projektowe (chłodzenie) Temperatury projektowe (ogrzewanie)
temp. zewn. DB temp. wewn. WB temp. zewn. WB temp. wewn. DB
35,0°C 19,0°C 6,0°C 20,0°C

Jed.	Pomieszczenie	Model	Wyd. nom. (kW)			Wyd. rzeczyw. (kW)			Jedn.wewn. Lokalizacja (m)		Rzecz. Dł. (m)	Ruroci Dł. (m)	Adres		
			Całkowita	Jawna	Ogrzew.	Całkowita	Jawna	Ogrzew.					S/L	O/U	I/U
		FDC140KXEN6	14,00	-	16,00	14,00	-	16,04					1	02	-
13	j.w.13	FDK28KXE6F	2,80	2,67	3,20	2,51	2,41	2,92	Poniżej	0,0	14,0	14,0	1	02	12
14	j.w.14	FDK28KXE6F	2,80	2,67	3,20	2,51	2,41	2,92	Poniżej	0,0	10,0	10,0	1	02	13
15	j.w.15	FDK28KXE6F	2,80	2,67	3,20	2,51	2,41	2,92	Poniżej	0,0	11,0	11,0	1	02	14
16	j.w.16	FDK36KXE6F	3,60	3,46	4,00	3,23	3,10	3,65	Poniżej	0,0	13,0	13,0	1	02	15
17	j.w.17	FDK36KXE6F	3,60	3,46	4,00	3,23	3,10	3,65	Poniżej	0,0	16,0	16,0	1	02	16
ŁĄCZNIE			15,60	14,92	17,60	14,00	13,44	16,04							

System : System 4

Temperatury projektowe (chłodzenie) Temperatury projektowe (ogrzewanie)
temp. zewn. DB temp. wewn. WB temp. zewn. WB temp. wewn. DB
35,0°C 19,0°C 6,0°C 20,0°C

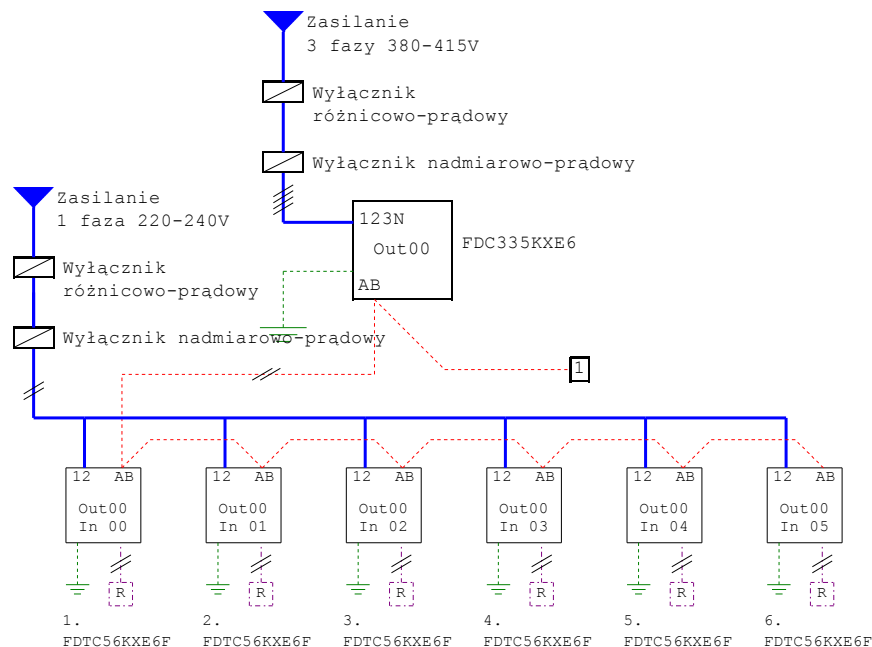
Jed.	Pomieszczenie	Model	Wyd. nom. (kW)			Wyd. rzeczyw. (kW)			Jedn.wewn. Lokalizacja (m)		Rzecz. Dł. (m)	Ruroci Dł. (m)	Adres		
			Całkowita	Jawna	Ogrzew.	Całkowita	Jawna	Ogrzew.					S/L	O/U	I/U
		FDC112KXEN6	11,20	-	12,50	10,83	-	12,44					1	03	-
18	j.w.21	FDK28KXE6F	2,80	2,67	3,20	2,71	2,60	3,11	Poniżej	0,0	21,0	21,0	1	03	17
19	j.w.20	FDK28KXE6F	2,80	2,67	3,20	2,71	2,60	3,11	Poniżej	0,0	21,0	21,0	1	03	18
20	j.w.19	FDK28KXE6F	2,80	2,67	3,20	2,71	2,60	3,11	Poniżej	0,0	14,0	14,0	1	03	19
21	j.w.18	FDK28KXE6F	2,80	2,67	3,20	2,71	2,60	3,11	Poniżej	0,0	10,0	10,0	1	03	20
ŁĄCZNIE			11,20	10,68	12,80	10,83	10,40	12,44							

Projekt:
IPN_kasety
Nr projektu:
System:
System 1

Jedn. zewn.	380v	415v
Prąd pracy (A)	15,87/16,36	14,53/14,98
Współczynnik mocy (%)	94/94	94/94
Prąd rozruchu (A)	5,00	
Prąd maks. (A)	23	
Pobór mocy el. (kW)	9,82/10,12	

Jedn. wewn. (chl./ogrz.)	220v	240v
Całk. pobór mocy el. (kW)	0,30/0,30	0,30/0,30
Całkowity prąd pracy (A)	1,50/1,50	1,38/1,38

Schematy elektryczne mają charakter wyłącznie poglądowy
Instalację elektryczną wykonać zgodnie z obowiązującymi normami.

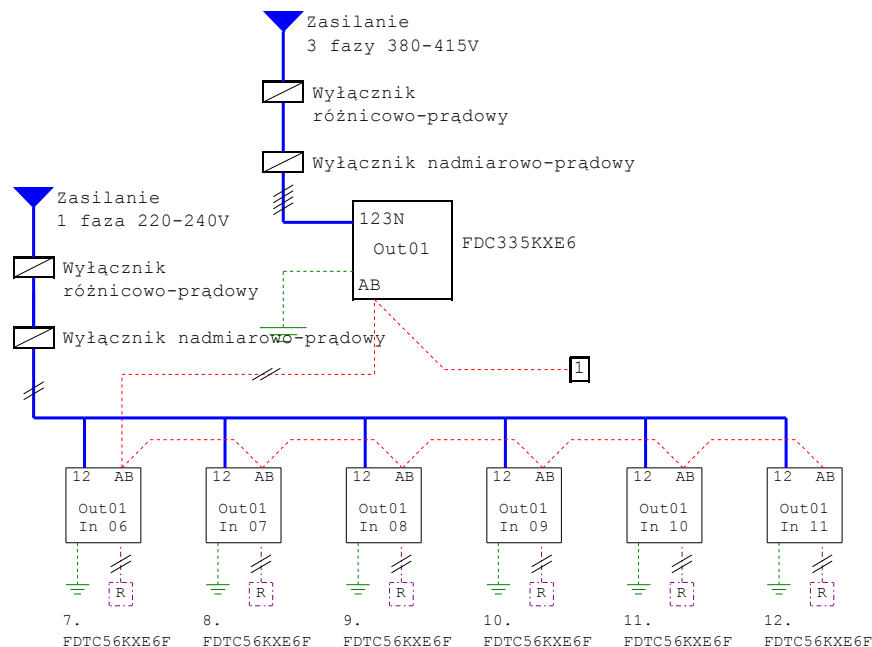


Projekt:
IPN_kasety
Nr projektu:
System:
System 2

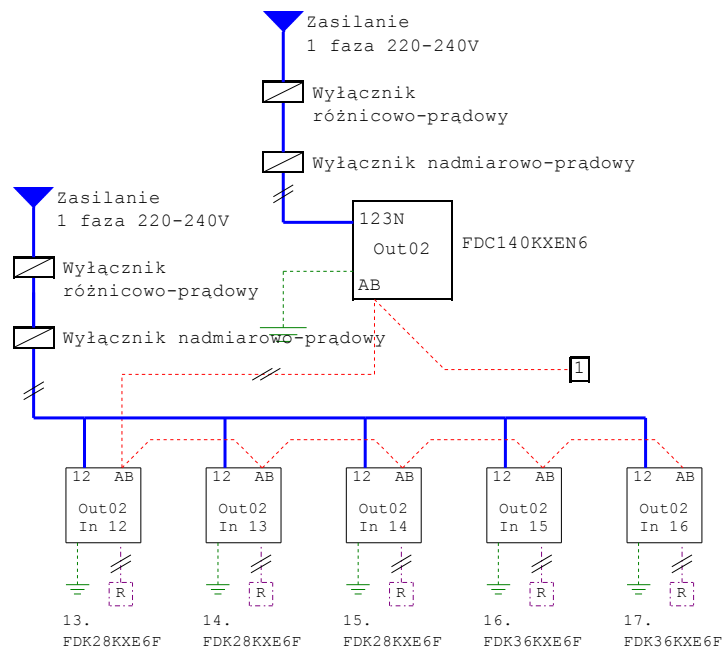
Jedn. zewn.	380v	415v
Prąd pracy (A)	15,87/16,36	14,53/14,98
Współczynnik mocy (%)	94/94	94/94
Prąd rozruchu (A)	5,00	
Prąd maks. (A)	23	
Pobór mocy el. (kW)	9,82/10,12	

Jedn. wewn. (chl./ogrz.)	220v	240v
Całk. pobór mocy el. (kW)	0,30/0,30	0,30/0,30
Całkowity prąd pracy (A)	1,50/1,50	1,38/1,38

Schematy elektryczne mają charakter wyłącznie poglądowy
Instalację elektryczną wykonać zgodnie z obowiązującymi normami.



