

Engineering Data

Two-way Cassette VRF IDU

AC 50Hz



KTDA24HQAN1

KTDA50HQAN1

KTDA30HQAN1

KTDA60HQAN1

KTDA40HQAN1

KTDA72HQAN1

Two-way Cassette

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VRF Indoor Units

1 Specifications

Model			KTDA24HQAN1	KTDA30HQAN1	KTDA40HQAN1
Power supply			1 phase, 220-240V, 50Hz		
Cooling	Capacity	kW	2.2	2.8	3.6
	Input	W	57	57	60
Heating	Capacity	kW	2.6	3.2	4
	Input	W	57	57	60
Indoor fan motor	Type		AC		
	Quantity		1		
Indoor coil	Number of rows		1		
	Tube pitchxrow pitch	mm	21×13.37		
	Fin spacing	mm	1.5		
	Fin type		Hydrophilic Aluminum		
	Diameter & type	mm	Φ7, inner-groove tube		
	Dimensions (LxHxW)	mm	882×210×13.37		
	Number of circuits		4		
Refrigerant type			R410A		
Indoor air flow (H/M/L)		m3/h	654/530/410	654/530/410	725/591/458
Sound pressure level (H/M/L)		dB(A)	33/29/24	36/32/29	36/32/29
Indoor unit	Dimension (WxHxD)	mm	1172×299×591		
	Packing (WxHxD)	mm	1355×400×675		
	Net/Gross weight	kg	34/42.5		
Panel	Dimension (WxHxD)	mm	1430×53×680		
	Packing (WxHxD)	mm	1525×130×765		
	Net/Gross weight	kg	10.5/15		
Pipe connections	Liquid pipe	mm	Φ 6.35		
	Gas pipe	mm	Φ 12.7		
	Drain pipe	mm	OD Φ32		

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. Fan motor speed and air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
4. Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured in a semi-anechoic chamber.

Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

VRF Indoor Units

Model			KTDA50HQAN1	KTDA60HQAN1	KTDA72HQAN1
Power supply			1 phase, 220-240V, 50Hz		
Cooling	Capacity	kW	4.5	5.6	7.1
	Input	W	92	108	154
Heating	Capacity	kW	5	6.3	8
	Input	W	92	108	154
Indoor fan motor	Type		AC		
	Quantity		1		
Indoor coil	Number of rows		2		
	Tube pitch x row pitch	mm	21×13.37		
	Fin spacing	mm	1.5		
	Fin type		Hydrophilic Aluminum		
	Diameter & type	mm	Φ7, inner-groove tube		
	Dimensions (LxHxW)	mm	882×210×26.74		
	Number of circuits		6		
Refrigerant type			R410A		
Indoor air flow (H/M/L)		m3/h	850/670/550	980/800/670	1200/1000/770
Sound pressure level (H/M/L)		dB(A)	39/35/30	39/35/30	44/40/34
Indoor unit	Dimension (WxHxD)	mm	1172×299×591		
	Packing (WxHxD)	mm	1355×400×675		
	Net/Gross weight	kg	36/44.5		
Panel	Dimension (WxHxD)	mm	1430×53×680		
	Packing (WxHxD)	mm	1525×130×765		
	Net/Gross weight	kg	10.5/15		
Pipe connections	Liquid pipe	mm	Φ 6.35	Φ9.53	Φ9.53
	Gas pipe	mm	Φ 12.7	Φ15.9	Φ15.9
	Drain pipe	mm	OD Φ32		

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. Fan motor speed and air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
4. Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured in a semi-anechoic chamber.

