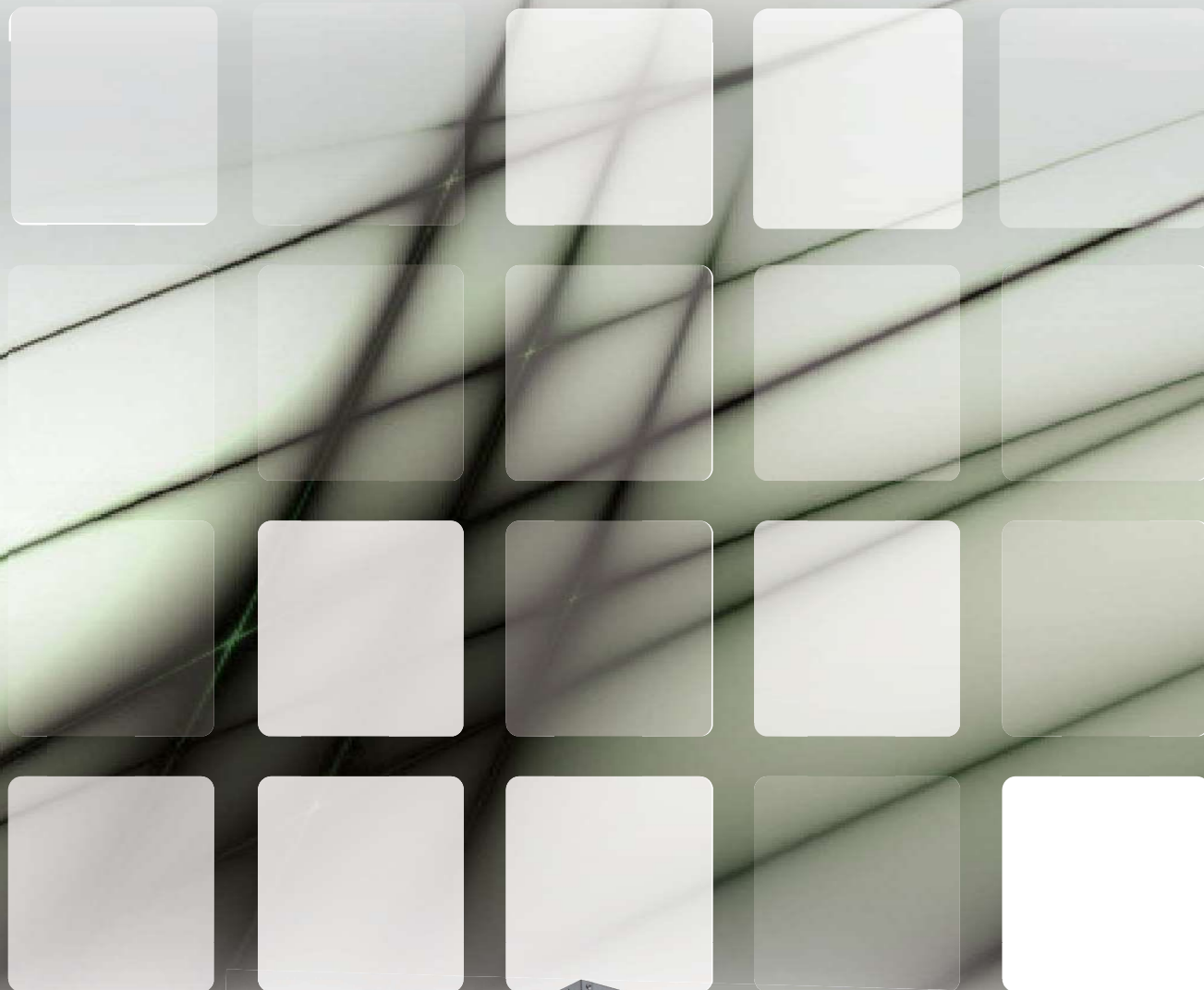


BECS(R)-D Ultima Series

60Hz Round Flow Cassette VRF Indoor Unit

Technical Manual

208~230V/1/60Hz



Technical Manual

Four-way Cassette VRF IDU

Ultima Series

AC 60Hz



BECS010Q2A-DWM028

BECS031Q2A-DWM090

BECS012Q2A-DWM036

BECS036Q2A-DWM100

BECS015Q2A-DWM045

BECS038Q2A-DWM112

BECS019Q2A-DWM056

BECS048Q2A-DWM140

BECS024Q2A-DWM071

BECS060Q0A-DWM160

BECS027Q2A-DWM080

Four-way Cassette

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Ultima Series VRF Indoor Units