Projekt:
IPN_kasety
Nr projektu:
System:
System 3

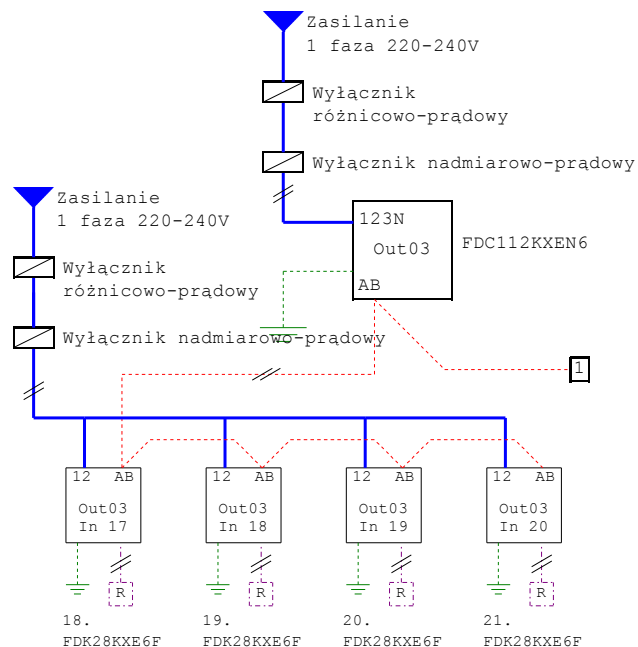


Jedn. zewn.	220v	240v
Prąd pracy (A)	20,60/21,50	18,90/19,70
Współczynnik mocy (%)	92/91	92/91
Prąd rozruchu (A)	5,00	
Prąd maks. (A)	23	
Pobór mocy el. (kW)	4,17/4,31	

Jedn. wewn. (chł./ogrz.)	220v	240v
Całk. pobór mocy el. (kW)	0,25/0,20	0,25/0,20
Całkowity prąd pracy (A)	1,15/1,15	1,05/1,05

Schematy elektryczne mają charakter wyłącznie poglądowy
Instalację elektryczną wykonać zgodnie z obowiązującymi normami.

Projekt:
IPN_kasety
Nr projektu:
System:
System 4



Jedn. zewn.	220v	240v
Prąd pracy (A)	13,50/14,10	12,40/12,90
Współczynnik mocy (%)	94/93	94/93
Prąd rozruchu (A)	5,00	
Prąd maks. (A)	23	
Pobór mocy el. (kW)	2,80/2,89	

Jedn. wewn. (chł./ogrz.)	220v	240v
Całk. pobór mocy el. (kW)	0,20/0,16	0,20/0,16
Całkowity prąd pracy (A)	0,92/0,92	0,84/0,84

Schematy elektryczne mają charakter wyłącznie poglądowy
Instalację elektryczną wykonać zgodnie z obowiązującymi normami.

Lista materiałów w projekcie

Projekt : IPN_kasety

Nr projektu :

W projekcie nie występują sterowniki centralne i sterowniki BMS

Lista materiałów w systemie

Projekt : IPN_kasety

Nr projektu :

System : System 1

Jedn. zewn.	Ilość
FDC335KXE6	1

Jedn.wewn.	Ilość
FDC56KXE6F	6

Panel	Ilość
TC-PSA-25W-E	6

Trójnik	Ilość
DIS-180-1G	3
DIS-22-1G	2

Sterowniki	Ilość
RC-EX1	6

Dod. ilość czynnika chl.	5,4 kg
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Średnica rurociągu	Całkowita dł. (m)
1/4"	22,5
3/8"	9,0
1/2"	39,5
5/8"	9,0
3/4"	9,0
1 1/8"	8,0

Lista materiałów w systemie

Projekt : IPN_kasety

Nr projektu :

System : System 2

Jedn. zewn.	Ilość
FDC335KXE6	1

Jedn.wewn.	Ilość
FDTCS56KXE6F	6

Panel	Ilość
TC-PSA-25W-E	6

Trójnik	Ilość
DIS-180-1G	3
DIS-22-1G	2

Sterowniki	Ilość
RC-EX1	6

Dod. ilość czynnika chl.	5,2 kg
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Średnica rurociągu	Całkowita dł. (m)
1/4"	10,5
3/8"	9,0
1/2"	28,5
5/8"	9,0
3/4"	9,0
1 1/8"	9,0

Lista materiałów w systemie

Projekt : IPN_kasety

Nr projektu :

System : System 3

Jedn. zewn.	Ilość
FDC140KXEN6	1

Jedn.wewn.	Ilość
FDK28KXE6F	3
FDK36KXE6F	2

Trójnik	Ilość
DIS-22-1G	4

Sterowniki	Ilość
RCN-K-E	5

Dod. ilość czynnika chl.	0,0 kg
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Średnica rurociągu	Całkowita dł. (m)
1/4"	14,0
3/8"	25,0
1/2"	6,0
5/8"	15,0

Lista materiałów w systemie

Projekt : IPN_kasety

Nr projektu :

System : System 4

Jedn. zewn.	Ilość
FDC112KXEN6	1

Jedn.wewn.	Ilość
FDK28KXE6F	4

Trójnik	Ilość
DIS-22-1G	3

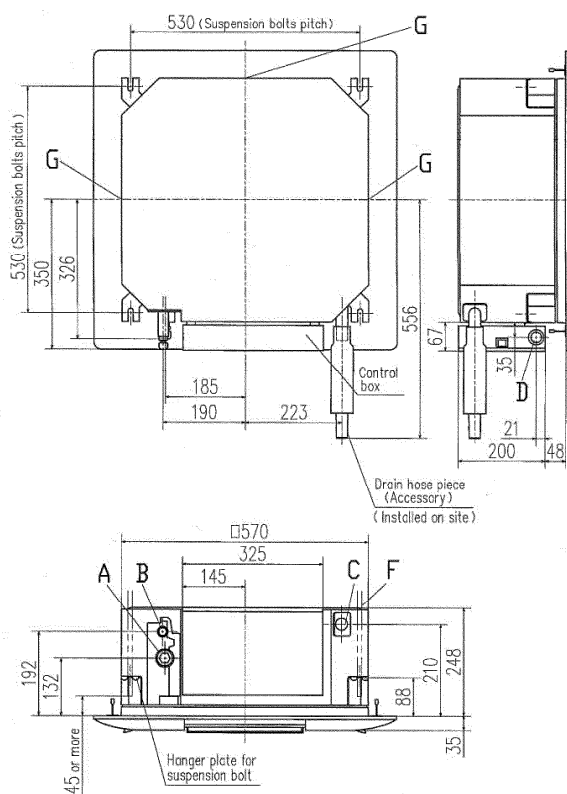
Sterowniki	Ilość
RCN-K-E	4

Dod. ilość czynnika chl.	0,0 kg
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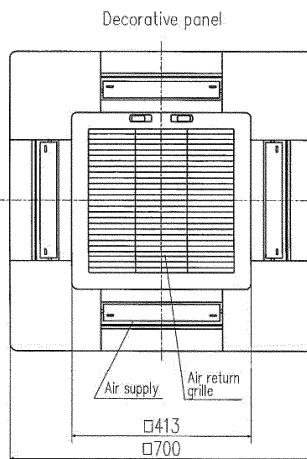
Średnica rurociągu	Całkowita dł. (m)
1/4"	12,0
3/8"	30,0
1/2"	7,0
5/8"	11,0

FDTC56KXE6F

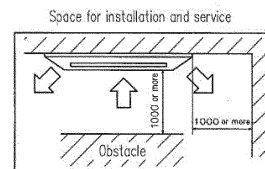
Unit:mm



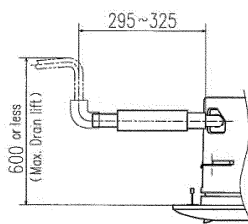
Notes (1) The model name label is attached on the control box lid.
(2) Prepare the connecting socket (VP20) on site.
(3) This unit is designed for 2x2 grid ceiling.
If it is installed on a ceiling other than 2x2 grid ceiling,
provide an inspection port on the control box side.