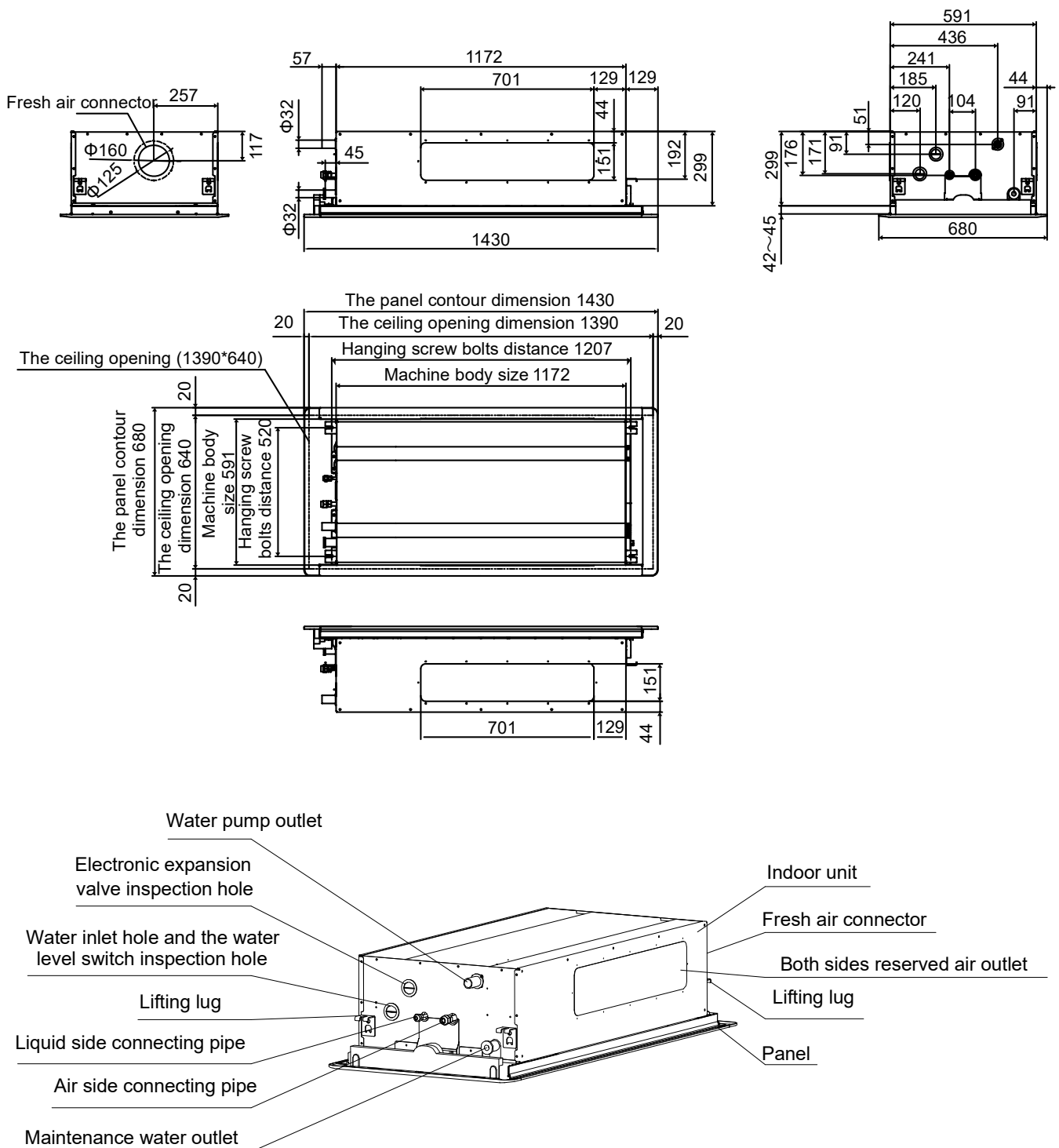
Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

VRF Indoor Units

2 Dimensions

2.1 Unit Dimensions

Figure 2.1: Two-way Cassette dimensions (unit: mm)