1 Specifications

BECS010Q2A-DWM028 / BECS012Q2A-DWM036 / BECS015Q2A-DWM045

Table 1.1: BECS010(12,15)Q2A specifications

Model			BECS010Q2A-DWM028	BECS012Q2A-DWM036	BECS015Q2A-DWM045
Power supply			1 phase, 220-240V, 60Hz		
Cooling ¹	Capacity	kW	2.8	3.6	4.5
		Btu/h	9554	12283	15354
	Input	W	80	80	88
Heating ²	Capacity	kW	3.2	4.0	5.0
		Btu/h	10918	13648	17060
	Input	W	80	80	88
Indoor fan motor	Type	AC			
	Quantity	1			
Indoor coil	Number of rows		1	1	2
	Tube pitch × row pitch	in.(mm)	13/16×17/32 (21×13.37)		
	Fin spacing	in.(mm)	1/16 (1.5)		
	Fin type		Hydrophilic aluminum		
	Diameter & type	in.(mm)	9/32(Φ7), inner-groove tube		
	Dimensions (L×H ×W)	in.(mm)	80-1/16×6-5/8×17/32(2033×168×13.37)		80-3/4×6-5/8×1-3/64(2051×168×26.74)
	Number of circuits		4		8
Indoor air flow (H/M/L)		m ³ /h	791/674/596		942/777/662
		CFM	465/396/351		554/457/389
Sound pressure level (H/M/L) ³		dB(A)	30/25/22		35/31/27
Indoor unit	Dimensions ⁴ (W×H×D)	in.(mm)	33-1/16×9-1/16×33-1/16(840×230×840)		
	Packing (W×H×D)	in.(mm)	37-19/32×10-1/4×37-19/32(955×260×955)		
	Net/Gross weight	lbs(kg)	47.3/58.7(21.5/26.7)		52.1/63.6(23.7/28.9)
Panel	Dimensions (W×H×D)	in.(mm)	37-13/32×2-9/64×37-13/32(950×50×950)		
	Packing(W×H×D)	in.(mm)	40-3/4×3-9/16×40-3/4(1035×89×1035)		
	Net/Gross weight	lbs(kg)	12.8/17.4(5.8/7.9)		
Refrigerant type			R410A		
Pipe connections	Liquid pipe	in.(mm)	Φ 1/4 (6.35)		
	Gas pipe	in.(mm)	Φ 1/2 (12.7)		
	Drain pipe	in.(mm)	OD 1-17/64 (Φ32)		

Notes:

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

Ultima Series VRF Indoor Units

BECS019Q2A-DWM056 / BECS024Q2A-DWM071 / BECS027Q2A-DWM080

Table 1.2: BECS019(24,27)Q2A specifications

Model			BECS019Q2A-DWM056	BECS024Q2A-DWM071	BECS027Q2A-DWM080
Power supply			1 phase, 220-240V, 60Hz		
Cooling ¹	Capacity	kW	5.6	7.1	8.0
		Btu/h	19107	24225	27296
	Input	W	88	105	120
Heating ²	Capacity	kW	6.3	8.0	9.0
		Btu/h	21496	27296	30708
	Input	W	88	105	120
Indoor fan motor	Type	AC			
	Quantity	1			
Indoor coil	Number of rows		2		
	Tube pitch × row pitch	in.(mm)	13/16×17/32 (21×13.37)		
	Fin spacing	in.(mm)	1/16 (1.5)		
	Fin type		Hydrophilic aluminum		
	Diameter & type	in.(mm)	9/32(Φ7), inner-groove tube		
	Dimensions (L×H×W)	in.(mm)	80-3/4×6-5/8×1-3/64(2051×168×26.74)		
	Number of circuits		8		
Indoor air flow (H/M/L)		m ³ /h	942/777/662	1235/1013/805	1235/1013/805
		CFM	554/457/389	726/596/474	726/596/474
Sound pressure level (H/M/L) ³		dB(A)	35/31/27	43/37/31	43/37/31
Indoor unit	Dimensions ⁴ (W×H×D)	in.(mm)	33-1/16×9-1/16×33-1/16(840×230×840)		
	Packing (W×H×D)	in.(mm)	37-19/32×10-1/4×37-19/32(955×260×955)		
	Net/Gross weight	lbs(kg)	52.1/63.6(23.7/28.9)		
Panel	Dimensions (W×H×D)	in.(mm)	37-13/32×2-9/64×37-13/32(950×50×950)		
	Packing (W×H×D)	in.(mm)	40-3/4×3-9/16×40-3/4(1035×89×1035)		
	Net/Gross weight	lbs(kg)	12.8/17.4(5.8/7.9)		
Refrigerant type			R410A		
Pipe connections	Liquid pipe	in.(mm)	Φ 3/8 (9.53)		
	Gas pipe	in.(mm)	Φ 5/8 (15.9)		
	Drain pipe	in.(mm)	OD 1-17/64 (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. 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.

Ultima Series VRF Indoor Units

BECS031Q2A-DWM090 / BECS036Q2A-DWM100

Table 1.3: BECS031(36)Q2A specifications

Model			BECS031Q2A-DWM090	BECS036Q2A-DWM100	
Power supply			1 phase, 220-240V, 60Hz		
Cooling ¹	Capacity	kW	9.0	10.0	
		Btu/h	30708	34120	
	Input	W	187	200	
Heating ²	Capacity	kW	10.0	11.0	
		Btu/h	34120	37873	
	Input	W	187	200	
Indoor fan motor	Type	AC motor			
	Number	1			
Indoor coil	Number of rows		2	2	
	Tube pitch × row pitch	in.(mm)	13/16×17/32 (21×13.37)		
	Fin spacing	in.(mm)	1/16 (1.5)		
	Fin type		Hydrophilic aluminum		
	Diameter & type	in.(mm)	9/32(Φ7), inner-groove tube		
	Dimensions (L×H×W)	in.(mm)	2051×252×26.74		
	Number of circuits		8		
Indoor air flow (H/M/L)		m ³ /h	1333/1158/957	1634/1219/1139	
		CFM	784/681/563	961/717/670	
Sound pressure level (H/M/L) ³		dB(A)	43/38/32	45/37/35	
Indoor unit	Dimensions ⁴ (W×H×D)	in.(mm)	33-1/16×11-13/16×33-1/16(840×300×840)		
	Packing (W×H×D)	in.(mm)	37-19/32×13×37-19/32(955×330×955)		
	Net/Gross weight	lbs(kg)	63.1/75(28.7/34.1)		
Panel	Dimensions (W×H×D)	in.(mm)	37-13/32×2-9/64×37-13/32(950×50×950)		
	Packing (W×H×D)	in.(mm)	40-3/4×3-9/16×40-3/4(1035×89×1035)		
	Net/Gross weight	lbs(kg)	12.8/17.4(5.8/7.9)		
Refrigerant type			R410A		
Pipe connections	Liquid pipe	in.(mm)	Φ3/8 (9.53)		
	Gas pipe	in.(mm)	Φ5/8 (15.9)		
	Drain pipe	in.(mm)	OD 1-17/64 (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. 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.