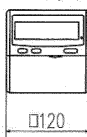
Symbol	Model	22,28	36,45,56
A	Gas piping	φ9.52 (3/8") (Flare)	φ12.7 (1/2") (Flare)
B	Liquid piping	φ6.35 (1/4") (Flare)	
C	Drain piping	VP20 (I.D.20,O.D.26)	Note (2)
D	Hole for wiring	φ25	
F	Suspension bolts	(M10 or M8)	
G	Air outlet opening for ducting	(Knock out)	



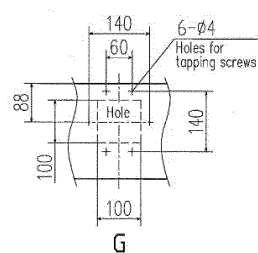
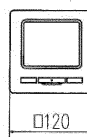
Make a space of 4000 or more between the units when installing more than one.



Remote controller
(Option)

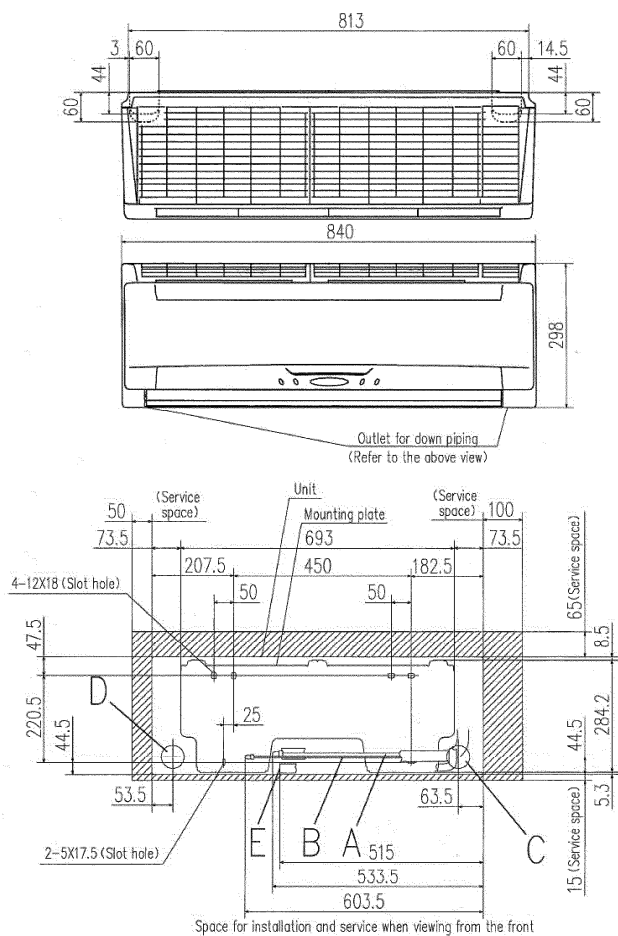


Remote controller
(Option)

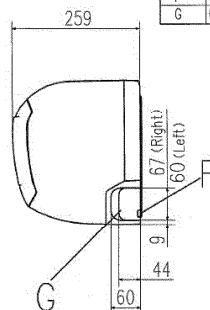


FDK28KXE6F

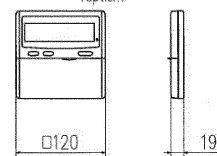
Unit:mm



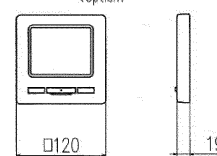
Symbol	Model	Content
		22,28 36,45,56
A	Gas piping	φ9.52 (3/8") (Flare) φ12.7 (1/2") (Flare)
B	Liquid piping	φ6.35 (1/4") (Flare)
C	Hole on wall for right rear piping	(φ65)
D	Hole on wall for left rear piping	(φ65)
E	Drain piping	VP16
F	Outlet for wiring	
G	Outlet for piping (on both side)	



Remote controller
(Option)



Remote controller
(Option)



Note (1) The model name label is attached on the underside of the panel.

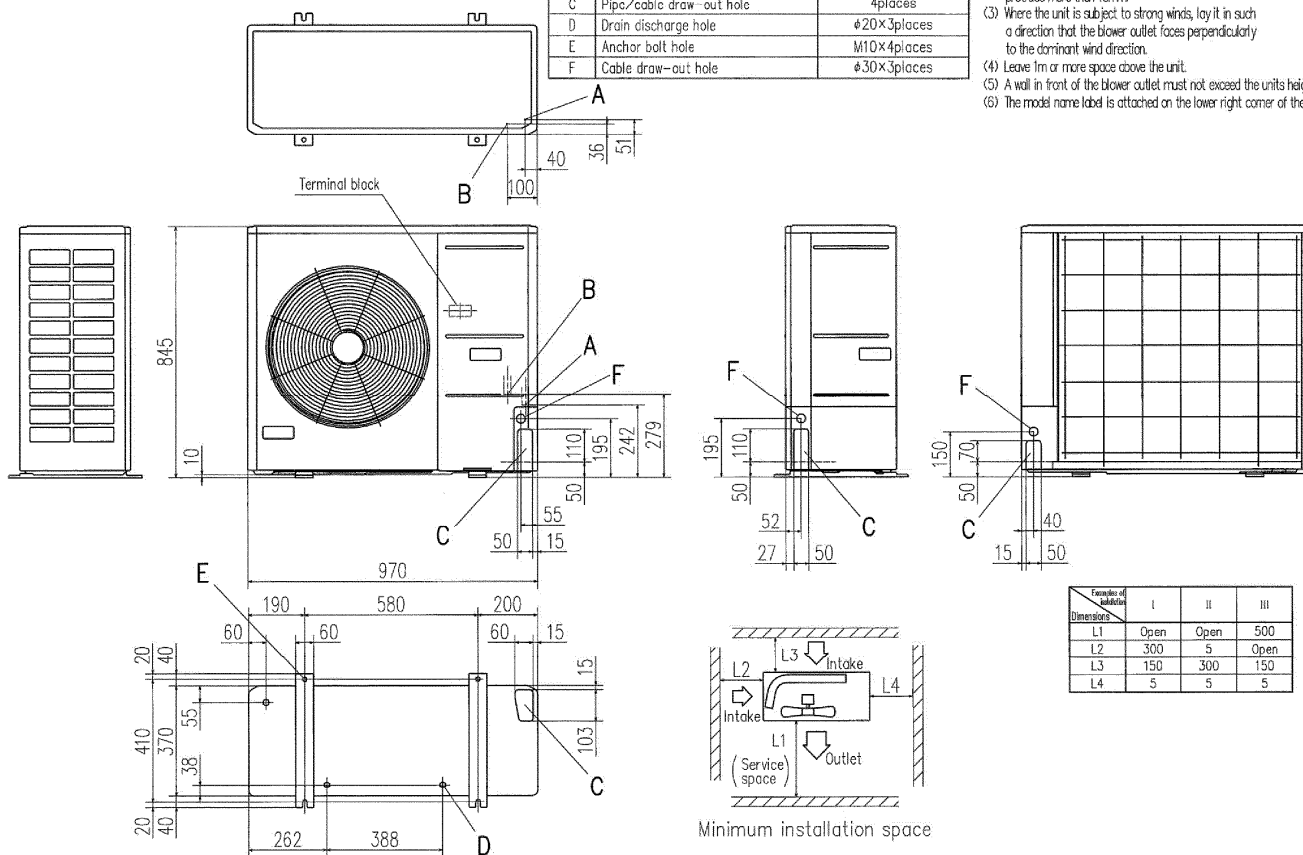
FDC140KXEN6

Unit:mm

Symbol	Content	
A	Service valve connection (gas side)	φ15.88 (5/8") (Flare)
B	Service valve connection (liquid side)	φ9.52 (3/8") (Flare)
C	Pipe/cable draw-out hole	4places
D	Drain discharge hole	φ20×3places
E	Anchor bolt hole	M10×4places
F	Cable draw-out hole	φ30×3places

