

Engineering Data

Compact Four-way Cassette VRF IDU

AC 50Hz



KTZA15HQAN1

KTZA40HQAN1

KTZA24HQAN1

KTZA50HQAN1

KTZA30HQAN1

Compact Four-way Cassette

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VRF Indoor Units

1 Specifications

KTZA15HQAN1 / KTZA24HQAN1 / KTZA30HQAN1

Table 1.2: KTZA15(24, 30)HQAN1 specifications

Model			KTZA15HQAN1	KTZA24HQAN1	KTZA30HQAN1
Power supply			1 phase, 220-240V, 50Hz		
Cooling ¹	Capacity	kW	1.5	2.2	2.8
	Input	W	36	50	50
Heating ²	Capacity	kW	1.7	2.4	3.2
	Input	W	36	50	50
Indoor fan motor	Type		AC motor		
	Quantity		1		
Indoor coil	Number of rows		1		
	Tube pitch × row pitch	mm	21×13.37		
	Fin spacing	mm	1.3		
	Fin type		Hydrophilic aluminum		
	Diameter & type	mm	Φ7, inner-groove		
	Dimensions (L×H×W)	mm	1310×210×13.37		
	Number of circuits		1	2	2
Air flow rate (H/M/L)		m ³ /h	400/283/208	414/313/238	414/313/238
Sound pressure level (H/M/L) ³		dB(A)	35/33/23	36/33/23	36/33/23
Indoor unit	Dimensions ⁴ (W×H×D)		570×260×630		
	Packing (W×H×D)		675×285×675		
	Net/Gross weight		17/20	17/20	17/20
Panel	Dimensions (W×H×D)		647×50×647		
	Packing(W×H×D)		715×123×715		
	Net/Gross weight		2.5/4.5		
Refrigerant type			R410A		
Pipe connections	Liquids pipe		Φ6.35		
	Gas pipe		Φ12.7		
	Drain pipe		OD Φ25		

Notes:

1. Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
2. Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
3. Sound pressure level is measured 1.4m below the unit in a semi-anechoic chamber.
4. Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

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KTZA40HQAN1 / KTZA50HQAN1

Table 1.3: KTZA40(50)HQAN1 specifications

Model			KTZA40HQAN1	KTZA50HQAN1
Power supply			1 phase, 220-240V, 50Hz	
Cooling ¹	Capacity	kW	3.6	4.5
	Input	W	56	56
Heating ²	Capacity	kW	4.0	5.0
	Input	W	56	56
Indoor fan motor	Type	AC motor		
	Quantity	1		
Indoor coil	Number of rows		2	2
	Tube pitch × row pitch	mm	21×13.37	
	Fin spacing	mm	1.3	
	Fin type	Hydrophilic aluminum		
	Diameter & type	mm	Φ7, inner-groove	
	Dimensions (L×H×W)	mm	1310×210×26.74	
	Number of circuits	4		
Air flow rate (H/M/L)		m ³ /h	521/409/314	521/409/314
Sound pressure level (H/M/L) ³		dB(A)	42/36/29	42/36/29
Indoor unit	Dimensions ⁴ (W×H×D)	mm	570×260×630	
	Packing (W×H×D)	mm	675×285×675	
	Net/Gross weight	kg	18.5/21.5	
Panel	Dimensions (W×H×D)	mm	647×50×647	
	Packing(W×H×D)	mm	715×123×715	
	Net/Gross weight	kg	2.5/4.5	
Refrigerant type			R410A	
Pipe connections	Liquids pipe	mm	Φ6.35	
	Gas pipe	mm	Φ12.7	
	Drain pipe	mm	OD Φ25	

Notes:

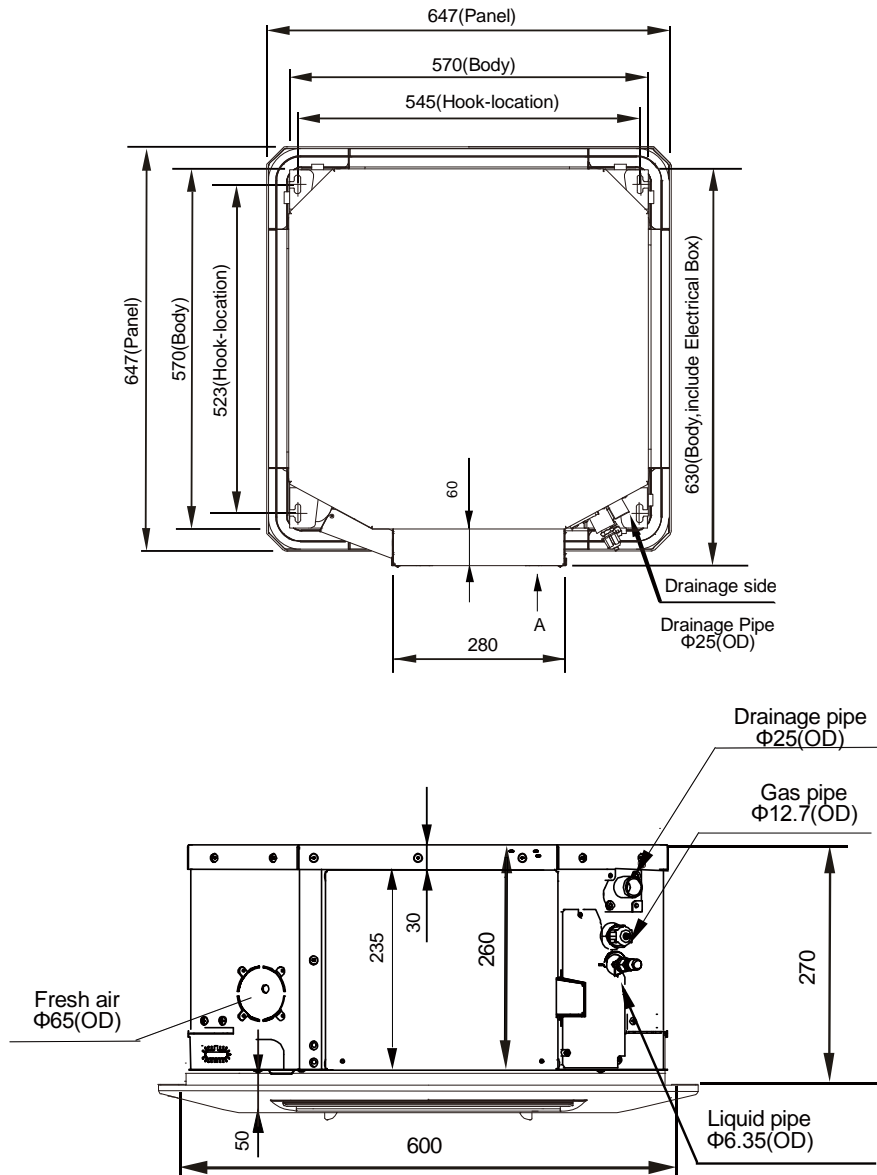
1. Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
2. Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
3. Sound pressure level is measured 1.4m below the unit in a semi-anechoic chamber.
4. Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

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2 Dimensions

2.1 Unit Dimensions

Figure 2.1: Compact Four-way Cassette dimensions (unit: mm)