Ultima Series VRF Indoor Units

BECS038Q2A-DWM112 / BECS048Q2A-DWM140

Table 1.4: BECS038(48)Q2A specifications

Model			BECS038Q2A-DWM112	BECS048Q2A-DWM140
Power supply			1 phase, 220-240V, 60Hz	
Cooling ¹	Capacity	kW	11.2	14.0
		Btu/h	38214	47768
	Input	W	200	220
Heating ²	Capacity	kW	12.5	16.0
		Btu/h	42650	54592
	Input	W	200	220
Indoor fan motor	Type		AC motor	
	Number		1	
Indoor coil	Number of rows		2	3
	Tube pitch × row pitch	in.(mm)	13/16×17/32 (21×13.37)	
	Fin spacing	in.(mm)	1/16 (1.5)	
	Fin type		Hydrophilic aluminum	
	Diameter & type	in.(mm)	9/32(Φ7), inner-groove tube	
	Dimensions (L×H×W)	in.(mm)	80-3/4×9-15/16×1-3/64 (2051×252×26.74)	79×9-15/16×1-37/64 (2007×252×40.11)
	Number of circuits		8	12
Indoor air flow (H/M/L)	m ³ /h		1634/1219/1139	1692/1243/1157
	CFM		961/717/670	995/731/681
Sound pressure level (H/M/L) ³		dB(A)	45/37/35	46/38/37
Indoor unit	Dimensions ⁴ (W×H×D)	in.(mm)	33-1/16×11-13/16×33-1/16(840×300×840)	
	Packing (W×H×D)	in.(mm)	37-19/32×13×37-19/32(955×330×955)	
	Net/Gross weight	kg	63.1/75(28.7/34.1)	68/79.9(30.9/36.3)
Panel	Dimensions (W×H×D)	in.(mm)	37-13/32×2-9/64×37-13/32(950×50×950)	
	Packing (W×H×D)	in.(mm)	40-3/4×3-9/16×40-3/4(1035×89×1035)	
	Net/Gross weight	kg	12.8/17.4(5.8/7.9)	
Refrigerant type			R410A	
Pipe connections	Liquid pipe	in.(mm)	Φ 3/8 (9.53)	
	Gas pipe	in.(mm)	Φ 5/8 (15.9)	
	Drain pipe	in.(mm)	OD 1-17/64 (Φ32)	

Notes:

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

BECS060Q0A-DWM160

Table 1.4: BECS060Q0A specifications

Model			BECS060Q0A-DWM160
Power supply			1 phase, 220-240V, 50/60Hz
Cooling ¹	Capacity	kBtu/h	54
	Input	W	170
Heating ²	Capacity	kBtu/h	61
	Input	W	170
Indoor fan motor	Type		DC motor
	Number		
Indoor coil	Number of rows		3
	Tube pitch × row pitch	mm	21×13.37
	Fin spacing	mm	
	Fin type		Hydrophilic aluminum
	Diameter & type	mm	Φ7, inner-groove
	Dimensions (L×H×W)	mm	2200×252×40.11
	Number of circuits		12
Indoor air flow (H/M/L)		m ³ /h	2100/1950/1800/1750/1600/1450/1350
Sound pressure level (H/M/L) ³		dB(A)	46/44/42/41/39/38/37
Indoor unit	Dimensions ⁴ (W×H×D)	mm	950×300×950
	Packing (W×H×D)	mm	1050×335×1050
	Net/Gross weight	kg	35.3/41.2
Panel	Dimensions (W×H×D)	mm	1050×55×1050
	Packing (W×H×D)	mm	1115×100×1115
	Net/Gross weight	kg	7.4/9.7
Refrigerant type			R410A
Pipe connection	Liquid pipe	mm	Φ9.53
	Gas pipe	mm	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. Sound pressure level is measured 1.4m below the unit in a semi-anechoic chamber.