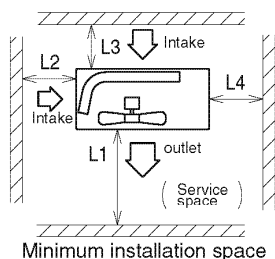
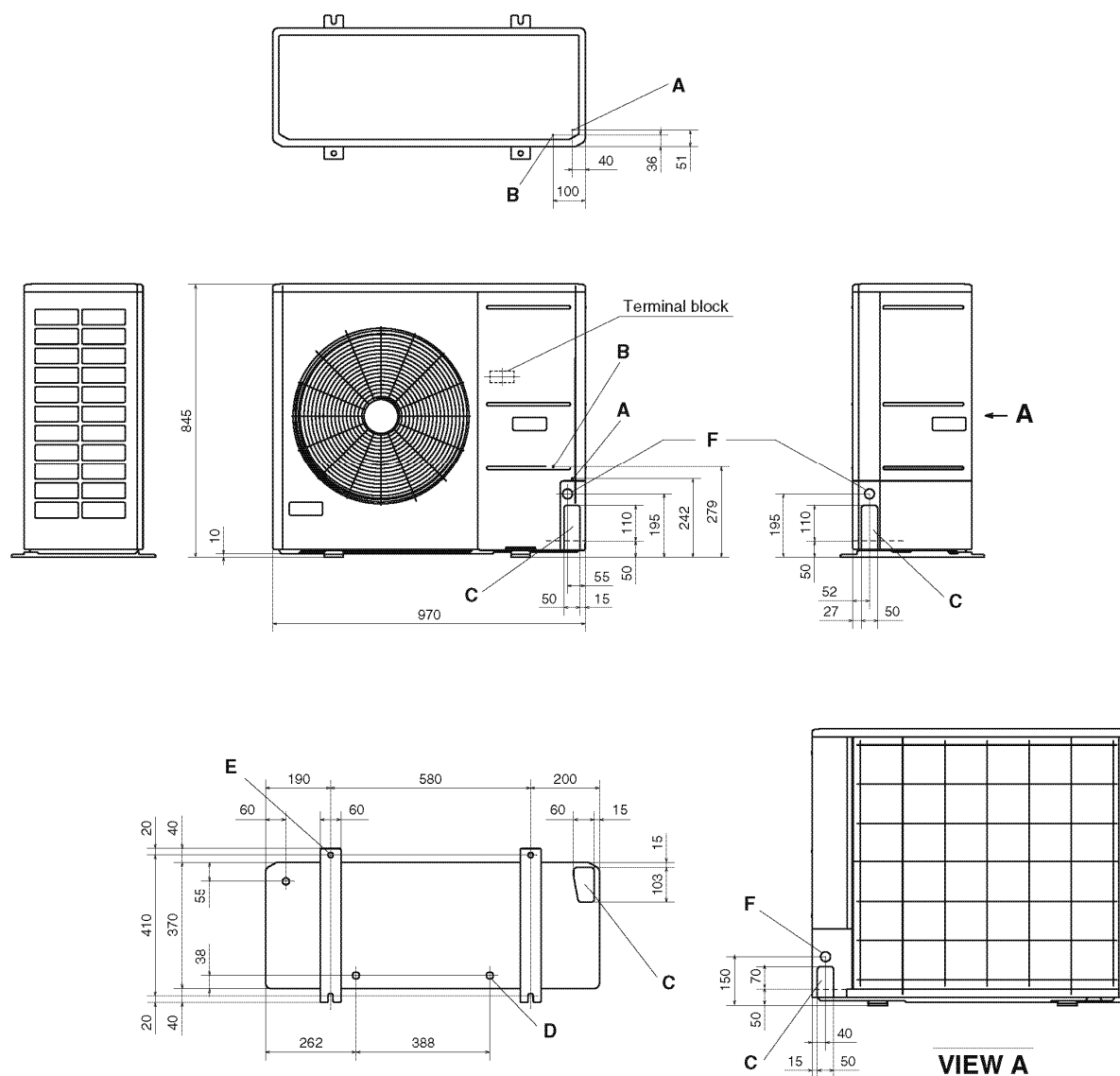
Notes

- (1) It must not be surrounded by walls on the four sides.
- (2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
- (3) Where the unit is subject to strong winds, lay it in such a direction that the blower outlet faces perpendicularly to the dominant wind direction.
- (4) Leave 1m or more space above the unit.
- (5) A wall in front of the blower outlet must not exceed the units height.
- (6) The model name label is attached on the lower right corner of the front panel.



FDC112KXEN6, 140KXEN6, 155KXEN6, 112KXES6, 140KXES6, 155KXES6

Unit:mm



	I	II	III
L1	Open	Open	500
L2	300	5	Open
L3	150	300	150
L4	5	5	5

1m overhead clearance required

Mark	Content	
A	Service valve connection (gas side)	ø15.88 (5/8") (flare)
B	Service valve connection (liquid line)	ø9.52 (3/8") (flare)
C	Pipe/cable draw-out port	4 places
D	Drain discharge port	ø20 x 3 places
E	Anchor bolt hole	M10 x 4 places
F	Cable draw-out port	ø30 x 3 places

Notes:

- (1) It must not be surrounded by walls on the four sides.
- (2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
- (3) Where the unit is subject to strong winds, lay it in such a direction that the blower outlet faces perpendicularly to the dominant wind direction.
- (4) Leave a 1m or larger space above the unit.
- (5) A wall in front of the blower outlet must not exceed the units height.
- (6) The unit name plate is attached on the lower right corner of the front panel.

Ceiling Cassette -4way- Compact (600x600mm) type (FDTC)

Models			FDTC56KXE6F
Panel model (Option)			TC-PSA-25W-E
Nominal cooling capacity*1		kW	5.6
Nominal heating capacity*2			6.3
Power source			220-240V~ 50Hz / 220V~ 60Hz
Power consumption	Cool	kW	0.05 - 0.05 / 0.05
	Heat		0.05 - 0.05 / 0.05
Running current	Cool	A	0.25 - 0.23 / 0.25
	Heat		0.25 - 0.23 / 0.25
Sound Pressure Level	Cool	dB(A)	P-Hi : 49 Hi : 45 Me : 39 Lo : 31
	Heat		P-Hi : 49 Hi : 45 Me : 39 Lo : 34
Exterior dimensions Height x Width x Depth		mm	Unit : 248 × 570 × 570 Panel : 35 × 700 × 700
Exterior appearance (Munsell color)			Plaster White (6.8Y8.9/0.2) near equivalent
Net weight		kg	Unit : 15 Panel : 3.5
Refrigerant equipment			
Heat exchanger			Louver fin & inner grooved tubing
Refrigerant control			Electronic Expansion Valve
Air handling equipment			
Fan type & Q'ty			Turbo fan × 1
Motor		W	33
Starting method			Direct line start
Air flow(Standard)	Cool	CMM	P-Hi : 16 Hi : 13 Me : 10 Lo : 7
	Heat		P-Hi : 16 Hi : 13 Me : 10 Lo : 8
Available static pressure		Pa	0
Outdoor air intake			Not possible
Air filter, Q'ty			Pocket plastic net × 1 (Washable)
Shock & vibration absorber			Rubber sleeve(for fan motor)
Insulation (noise & heat)			Polyurethane form
Operation control			Remote control switch
Operation switch			Option: RC-E5, RC-EX1A
Room temperature control			Thermostat by electronics
Safety equipment			Overload protection for fan motor Frost protection thermostat
Installation data			Liquid line: φ 6.35 (1/4")
Refrigerant piping size			Gas line: φ 12.7 (1/2")
Connecting method			Flare piping
Refrigerant			R410A
Drain pump			Built-in Drain pump
Drain hose			Connectable with V P 2 5
Insulation for piping			Necessary(both Liquid & Gas line)
Accessories			Mounting kit, Drain hose

Adapted to **RoHS** directive

Notes

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

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

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

ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) When wireless remote controller is used, fan is 3 speed setting(Hi-Me-Lo) only.

OUTDOOR UNIT(FDC)

Models		FDC224KXE6	FDC280KXE6	FDC335KXE6
Nominal cooling capacity*1		22.4	28.0	33.5
Nominal heating capacity*2		25.0	31.5	37.5
Power source		380-415V 3N~50Hz, 380V 3N~60Hz		
Power consumption	Cool	5.60	8.09	9.82
	Heat	6.03	8.21	10.12
Running current	Cool	9.25 / 8.47	13.22 / 12.10	15.87 / 14.53
	Heat	9.85 / 9.02	13.41 / 12.28	16.36 / 14.98
Sound Pressure Level	dB(A)	58 / 58	59 / 60	61 / 61
Exterior dimensions Height x Width x Depth	mm	1675 x 1080 x 480		
Exterior appearance (Munsell color)		Stucco White (4.2 Y 7.5 / 1.1) near equivalent		
Net weight	kg	221		224
Refrigerant equipment compressor type & Q'ty		GTC5150NH40Kx1	GTC5150NH40Kx1	GTD5160NH40Kx1
Motor	kW	3.81	5.22	7.25
Starting method		Direct line start		
capacity control	%	112-336	140-420	167-502
Crankcase heater	W	33		
Refrigerant equipment Heat exchanger		Straight fin & inner grooved tubing		
Refrigerant control		Electronic Expansion Valve		
Refrigerant		R410A		
Quantity	kg	11.5		
Refrigerant oil	l	1.7 (M-MA32R)		
Defrost control		MC controlled De-Icer		
Air handling equipment fan type & Q'ty		Propeller fan x 2		
Motor	W	144 x 2		
Starting method		Direct line start		
Air flow (Standard)	CMM	200		
Shock & vibration absorber		Rubber mount (for compressor)		
Safety equipment		Compressor over current protection / abnormal high pressure protection abnormal low pressure protection / abnormal discharge temperature protection / over current protection		
Installation data	mm(in)	Liquid line : Ø9.52 (3/8")		Liquid line : Ø12.7 (1/4")
Refrigerant piping size		Gas line : Ø19.05 (3/4")	Gas line : Ø22.22 (7/8")	Gas line : Ø25.4 (1")
Connecting method		Liquid:Flare / Gas:Brazing		
Drain		Hole for drain (Ø20 x 4)		
Insulation for piping		Necessary (both Liquid & Gas lines)		
Accessories				

Notes (1) The data are measured at the following conditions. (The piping length is 7.5m)

Adapted to RoHS directive

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

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

(3) Indoor unit other than KXE6 cannot be connected.