VRF Indoor Units

3 Unit Placement

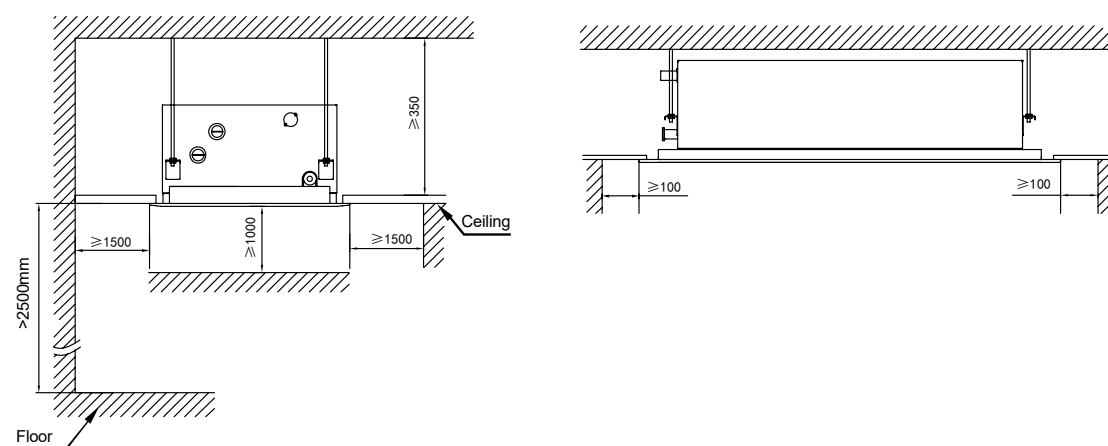
3.1 Placement Considerations

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: Two-way Cassette space requirements (unit: mm)



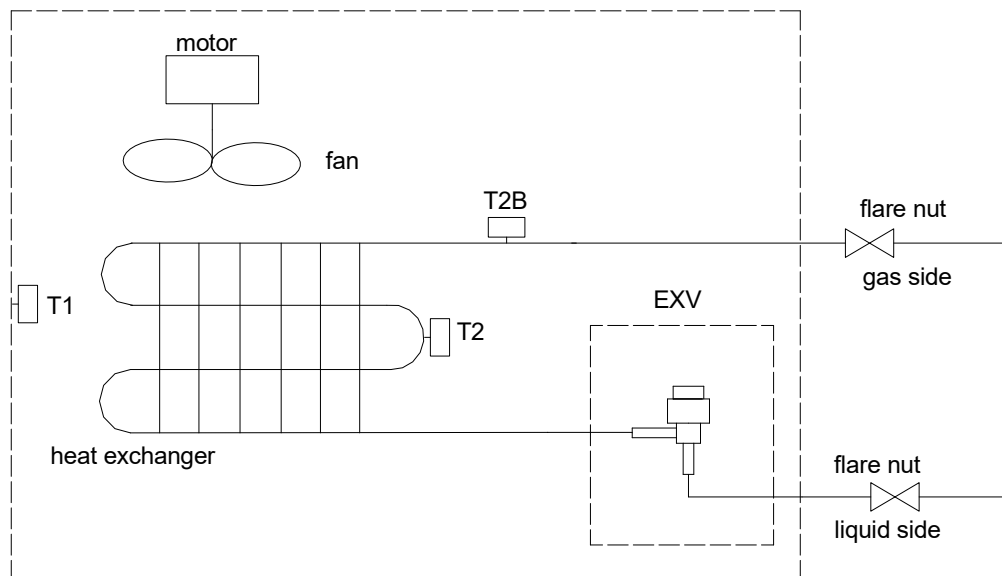
Notes:

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

VRF Indoor Units

4 Piping Diagram

Figure 4.1: Two-way Cassette piping diagram

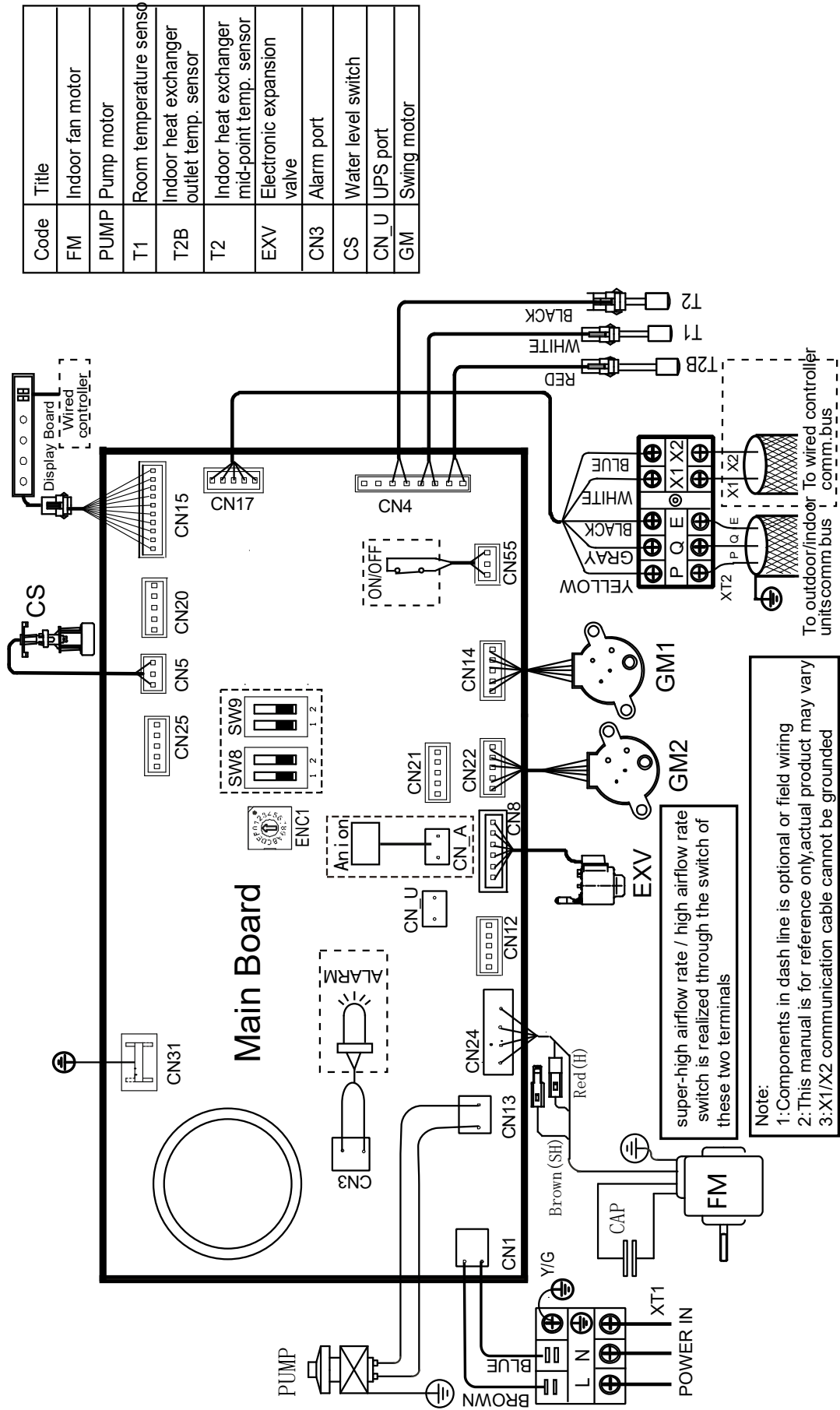


Legend	
T1	Indoor ambient temperature sensor
T2	Indoor heat exchanger mid-point temperature sensor
T2B	Indoor heat exchanger outlet temperature sensor

VRF Indoor Units

5 Wiring Diagram

Figure 5.1: Two-way Cassette piping diagram wiring diagram



VRF Indoor Units

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: Two-way Cassette cooling capacity

Model	Indoor air temp. (°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
KTDA24HQAN1	2.0	2.0	2.1	2.1	2.2	2.0	2.2	1.9	2.3	1.9	2.3	1.7	2.4	1.7
KTDA30HQAN1	2.5	2.5	2.7	2.6	2.8	2.5	2.8	2.4	2.9	2.4	2.9	2.2	3.0	2.1
KTDA40HQAN1	3.2	3.2	3.4	3.3	3.6	3.3	3.6	3.1	3.7	3.0	3.8	2.9	3.9	2.7
KTDA50HQAN1	4.0	4.0	4.3	4.0	4.5	3.9	4.5	3.8	4.6	3.7	4.7	3.5	4.8	3.3
KTDA60HQAN1	5.0	5.0	5.3	5.0	5.6	4.9	5.6	4.7	5.7	4.6	5.8	4.3	6.0	4.1
KTDA72HQAN1	6.3	6.3	6.7	6.3	7.0	6.2	7.1	6.0	7.2	5.8	7.4	5.5	7.6	5.2

Abbreviations:

TC: Total capacity (kW)

SC: Sensible capacity (kW)

Notes:

1. Shaded cells indicate rating condition

6.2 Heating Capacity Table

Table 7.1: Two-way Cassette heating capacity

Model	Indoor air temp. (°C DB)					
	16°CDB	18°CDB	20°CDB	21°CDB	22°CDB	24°CDB
	SHC	SHC	SHC	SHC	SHC	SHC
KTDA24HQAN1	2.8	2.8	2.6	2.5	2.4	2.3
KTDA30HQAN1	3.4	3.4	3.2	3.1	3.0	2.8
KTDA40HQAN1	4.2	4.2	4.0	3.8	3.8	3.5
KTDA50HQAN1	5.3	5.3	5.0	4.8	4.7	4.4
KTDA60HQAN1	6.7	6.6	6.3	6.1	5.9	5.5
KTDA72HQAN1	8.5	8.4	8.0	7.8	7.5	7.0

Abbreviations :

TC: Total capacity (kW)

Notes:

1. Shaded cells indicate rating condition

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7 Electrical Characteristics

Table 7.1: Two-way Cassette electrical characteristics

Model name	Power supply						Indoor fan motors	
	Hz	Volts	Min. volts	Max. volts	MCA	MFA	Rated motor output (kW)	FLA
KTDA24HQAN1	50	220-240	198	264	0.47	15	0.1	0.38
KTDA30HQAN1	50	220-240	198	264	0.47	15	0.1	0.38
KTDA40HQAN1	50	220-240	198	264	0.52	15	0.1	0.42
KTDA50HQAN1	50	220-240	198	264	0.59	15	0.1	0.47
KTDA60HQAN1	50	220-240	198	264	0.9	15	0.1	0.72
KTDA72HQAN1	50	220-240	198	264	1.3	15	0.1	1.04

Abbreviations:

MCA: Minimum Circuit Amps

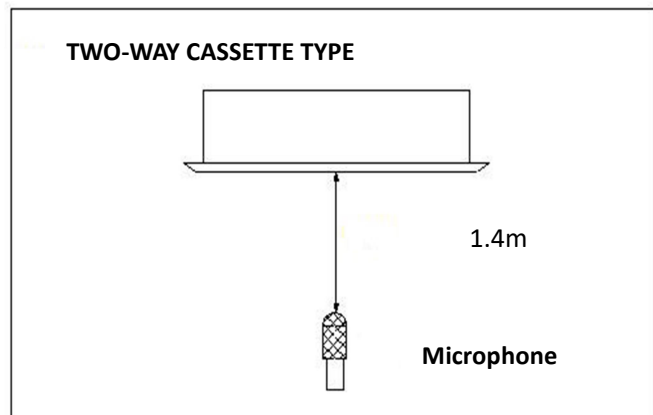
MFA: Maximum Fuse Amps

FLA: Full Load Amps

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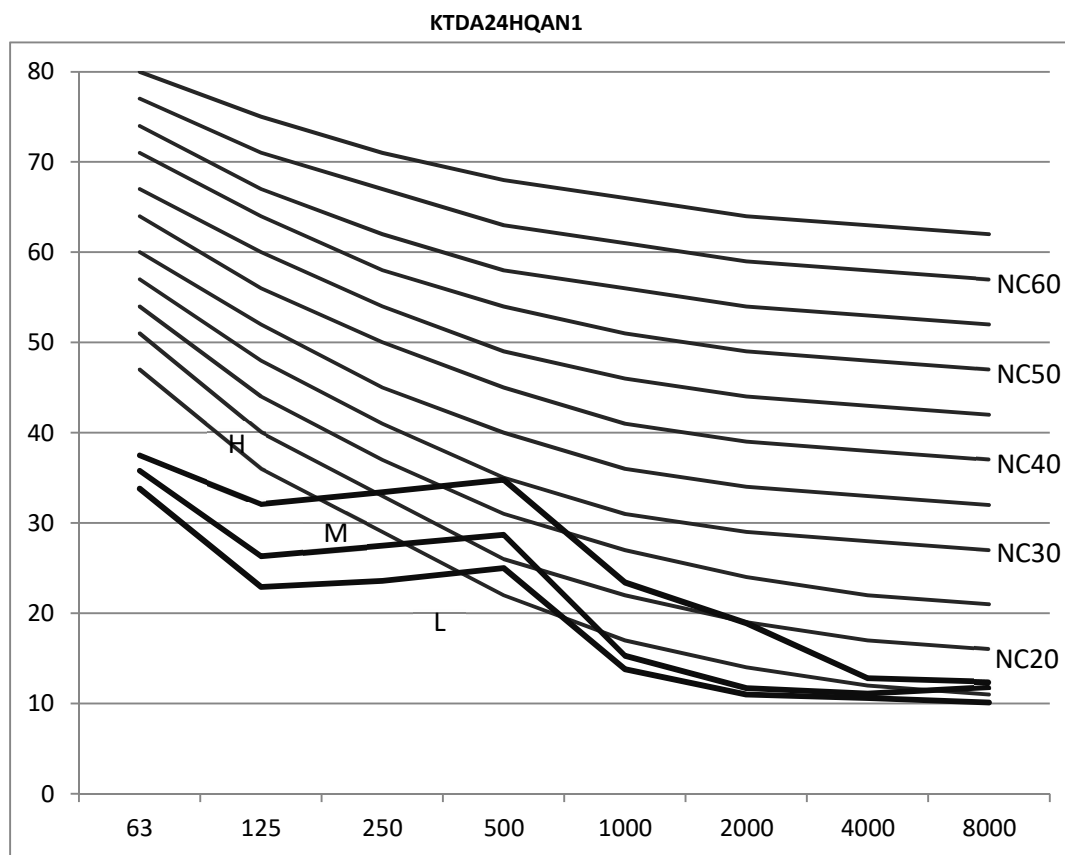
8 Sound Levels