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

Ultima Series VRF Indoor Units

2 Dimensions

2.1 Unit Dimensions

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

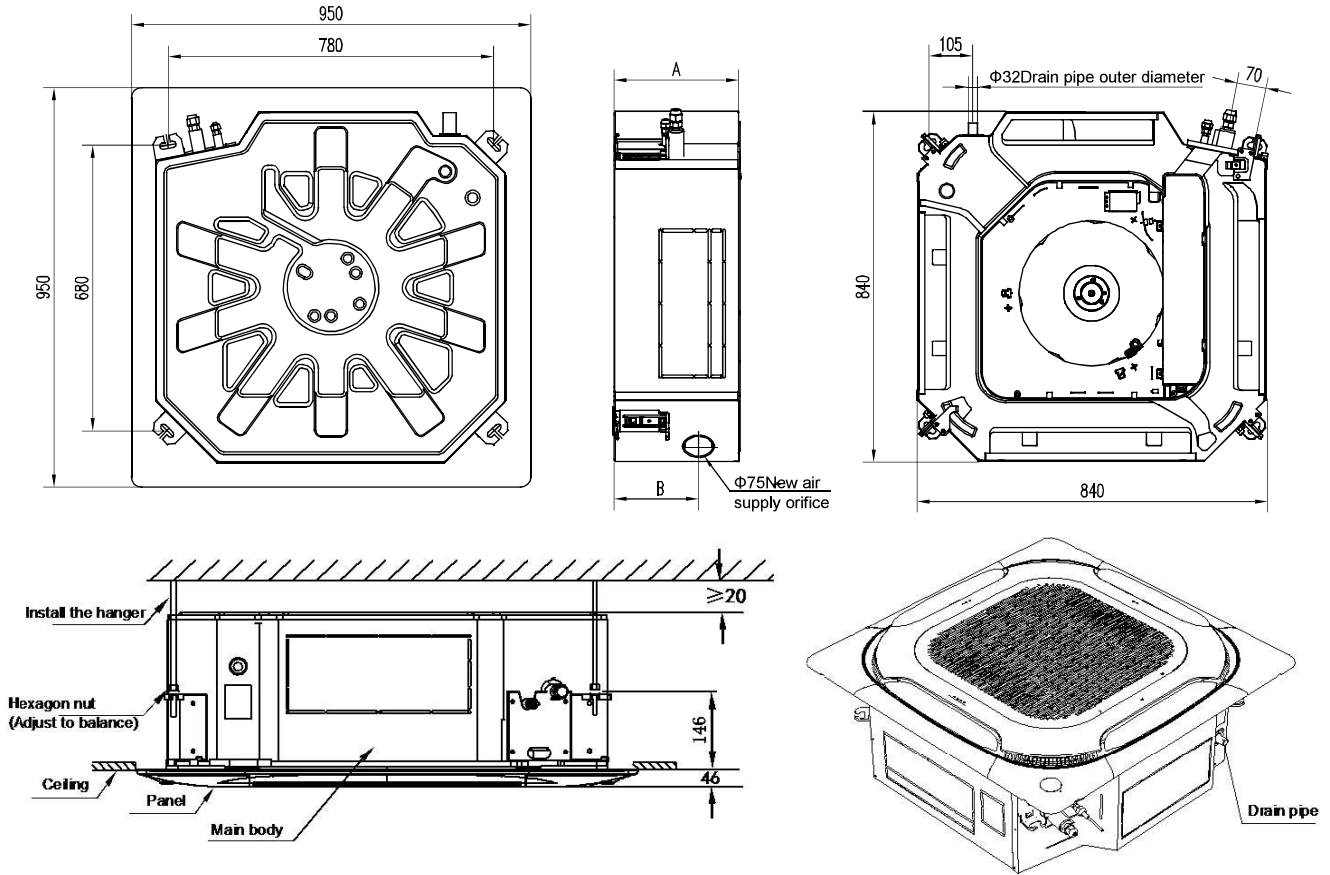


Table 2.1: Four-way Cassette dimensions

Model names	Dimensions (mm)	
	A	B
BECS010Q2A-DWM028	230	126
BECS012Q2A-DWM036		
BECS015Q2A-DWM045		
BECS019Q2A-DWM056		
BECS024Q2A-DWM071		
BECS027Q2A-DWM080		
BECS031Q2A-DWM090	300	197
BECS036Q2A-DWM100		
BECS038Q2A-DWM112		
BECS048Q2A-DWM140		
BECS060Q0A-DWM160		

Table 2.2: Four-way Cassette piping connections

Model names	Gas pipe (mm)	Liquid pipe (mm)
BECS010Q2A-DWM028	Φ12.7	Φ6.35
BECS012Q2A-DWM036		
BECS015Q2A-DWM045		
BECS019Q2A-DWM056	Φ15.9	Φ9.53
BECS024Q2A-DWM071		
BECS027Q2A-DWM080		
BECS031Q2A-DWM090		
BECS036Q2A-DWM100		
BECS038Q2A-DWM112		
BECS048Q2A-DWM140		
BECS060Q0A-DWM160		