Wall Mounted type (FDK)

Models			FDK28KXE6F
Nominal cooling capacity*1	kW		2.8
Nominal heating capacity*2			3.2
Power source			220-240V~ 50Hz / 220V~ 60Hz
Power consumption	Cool	kW	0.05
	Heat		0.04
Running current	Cool	A	0.23 - 0.21 / 0.23
	Heat		0.23 - 0.21 / 0.23
Sound Pressure Level	Cool	dB(A)	P-Hi : 38 Hi : 35 Me : 33 Lo : 31
	Heat		P-Hi : 38 Hi : 35 Me : 33 Lo : 31
Exterior dimensions Height x Width x Depth		mm	298 × 840 × 259
Exterior appearance (Munsell color)			Cool White (9.3G8.7/0.1) near equivalent
Net weight	kg		12
Refrigerant equipment Heat exchanger			Louver fin & inner grooved tubing
Refrigerant control			Electronic Expansion Valve
Air handling equipment Fan type & Q'ty			Tangential fan × 1
Motor	W		33
Starting method			Direct line start
Air flow(Standard)	CMM		P-Hi : 11 Hi : 8 Me : 7 Lo : 6
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 Operation switch			Remote control switch Option: RC-E5, RC-EX1A
Room temperature control			Thermostat by electronics
Safety equipment			Overload protection for fan motor Frost protection thermostat
Installation data Refrigerant piping size			Liquid line: ϕ 6.35 (1/4") Gas line: ϕ 9.52 (3/8")
Connecting method			Flare piping
Refrigerant			R410A
			—
Drain hose			Connectable with V P 1 6
Insulation for piping			Necessary(both Liquid & Gas line)
Standard Accessories			Mounting kit

Notes:

Adapted to **RoHS** directive

(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	
Heating*2	20 °C		7 °C	6 °C	
					ISO-T1

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

(3)When wireless remote controller is used, fan is 3 speed setting(Hi-Me-Lo) only.

Wall Mounted type (FDK)

Models			FDK36KXE6F
			-
Nominal cooling capacity*1	kW		3.6
Nominal heating capacity*2			4.0
Power source			220-240V~ 50Hz / 220V~ 60Hz
Power consumption	Cool	kW	0.05
	Heat		0.04
Running current	Cool	A	0.23 - 0.21 / 0.23
	Heat		0.23 - 0.21 / 0.23
Sound Pressure Level	Cool	dB(A)	P-Hi : 48 Hi : 41 Me : 35 Lo : 31
	Heat		P-Hi : 42 Hi : 39 Me : 35 Lo : 31
Exterior dimensions Height x Width x Depth		mm	298 × 840 × 259
Exterior appearance (Munsell color)			Cool White (9.3G8.7/0.1) near equivalent
Net weight	kg		12
Refrigerant equipment Heat exchanger			Louver fin & inner grooved tubing
Refrigerant control			Electronic Expansion Valve
Air handling equipment Fan type & Q'ty			Tangential fan × 1
Motor	W		33
Starting method			Direct line start
Air flow(Standard)	CMM		P-Hi : 15 Hi : 10 Me : 9 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			Remote control switch
Operation switch			Option: RC-E5, RC-EX1A
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			R410A
			-
Drain hose			Connectable with V P 1 6
Insulation for piping			Necessary(both Liquid & Gas line)
Standard Accessories			Mounting kit

Notes

Adapted to **RoHS** directive

(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	
Heating*2	20 °C		7 °C	6 °C	

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

(3)When wireless remote controller is used, fan is 3 speed setting(Hi-Me-Lo) only.

OUTDOOR UNIT (FDC)

Models			FDC112KXEN6	FDC140KXEN6	FDC155KXEN6
Nominal cooling capacity*(1)		kW	11.2	14.0	15.5
Nominal heating capacity*(1)			12.5	16.0	16.3
Power source			1 Phase 220-240V 50Hz , 220V 60Hz		
Power consumption	Cool	kW	2.80	4.17	4.71
	Heat		2.89	4.31	4.38
Running current	Cool	A	13.5 / 12.4	20.6 / 18.9	23.3 / 21.3
	Heat		14.1 / 12.9	21.5 / 19.7	21.9 / 20.1
Sound Pressure Level		dB(A)	52 / 54	53 / 55	53 / 56
Exterior dimensions Height x Width x Depth		mm	845 × 970 × 370		
Net weight		kg	82		
Refrigerant equipment compressor type & Q'ty			RMT5126MDE21 × 1		
Motor		kW	1.9	2.9	3.2
Starting method			Direct line start		
capacity control		%	29-113	22-110	21-101
Crankcase heater		W	20		
Refrigerant equipment Heat exchanger			Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Refrigerant			R410A		
Quantity		kg	5.0		
Refrigerant oil		l	1.0 (M-MA68)		
Defrost control			MC controlled De-Icer		
Air handling equipment fan type & Q'ty			Propeller fan × 1		
Motor		W	86		
Starting method			Direct line start		
Air flow(Standard)		CMM	75 / 75	75 / 82	75 / 82
Shock & vibration absorber			Rubber mount (for compressor & fan motor)		
Safety equipment			Compressor over current protection / abnormal high pressure protection abnormal low pressure protection / abnomal discharge temperature protection / over current protection		
Installation data		mm(in)	Liquid line: ϕ9.52 (3/8")		
Refrigerant piping size			Gas line: ϕ15.88 (5/8")		
Connecting method			Flare (both Liquid & Gas lines)		
Drain			Hole for drain (ϕ20 × 3pcs)		
Insullation for piping			Necessary (both Liquid & Gas lines)		
Accessories			—	—	—

Notes

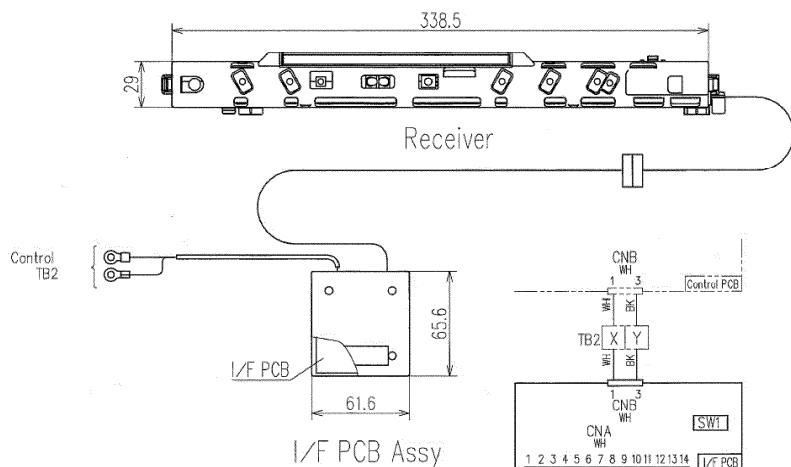
(1) The data are measured at the following conditions.

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

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

(3) Indoor unit other than KXE6 cannot be connected.

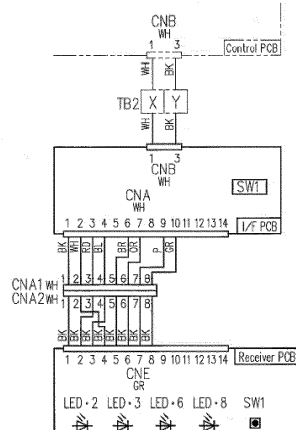
RCN-K-E



Setting switch on I/F PCB

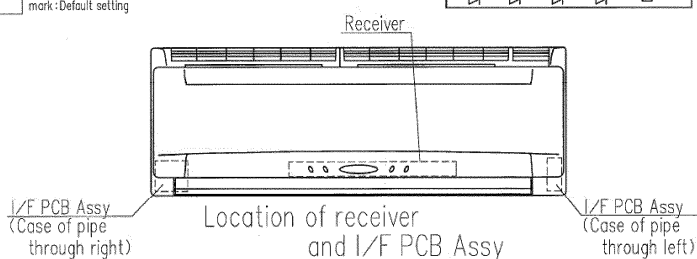
SW1-1	Prevents interference during plural setting	ON: Normal (1ch)	OFF: Customized (2ch)
SW1-2	Receiver master/slave setting	ON: Master	OFF: Slave
SW1-3	Buzzer valid/invalid	ON: Valid	OFF: Invalid
SW1-4	Auto restart	ON: Valid	OFF: Invalid
SW1-5	Indication for error	ON: Valid	OFF: Invalid
SW1-6	No use	ON: ---	OFF: ---

mark: Default setting

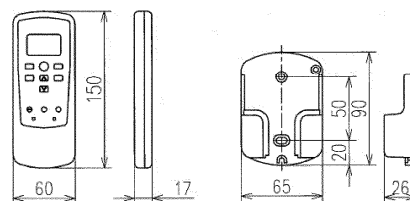


SW1	Backup SW
LED-2	Run
LED-3	Check1
LED-6	Timer/Check
LED-8	Check2

Mark	Color
BK	Black
BL	Blue
BR	Brown
GR	Gray
OR	Orange
P	Pink
RD	Red
WH	White



- Notes (1) Two R03 AAA dry cell batteries for remote controller are enclosed.
(2) See spec sheet of "Wireless remote controller" about remote controller.
(3) In case of pipe through right, use attached wirings.