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3 Unit Placement

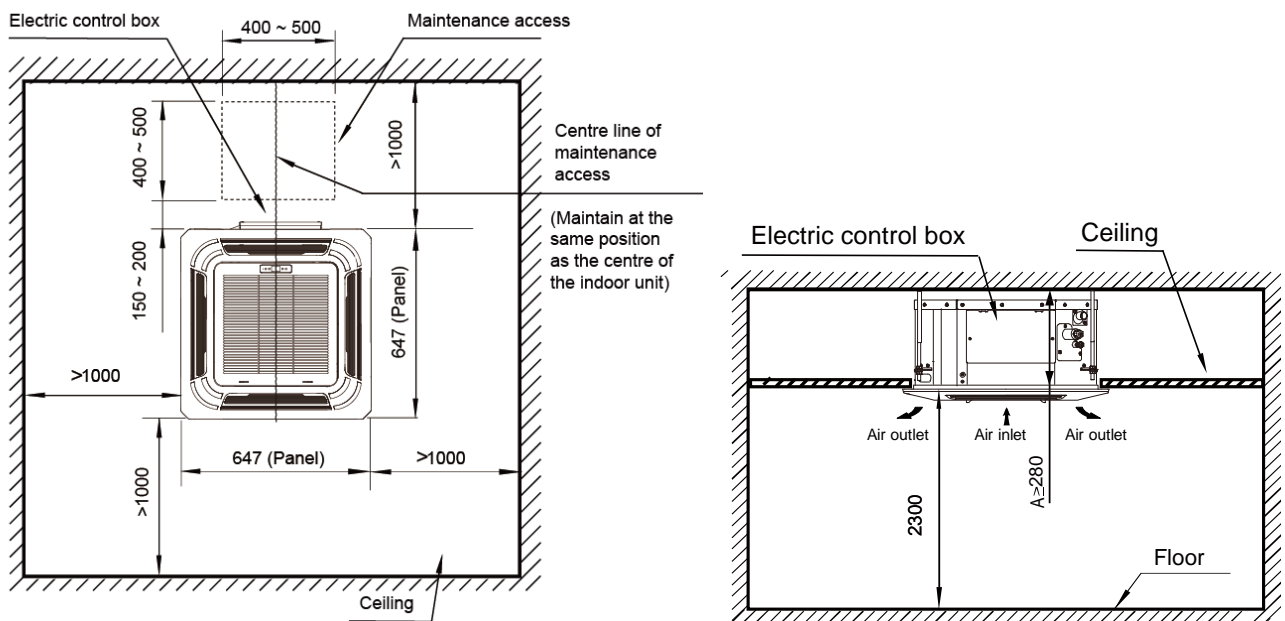
3.1 Placement Considerations

Unit placement should take account of the following considerations:

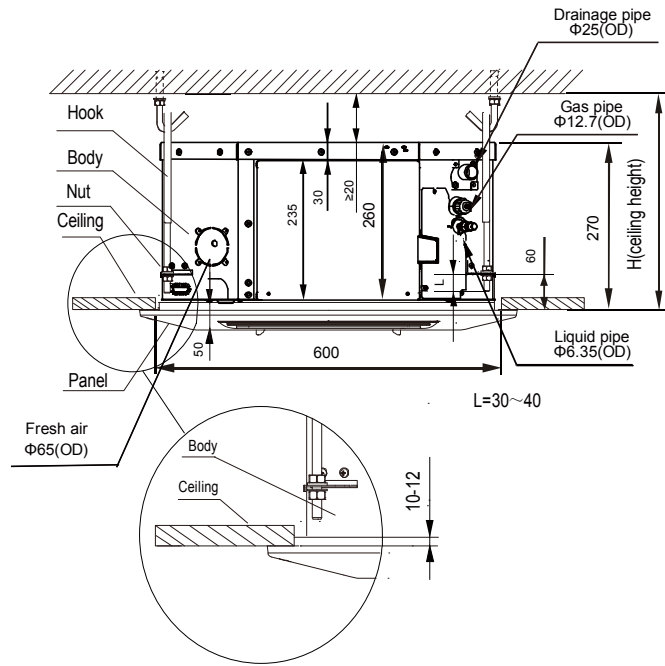
- Units should not be installed in the following locations:
 - Where exposure to direct radiation from a high-temperature heat source or to interference from a source of electromagnetic radiation may occur.
 - Where dust or dirt may affect heat exchangers.
 - Where exposure to oil or to corrosive or harmful gases, such as acidic or alkaline gases, may occur.
 - Where exposure to salinity may occur, such as seaside locations.
 - Where highly flammable materials are present.
 - Where exposure to oily air may occur, such as a kitchen.
 - Where exposure to very high humidity may occur, such as a laundry.
- Units should be installed in positions where:
 - The ceiling is horizontal and is able to bear the unit's weight.
 - There are no obstructions that could impede the airflow into and out of the unit.
 - The airflow out of the unit can reach throughout the room.
 - There is sufficient space for access during installation, servicing and maintenance.
 - The refrigerant piping and drain piping can be easily connected to the refrigerant piping and drain piping systems.
 - Short-circuit ventilation (where outlet air returns quickly to a unit's air inlet) will not occur.