3 Unit Placement

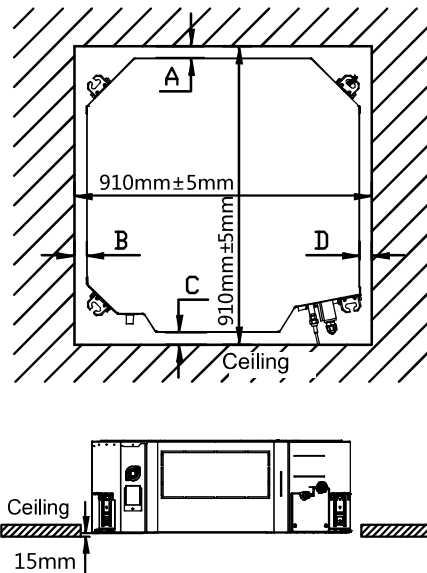
3.1 Placement Considerations

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



Ultima Series VRF Indoor Units

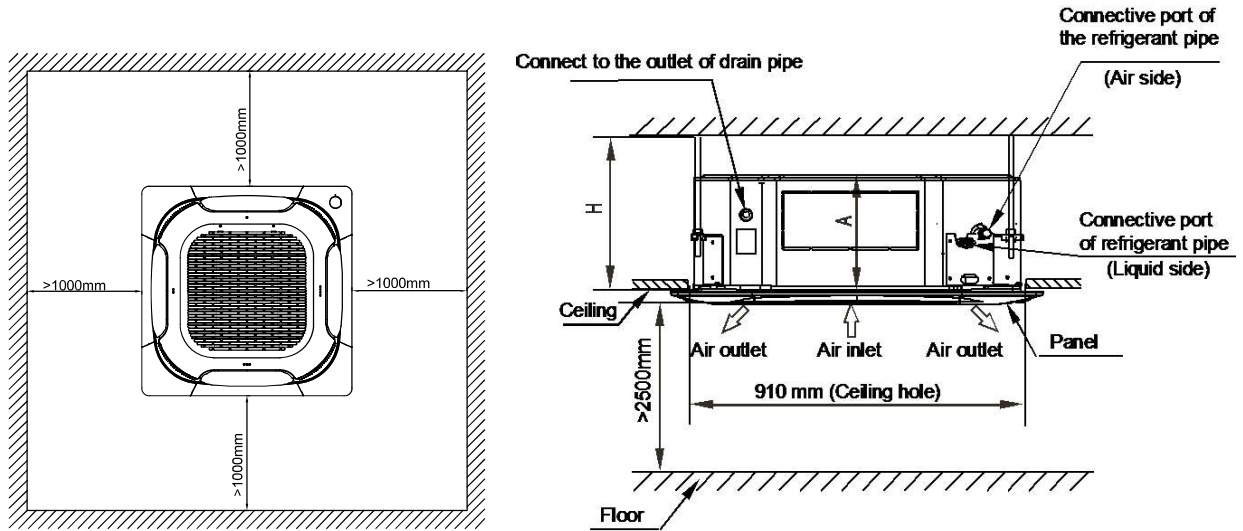
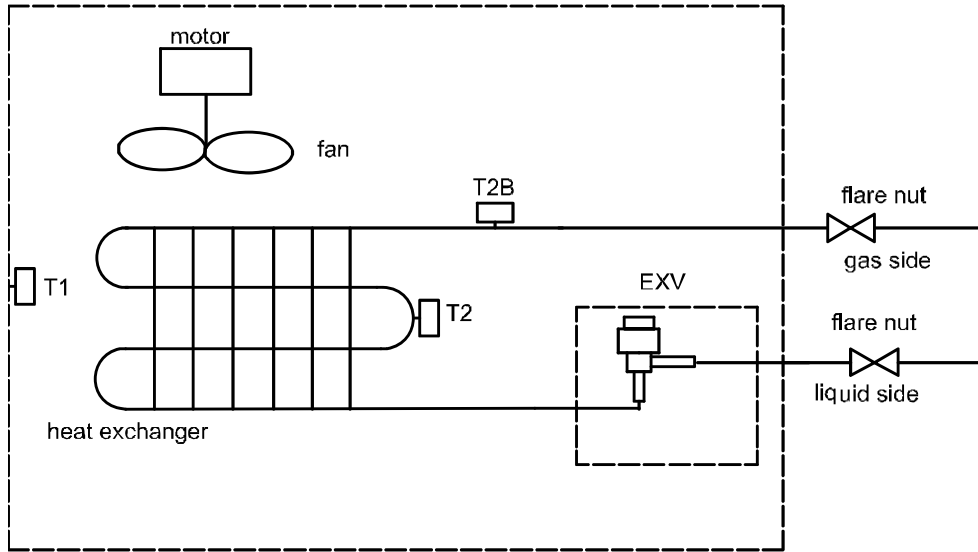


Table 3.1: Four-way Cassette dimensions and space requirements

Model name	Dimensions / Requirements (mm)	
	A	H
BECS010Q2A-DWM028 BECS012Q2A-DWM036 BECS015Q2A-DWM045 BECS019Q2A-DWM056 BECS024Q2A-DWM071 BECS027Q2A-DWM080	230	≥260
BECS031Q2A-DWM090 BECS036Q2A-DWM100 BECS038Q2A-DWM112 BECS048Q2A-DWM140 BECR060Q0A-DWM160	300	≥330