Remote controller Remote controller holder

Installation of remote controller

- DO NOT install on the following places.
- (1) Places exposed to direct sunlight
 - (2) Hot surface or cold surface enough to generate condensation
 - (3) Places near heat devices
 - (4) Places exposed to oil mist or steam directly
 - (5) High humidity places
 - (6) Uneven surface

FDC112KXEN6, 140KXEN6, 155KXEN6

(50/60 Hz)

Model		FDC112KXEN6	FDC140KXEN6	FDC155KXEN6
Power source		1 Phase 220-240V 50Hz/220V 60Hz		
Nominal cooling capacity ⁽¹⁾	kW	11.2	14.0	15.5
Nominal heating capacity ⁽¹⁾	kW	12.5	16.0	16.3
Noise level	dB(A)	52/54	53/55	53/56
Exterior dimensions Height × Width × Depth	mm	845 × 970 × 370		
Net weight	kg	85		
Exterior appearance (color)		Stucco white		
Refrigerant equipment compressor type & Q'ty		RMT5126MDE21 × 1		
Motor	kW	1.9	2.9	3.2
Starting method		Direct line starting		
Capacity control	%	29 ~ 113	22 ~ 110	21 ~ 101
Crankcase heater	W	20		
Heat exchanger		Straight fin & inner grooved tubing		
Refrigerant control		Electronic expansion Valve		
Refrigerant		R410A		
Quantity	kg	5.0		
Refrigerant oil	ℓ	1.0 (M-MA32R)		
Defrost control		Microcomputer controlled De-Icer		
Air handling equipment Fan type & Q'ty		Propeller fan × 1		
Motor	W	86 × 1		
Starting method		Direct line start		
Air flow(Standard)	CMM	75/75	75/82	
Shock & vibration absorber		Rubber mount (for compressor)		
Safety equipment		Compressor overheat protection, overcurrent protection, power transistor overheating protection, abnormal high pressure protection		
Installation data Refrigerant piping size	mm(in)	Liquid line: φ9.52(3/8") Gas line: φ15.88(5/8")		
Connecting method		Flare piping		
Drain		Hole for drain(φ20 × 3pcs)		
Insulation for piping		Necessary (both Liquid & Gas lines)		

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

Range of usage & limitations

FDC335KXE6

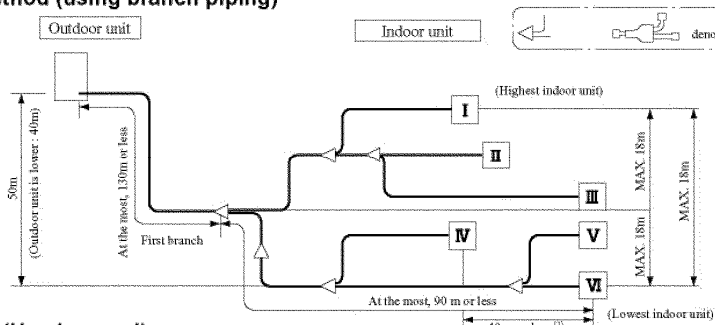
System		FDC224KXE6	FDC280KXE6	FDC335KXE6
Item		Refer to the Databook 09 KXR-DB-124		
Indoor intake air temperature (Upper, lower limits)				
Outdoor air temperature (Upper, lower limits)				
Indoor units that can be used in combination	Number of connected units	1 to 15 unit	1 to 19 unit	1 to 22 unit
	Connectable capacity ⁽¹⁾	112 ~ 336	140 ~ 420	167 ~ 502
Total piping length		510m or less		
Main pipe length		130m or less		
Single direction piping length		Actual length : 160m or less, Equivalent length : 185m 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		18m or less		
Difference in height between indoor and outdoor units	Outdoor unit is higher	50m or less		
	Outdoor unit is lower	40m or less		
Difference in the elevation of indoor units in a system		18m or less		
Indoor unit atmosphere (behind ceiling) temperature and humidity (Only models FDT, FDTG, FDTW, FDTQ, FDU, 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) If one or more indoor units of FDK, FDFL, FDFU and/or FDFW series are connected to the system, the total connecting capacity of indoor units should not exceed 130%.

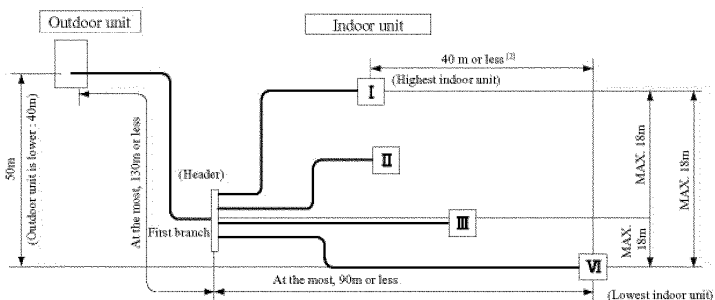
(2) If superlink I (previous superlink) is selected, all the range of usage and limitations, not only the limitations of connectable indoor capacity and connectable number of indoor unit but also of the piping length, operating temperature range and etc., become same as those of KX4 (See technical manual '07 • KX • KXR-T-114). In addition to above limitations, all of new functions for KX6 such as automatic address setting function for multiple refrigerant systems and etc. will be cancelled.

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

(1) Branch pipe method (using branch piping)



(2) Header System (Header used)



Note (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)

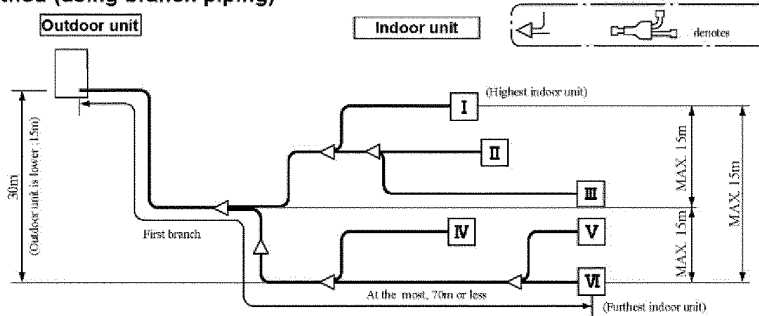
Range of usage & limitations

FDC140KXEN6

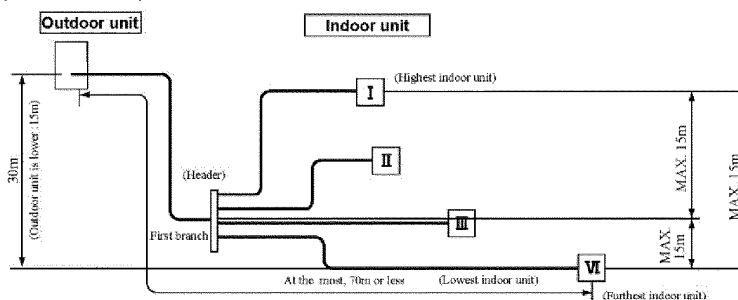
System		FDC112KXEN6 112KXES6	FDC140KXEN6 140KXES6	FDC155KXEN6 155KXES6
Item				
Indoor intake air temperature (Upper, lower limits)		Please see the next page.		
Outdoor air temperature (Upper, lower limits)				
Indoor units that can be used in combination	Number of connected units	1 to 6 units	1 to 8 units	1 to 8 units
	Total capacity	90 ~ 168	112 ~ 210	124 ~ 233
Total Piping Length (Total of the lengths of all piping)		MAX. 100m		
Maximum Piping Distance (From outdoor unit to farthest indoor unit)		Indoor unit MAX. 70m		
Total length of $\phi 9.52$ liquid pipe		Within 50 m		
Difference in height between indoor and outdoor units	Outdoor unit is higher	MAX. 30m		
	Outdoor unit is lower	MAX. 15m		
Difference in height between indoor units		MAX. 15m		
Permissible height difference between the first branch and the indoor unit				
Indoor unit atmosphere (behind ceiling) temperature and humidity		Dew point temperature 28℃ 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 $\pm 10\%$ of rated voltage		
	Voltage drop during start	Within $\pm 15\%$ of rated voltage		
	Phase unbalance	Within $\pm 3\%$ of rated voltage		

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

(1) Branch pipe method (using branch piping)



(2) Header System (Header used)



Note (1) A branch piping system cannot be connected after a header system.