3.2 Space Requirements

Figure 3.1: Compact Four-way Cassette space requirements (unit: mm)



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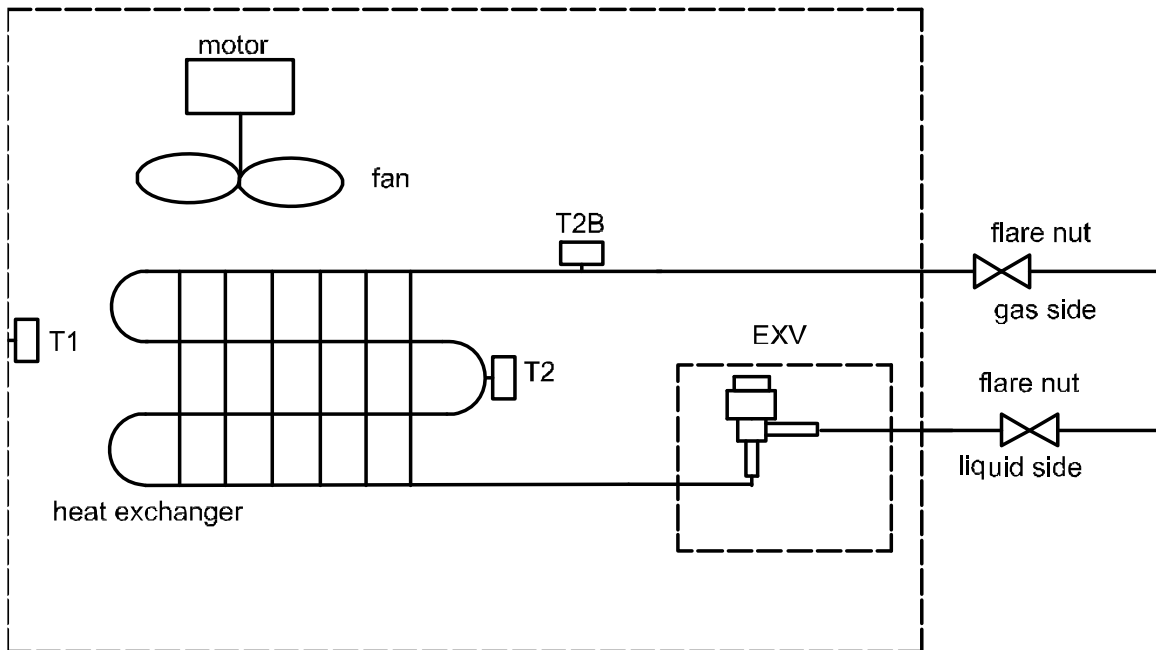
Notes:

1. The centerline of the maintenance hole should be in the same position as the centerline of the indoor unit.

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4 Piping Diagram

Figure 4.1: Compact Four-way Cassette piping diagram

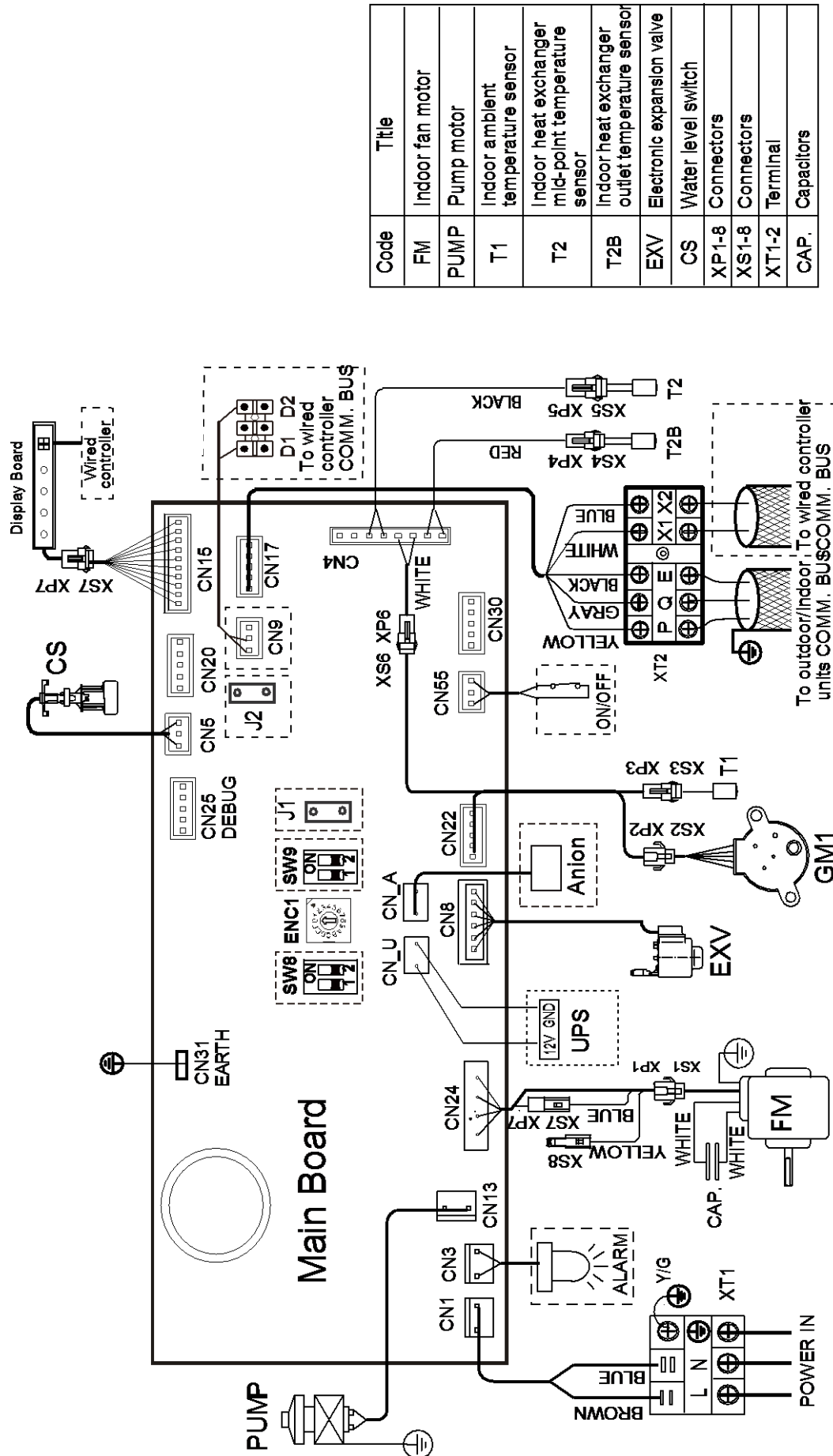


Legend	
T1	Indoor ambient temperature sensor
T2	Indoor heat exchanger mid-point temperature sensor
T2B	Indoor heat exchanger outlet temperature sensor

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5 Wiring Diagram

Figure 5.1: Compact Four-way Cassette piping diagram wiring diagram



Code	Title
FM	Indoor fan motor
PUMP	Pump motor
T1	Indoor ambient temperature sensor
T2	Indoor heat exchanger mid-point temperature sensor
T2B	Indoor heat exchanger outlet temperature sensor
EXV	Electronic expansion valve
CS	Water level switch
XP1-8	Connectors
XS1-8	Connectors
XT1-2	Terminal
CAP.	Capacitors

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Notes for installers and service engineers

Caution

- All installation, servicing and maintenance must be carried out by competent and suitably qualified, certified and accredited professionals and in accordance with all applicable legislation.
- Units should be grounded in accordance with all applicable legislation. Metal and other conductive components should be insulated in accordance with all applicable legislation.
- Power supply wiring should be securely fastened at the power supply terminals – loose power supply wiring would represent a fire risk.
- After installation, servicing or maintenance, the electric control box cover should be closed. Failing to close the electric control box cover risks fire or electric shock.
- Switch ENC1 (indoor unit capacity setting) is factory-set and its setting should normally not be changed. The only circumstances in which a switch ENC1 might need to be set in the field is when replacing a main PCB. When replacing a main PCB, ensure that the capacity setting on switch ENC1 on the new PCB is consistent with the unit capacity given on the unit's nameplate.