8.1 Test Condition



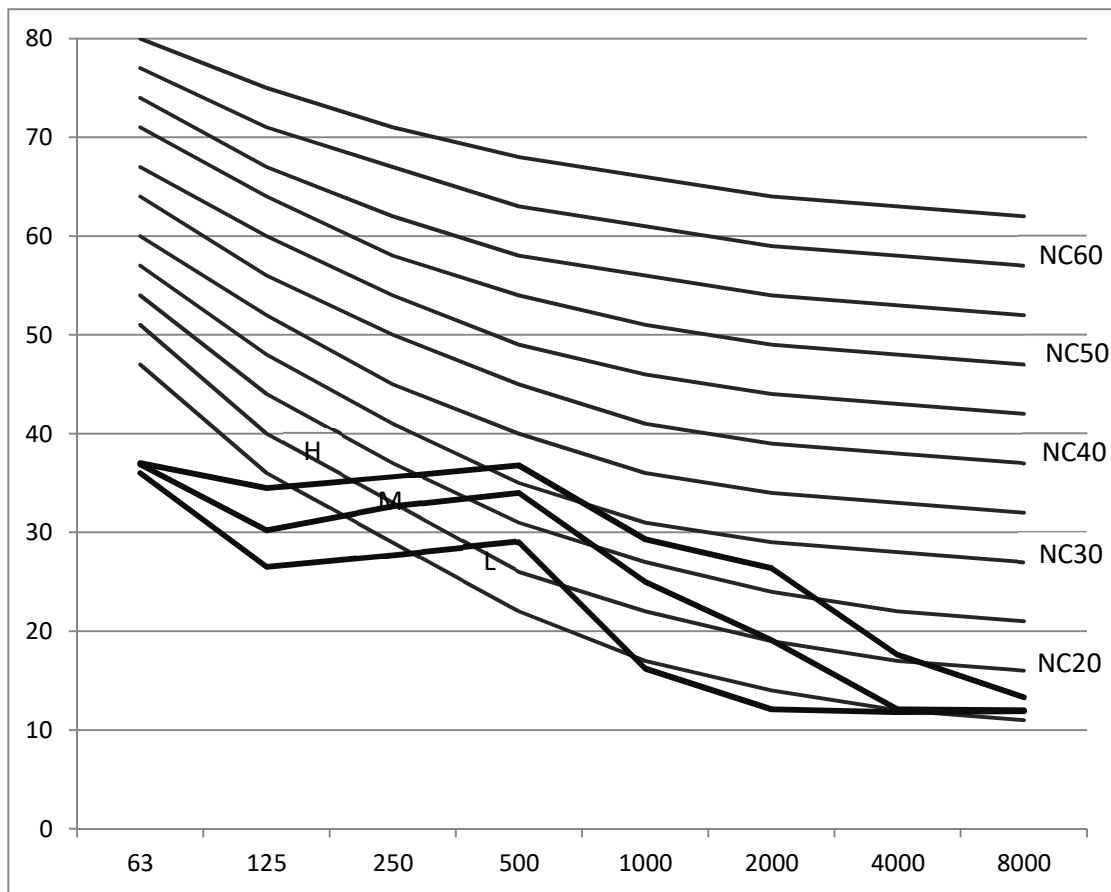
8.2 Test Value

Model	Sound test value dB(A)		
	H	M	L
KTDA24HQAN1	33	29	24
KTDA30HQAN1	36	32	29
KTDA40HQAN1	36	32	29
KTDA50HQAN1	39	35	30