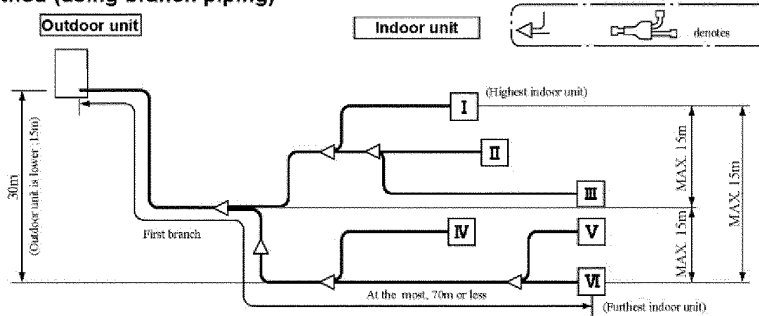
Range of usage & limitations

FDC112KXEN6

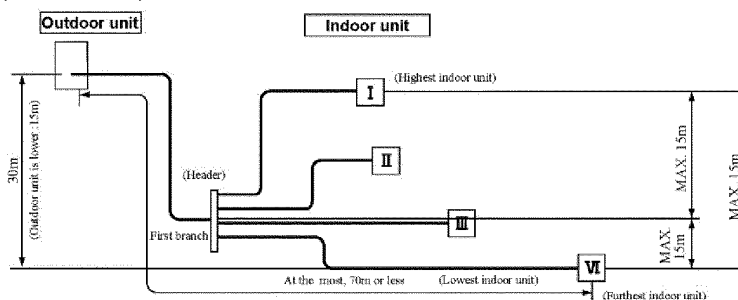
System		FDC112KXEN6 112KXES6	FDC140KXEN6 140KXES6	FDC155KXEN6 155KXES6
Indoor intake air temperature (Upper, lower limits)		Please see the next page.		
Outdoor air temperature (Upper, lower limits)				
Indoor units that can be used in combination	Number of connected units	1 to 6 units	1 to 8 units	1 to 8 units
	Total capacity	90 ~ 168	112 ~ 210	124 ~ 233
Total Piping Length (Total of the lengths of all piping)		MAX. 100m		
Maximum Piping Distance (From outdoor unit to farthest indoor unit)		Indoor unit MAX. 70m		
Total length of $\phi 9.52$ liquid pipe		Within 50 m		
Difference in height between indoor and outdoor units	Outdoor unit is higher	MAX. 30m		
	Outdoor unit is lower	MAX. 15m		
Difference in height between indoor units		MAX. 15m		
Permissible height difference between the first branch and the indoor unit				
Indoor unit atmosphere (behind ceiling) temperature and humidity		Dew point temperature 28℃ 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 $\pm 10\%$ of rated voltage		
	Voltage drop during start	Within $\pm 15\%$ of rated voltage		
	Phase unbalance	Within $\pm 3\%$ of rated voltage		

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

(1) Branch pipe method (using branch piping)

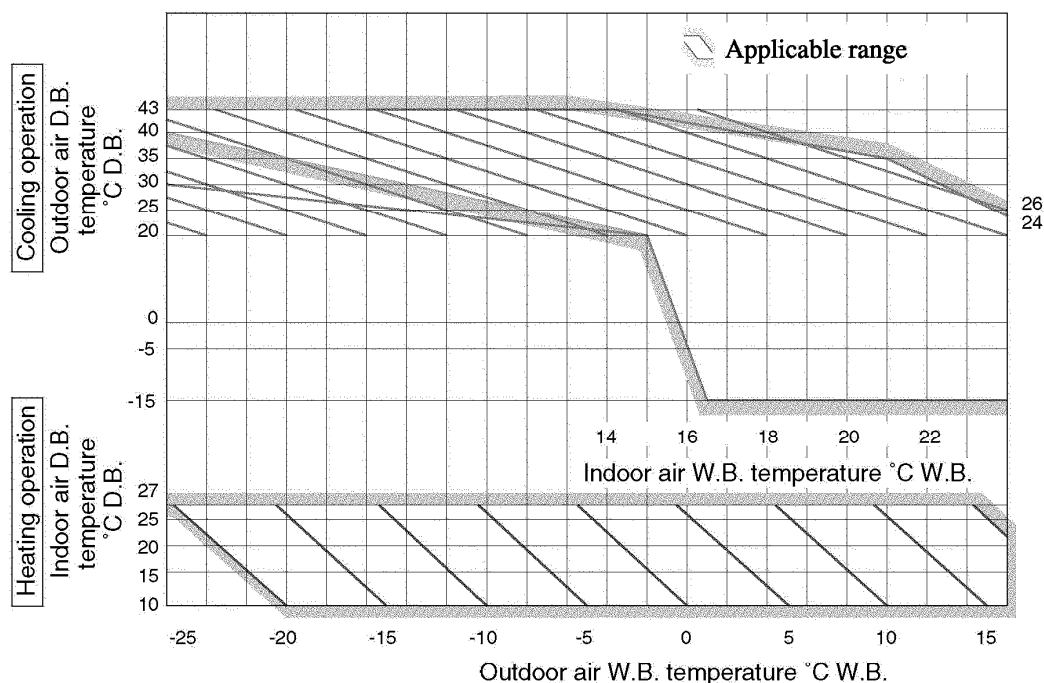


(2) Header System (Header used)



Note (1) A branch piping system cannot be connected after a header system.

Operating temperature range



“CAUTION” Cooling operation under low outdoor air temperature conditions

KXE6 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]

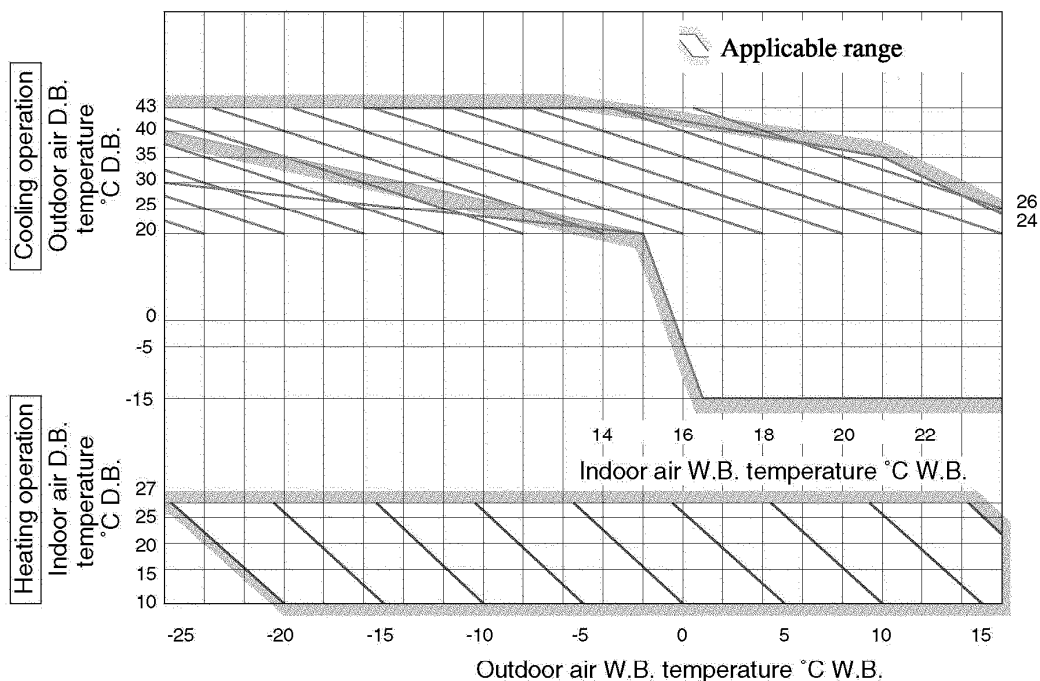
In case of severely low temperature condition

- 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.

Operating temperature range



“CAUTION” Cooling operation under low ambient air temperature conditions

KXE6 models can be operated in cooling mode at low ambient 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

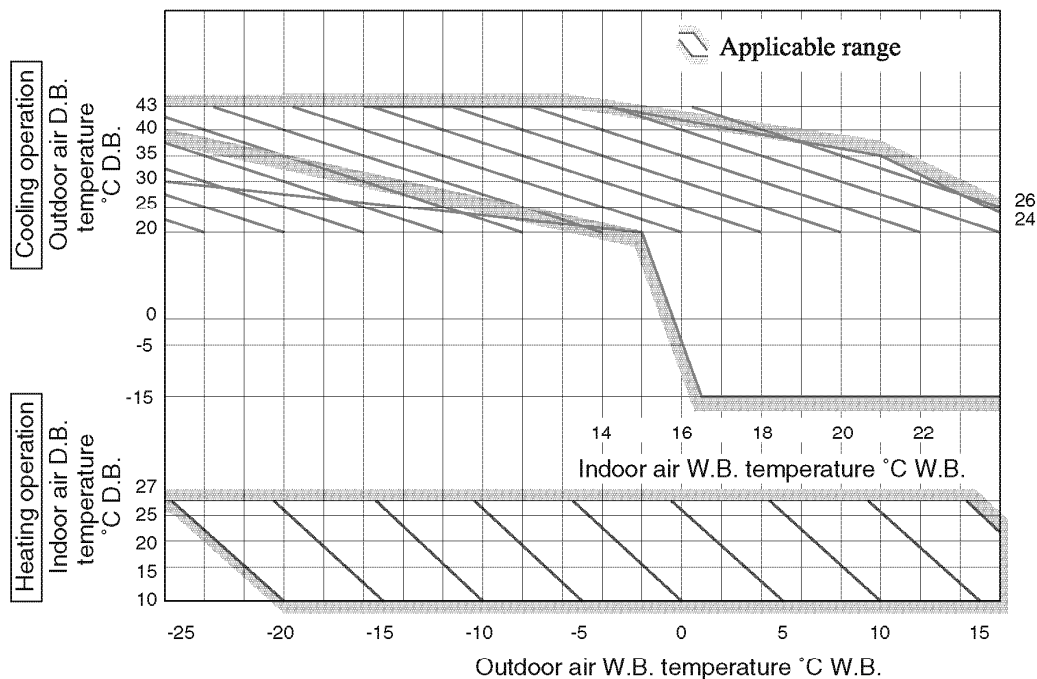
- 1) Install the outdoor unit at the place where strong wind cannot blow directly into the outdoor unit.
- 2) If there is no installation place where can prevent strong wind from directly blowing into the outdoor unit, mount the flex flow adaptor (prepared as optional part) or like such devices onto the outdoor unit in order to divert the strong wind.