4 Piping Diagram

Figure 4.1: Four-way Cassette piping diagram

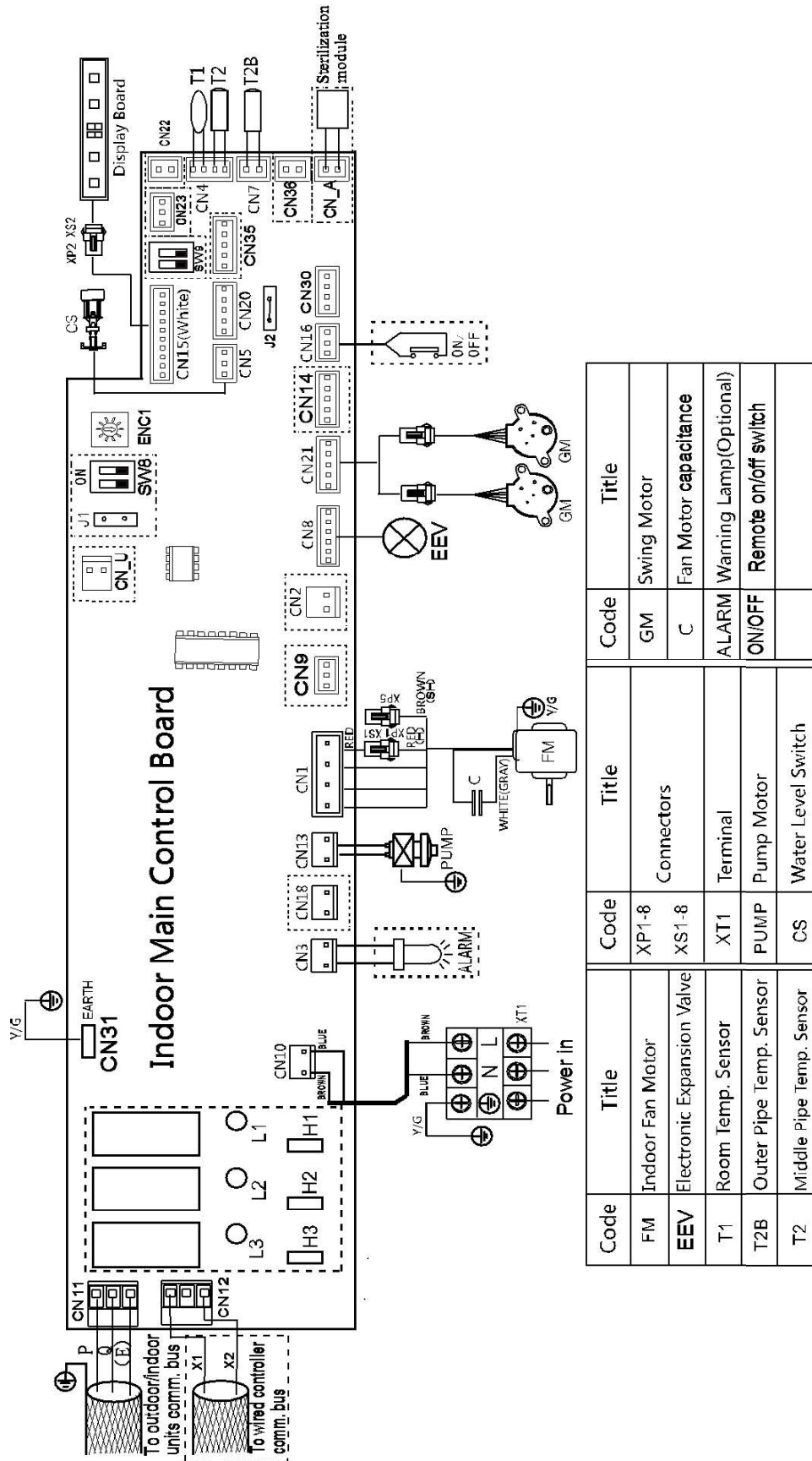


Legend	
T1	Indoor ambient temperature sensor
T2	Indoor heat exchanger mid-point temperature sensor
T2B	Indoor heat exchanger outlet temperature sensor

Ultima Series VRF Indoor Units

5 Wiring Diagram

Figure 5.1: Four-way Cassette wiring diagram



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.

Ultima Series VRF Indoor Units

6 Capacity Tables

6.1 Cooling Capacity Table

Table 6.1: 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
BECS010Q2A-DWM028	2.5	2.5	2.7	2.5	2.8	2.5	2.8	2.4	2.9	2.3	2.9	2.2	3.0	2.1
BECS012Q2A-DWM036	3.2	3.2	3.4	3.2	3.6	3.2	3.6	3.0	3.7	3.0	3.8	2.8	3.9	2.7
BECS015Q2A-DWM045	4.0	3.9	4.3	3.9	4.5	3.9	4.5	3.7	4.6	3.6	4.7	3.4	4.8	3.3
BECS019Q2A-DWM056	5.0	4.8	5.3	4.8	5.6	4.8	5.6	4.6	5.7	4.5	5.8	4.2	6.0	4.1
BECS024Q2A-DWM071	6.3	6.1	6.7	6.1	7.0	6.0	7.1	5.8	7.2	5.7	7.4	5.4	7.6	5.2
BECS027Q2A-DWM080	7.1	6.9	7.6	6.9	7.9	6.8	8.0	6.6	8.1	6.4	8.3	6.1	8.5	5.8
BECS031Q2A-DWM090	8.0	7.6	8.5	7.6	8.9	7.6	9.0	7.3	9.1	7.1	9.4	6.8	9.6	6.5
BECS036Q2A-DWM100	8.9	8.6	9.5	8.6	9.9	8.5	10.0	8.2	10.1	7.9	10.4	7.6	10.6	7.2
BECS038Q2A-DWM112	9.9	9.5	10.6	9.6	11.1	9.5	11.2	9.2	11.3	8.9	11.6	8.4	11.9	8.1
BECS048Q2A-DWM140	12.4	11.6	13.2	11.7	13.8	11.6	14.0	11.3	14.2	11.0	14.5	10.5	14.9	10.1
BECS060Q0A-DWM160	14.2	13.5	15.1	13.5	15.8	13.4	16.0	13.0	16.2	12.6	16.6	12.0	17.0	11.5

Abbreviations:

TC: Total capacity (kW)

SC: Sensible capacity (kW)