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6 Capacity Tables

6.1 Cooling Capacity Table

Table 6.1: Compact Four-way Cassette cooling capacity

Model	Indoor air temperature (°C WB/DB)													
	14/20		16/23		18/26		19/27		20/28		22/30		24/32	
	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
KTZA15HQAN1	1.4	1.4	1.5	1.4	1.5	1.3	1.5	1.3	1.6	1.3	1.6	1.2	1.6	1.1
KTZA24HQAN1	2.0	2.0	2.1	1.9	2.2	1.9	2.2	1.8	2.3	1.8	2.3	1.7	2.4	1.7
KTZA30HQAN1	2.5	2.5	2.7	2.5	2.8	2.4	2.8	2.3	2.9	2.3	2.9	2.2	3.0	2.1
KTZA40HQAN1	3.2	3.0	3.4	3.0	3.6	3.1	3.6	2.9	3.7	2.9	3.8	2.8	3.9	2.7
KTZA50HQAN1	4.0	3.8	4.3	3.8	4.5	3.8	4.5	3.7	4.6	3.6	4.7	3.4	4.8	3.3

Abbreviations:

TC: Total capacity (kW)

SC: Sensible capacity(kW)

Notes:

1. Shaded cells indicate rating condition.

6.2 Heating Capacity Table

Table 6.2: Compact Four-way Cassette heating capacity

Model	Indoor air temperature (°C DB)					
	16	18	20	21	22	24
	TC	TC	TC	TC	TC	TC
KTZA15HQAN1	1.8	1.8	1.7	1.6	1.6	1.5
KTZA24HQAN1	2.6	2.6	2.4	2.3	2.3	2.1
KTZA30HQAN1	3.4	3.4	3.2	3.1	3.0	2.8
KTZA40HQAN1	4.2	4.2	4.0	3.8	3.8	3.5
KTZA50HQAN1	5.3	5.3	5.0	4.8	4.7	4.4

Abbreviations:

TC: Total capacity (kW)

Notes:

1. Shaded cells indicate rating condition.

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7 Electrical Characteristics

Table 7.1: Compact Four-way Cassette electrical characteristics

Model name	Power supply						Indoor fan motors	
	Hz	Volts	Min. volts	Max. volts	MCA	MFA	Rated motor output (kW)	FLA
KTZA15HQAN1	50	220-240	198	264	0.2	15	0.05	0.16
KTZA24HQAN1	50	220-240	198	264	0.2	15	0.05	0.16
KTZA30HQAN1	50	220-240	198	264	0.2	15	0.05	0.16
KTZA40HQAN1	50	220-240	198	264	0.3	15	0.056	0.24
KTZA50HQAN1	50	220-240	198	264	0.3	15	0.056	0.24

Abbreviations:

MCA: Minimum Circuit Amps

MFA: Maximum Fuse Amps

FLA: Full Load Amps

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8 Sound Levels

8.1 Overall

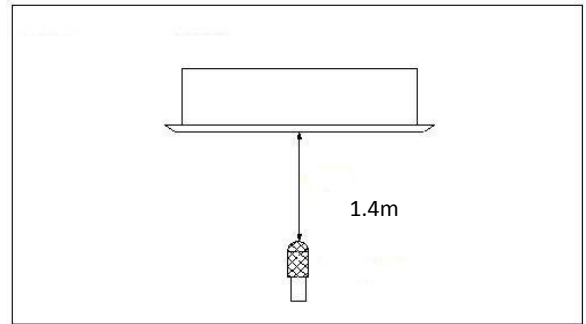
Table 8.1: Compact Four-way Cassette sound pressure levels¹