[Reason]

Under the low ambient 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.

Range of usage & limitations

Operating temperature range



“CAUTION” Cooling operation under low ambient air temperature conditions

KXE6 models can be operated in cooling mode at low ambient 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, mount the flex flow adaptor (prepared as optional part) or like such devices onto the outdoor unit in order to divert the strong wind.

[Reason]

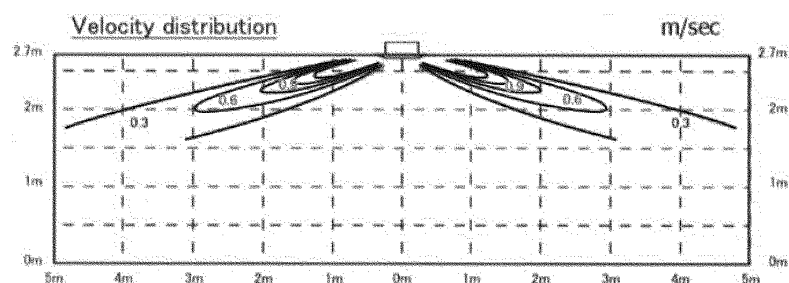
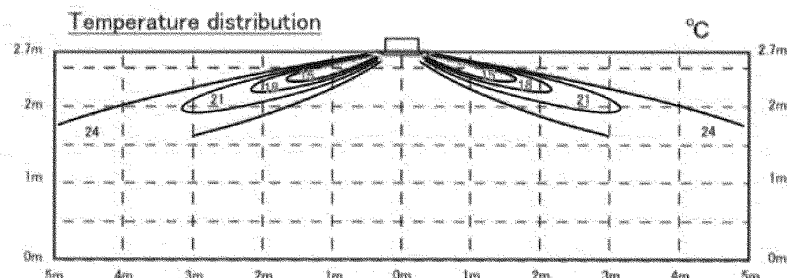
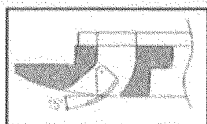
Under the low ambient air temperature conditions of -5°C or lower, if strong wind directly blow into the outdoor unit, the outdoor heat exchanger temperature will drop, even though the outdoor fan is stopped by outdoor fan control. This makes high and low pressures to drop as well. This low pressure 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.

Temperature and velocity distribution

FDT C56KXE6F

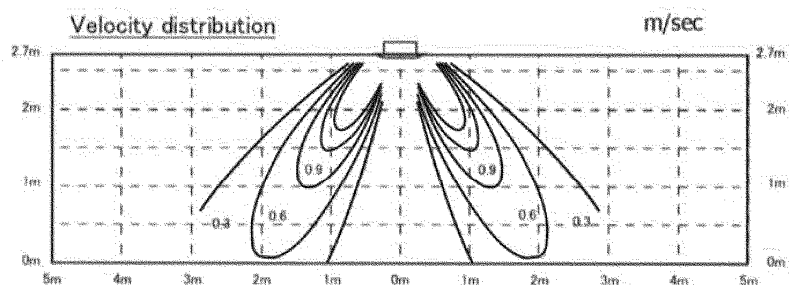
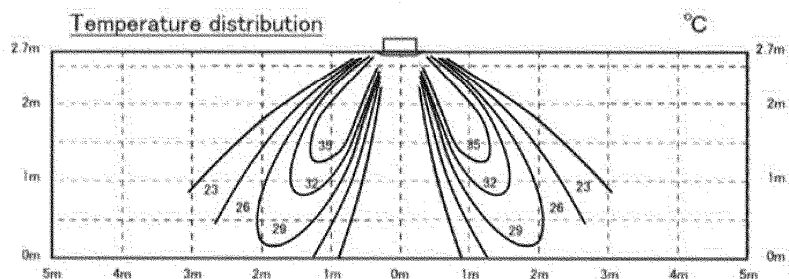
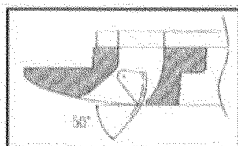
Cooling Air flow: P-Hi

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

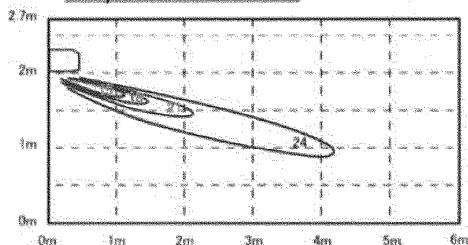
FDK28KXE6F

Cooling Air flow: P-Hi

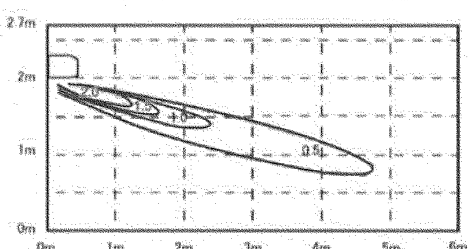
Louver position



Temperature distribution °C



Velocity distribution m/sec

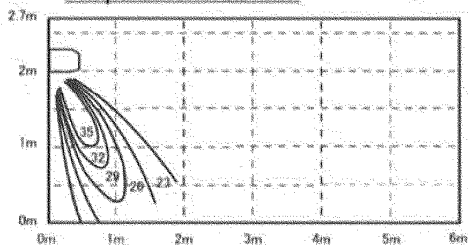


Heating Air flow: P-Hi

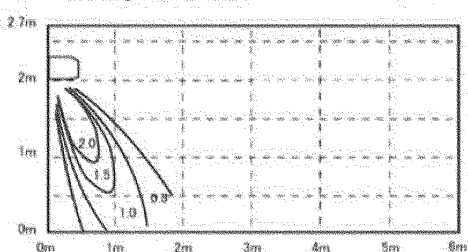
Louver position



Temperature distribution °C



Velocity distribution m/sec



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.

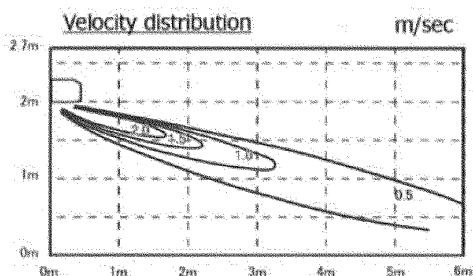
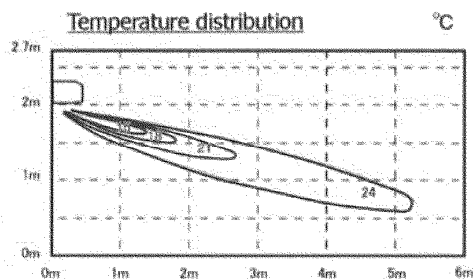
In the actual installation, they may differ from the typical figures under the influence of air temperature conditions, ceiling height, operation conditions and obstacles.

Temperature and velocity distribution

FDK36KXE6F

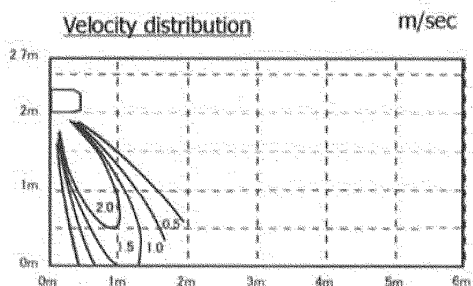
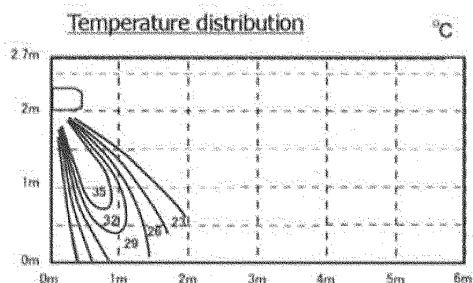
Cooling Air flow: P-Hi

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.