Notes:

1. Shaded cells indicate rating condition

6.2 Heating Capacity Table

Table 6.2: Four-way Cassette heating capacity

Model	Indoor air temperature (°C DB)					
	16	18	20	21	22	24
	TC	TC	TC	TC	TC	TC
BECS010Q2A-DWM028	3.4	3.4	3.2	3.1	3.0	2.8
BECS012Q2A-DWM036	4.2	4.2	4.0	3.8	3.8	3.5
BECS015Q2A-DWM045	5.3	5.3	5.0	4.8	4.7	4.4
BECS019Q2A-DWM056	6.7	6.6	6.3	6.1	5.9	5.5
BECS024Q2A-DWM071	8.5	8.4	8.0	7.8	7.5	7.0
BECS027Q2A-DWM080	9.5	9.5	9.0	8.7	8.5	7.8
BECS031Q2A-DWM090	10.6	10.5	10.0	9.7	9.4	8.8
BECS036Q2A-DWM100	11.8	11.7	11.1	10.8	10.4	9.7
BECS038Q2A-DWM112	13.3	13.1	12.5	12.1	11.8	10.9
BECS048Q2A-DWM140	17.0	16.8	16.0	15.5	15.0	13.9
BECS060Q0A-DWM160	18.0	17.9	17.0	16.5	16.0	14.8

Abbreviations:

TC: Total capacity (kW)

Notes:

1. Shaded cells indicate rating condition

7 Electrical Characteristics

Table 7.1: Four-way Cassette electrical characteristics

Model	Power supply						Indoor fan motors	
	Hz	Volts	Min. volts	Max. volts	MCA	MFA	Rated motor output (kW)	FLA
BECS010Q2A-DWM028	60	220-240	198	264	0.3	15	0.026	0.2
BECS012Q2A-DWM036	60	220-240	198	264	0.3	15	0.026	0.2
BECS015Q2A-DWM045	60	220-240	198	264	0.4	15	0.026	0.3
BECS019Q2A-DWM056	60	220-240	198	264	0.4	15	0.026	0.3
BECS024Q2A-DWM071	60	220-240	198	264	0.4	15	0.037	0.3
BECS027Q2A-DWM080	60	220-240	198	264	0.5	15	0.037	0.4
BECS031Q2A-DWM090	60	220-240	198	264	0.8	15	0.05	0.7
BECS036Q2A-DWM100	60	220-240	198	264	0.9	15	0.065	0.7
BECS038Q2A-DWM112	60	220-240	198	264	0.9	15	0.065	0.7
BECS048Q2A-DWM140	60	220-240	198	264	0.9	15	0.065	0.8
BECS060Q0A-DWM160	50-60	220-240	198	264	1.26	15	0.09	1.01

Abbreviations:

MCA: Minimum Circuit Amps

MFA: Maximum Fuse Amps

FLA: Full Load Amps

Ultima Series VRF Indoor Units

8 Sound Levels

8.1 Overall

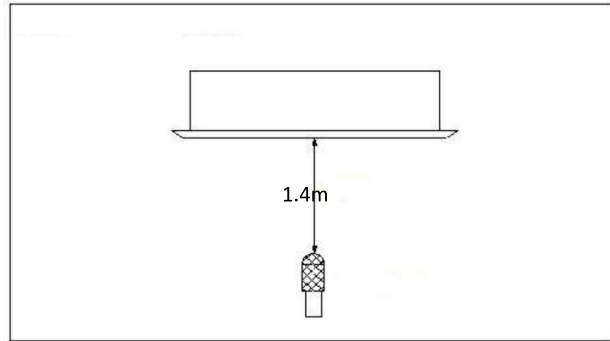
Table 8.1: Four-way Cassette sound pressure levels¹

Model	Sound pressure levels dB(A)		
	H	M	L
BECS010Q2A-DWM028	30	25	22
BECS012Q2A-DWM036	30	25	22
BECS015Q2A-DWM045	35	31	27
BECS019Q2A-DWM056	35	31	27
BECS024Q2A-DWM071	43	37	31
BECS027Q2A-DWM080	43	37	31
BECS031Q2A-DWM090	43	38	32
BECS036Q2A-DWM100	45	37	35
BECS038Q2A-DWM112	45	37	35
BECS048Q2A-DWM140	46	38	37

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: Four-way Cassette sound pressure level measurement



Model name	Sound pressure levels dB(A)						
	SSH	SH	H	M	L	SL	SSL
BECS060Q0A-DWM160	46	44	42	41	39	38	37

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.