KTDA60HQAN1	39	35	30
KTDA72HQAN1	44	40	34

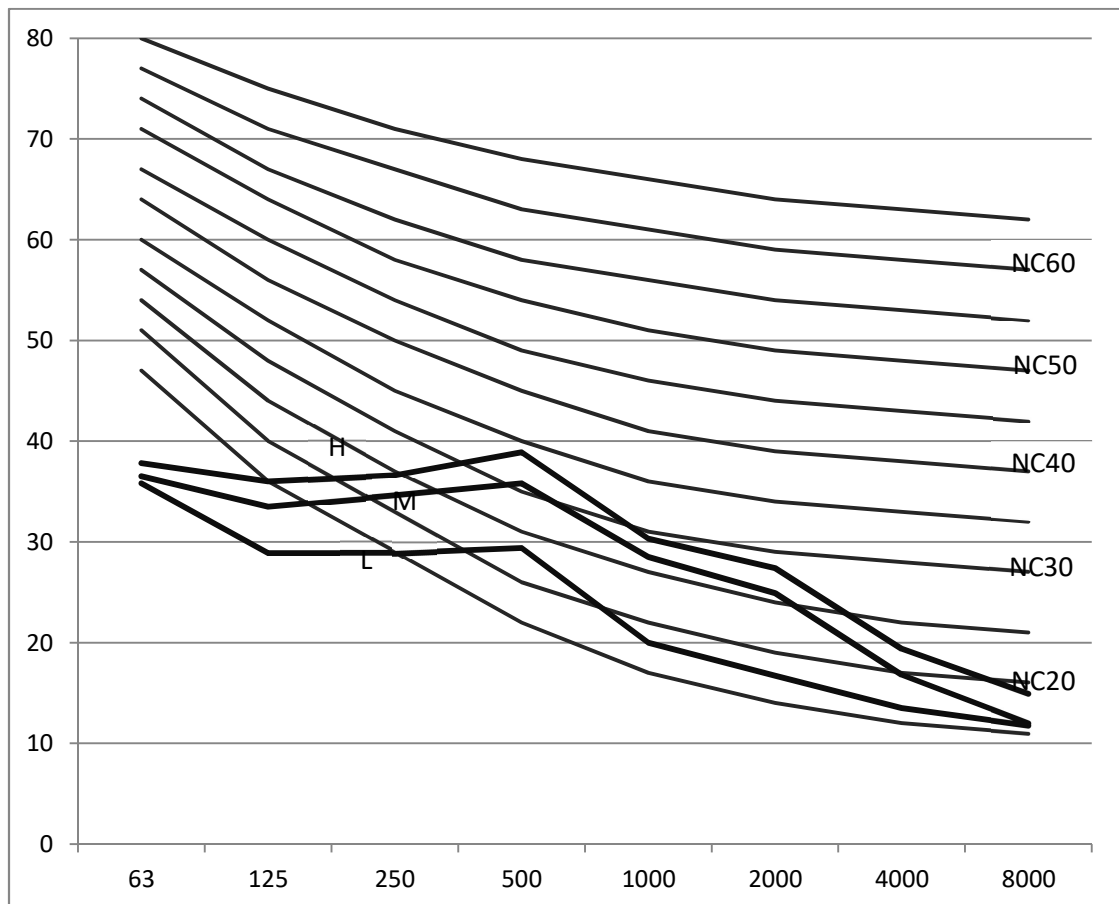


VRF Indoor Units

KTDA30HQAN1, KTDA40HQAN1



KTDA50HQAN1, KTDA60HQAN1



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