Model name	Sound pressure levels dB(A)		
	H	M	L
KTZA15HQAN1	35	33	23
KTZA24HQAN1	36	33	23
KTZA30HQAN1	36	33	23
KTZA40HQAN1	42	36	29
KTZA50HQAN1	42	36	29

Notes:

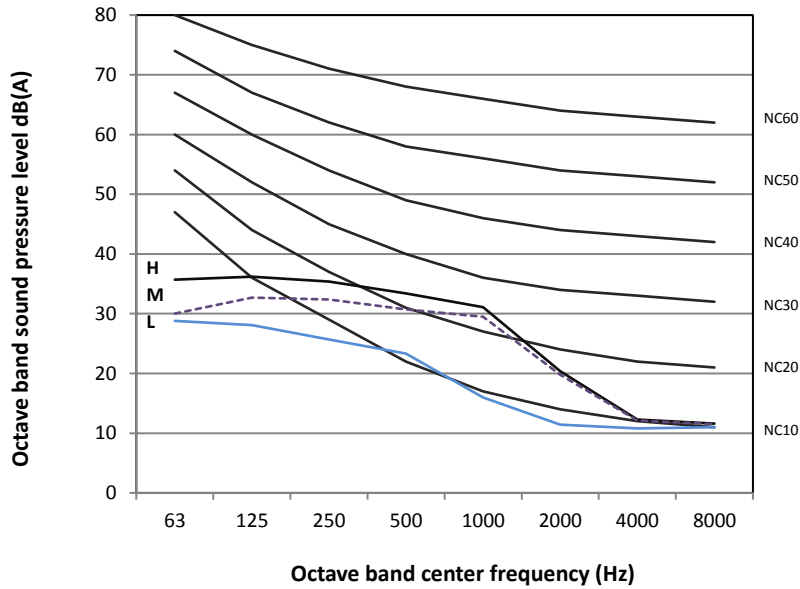
1. Sound pressure levels are measured 1.4m below the unit in a semi-anechoic chamber. During in-situ operation, sound pressure levels may be higher as a result of ambient noise.

Figure 8.1: Compact Four-way Cassette sound pressure level measurement



8.2 Octave Band Levels

Figure 8.2: KTZA15HQAN1 octave band levels



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Figure 8.3: KTZA124(30)HQAN1 octave band levels

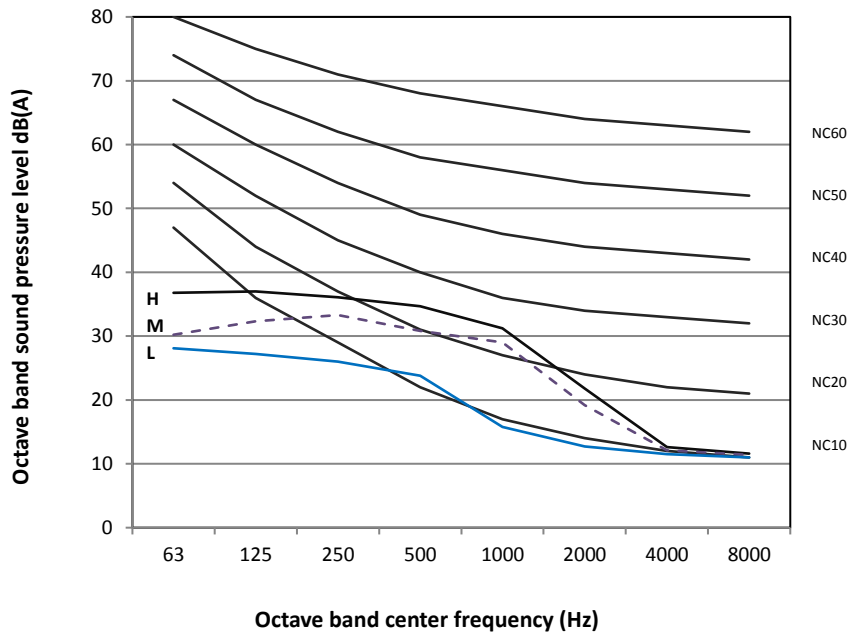


Figure 8.4: KTZA40(50)HQAN1 octave band levels