8.2 Octave Band Levels

Figure 8.2: BECS010(12)Q2A octave band levels

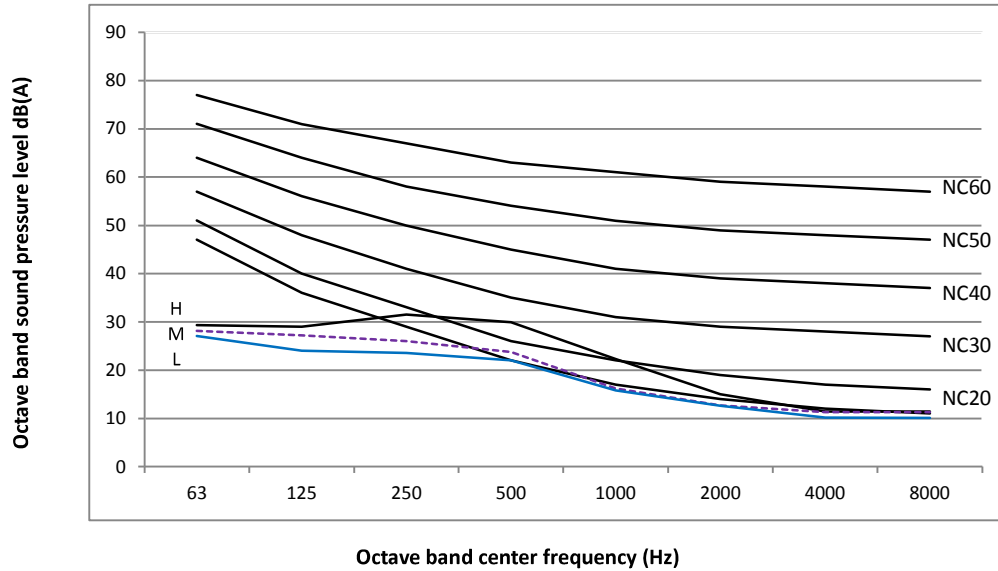


Figure 8.3: BECS015(19)Q2A octave band levels

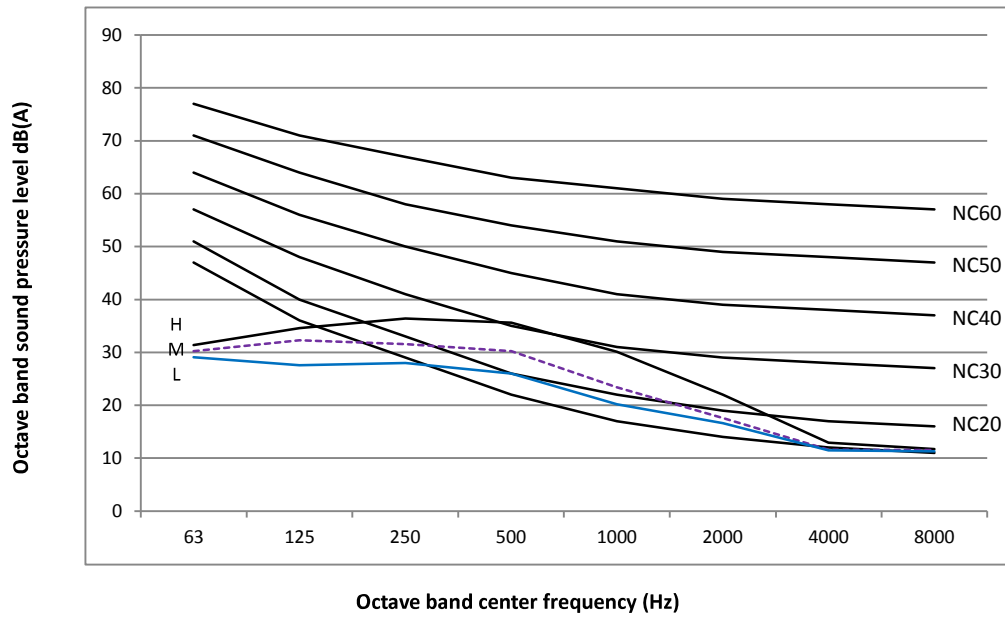
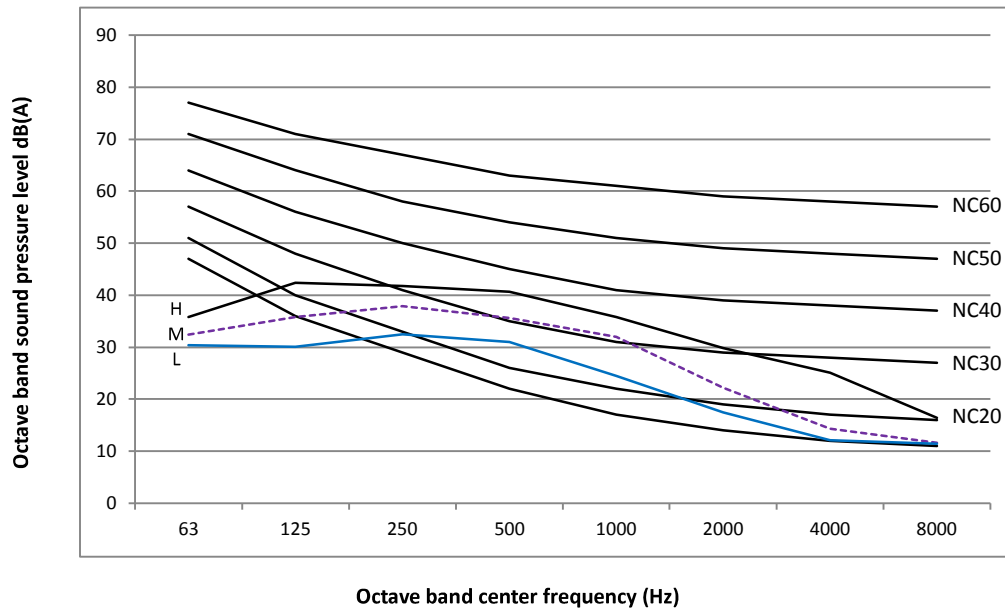


Figure 8.4: BECS024(27)Q2A octave band levels



Ultima Series VRF Indoor Units

Figure 8.5: BECS031Q2A octave band levels

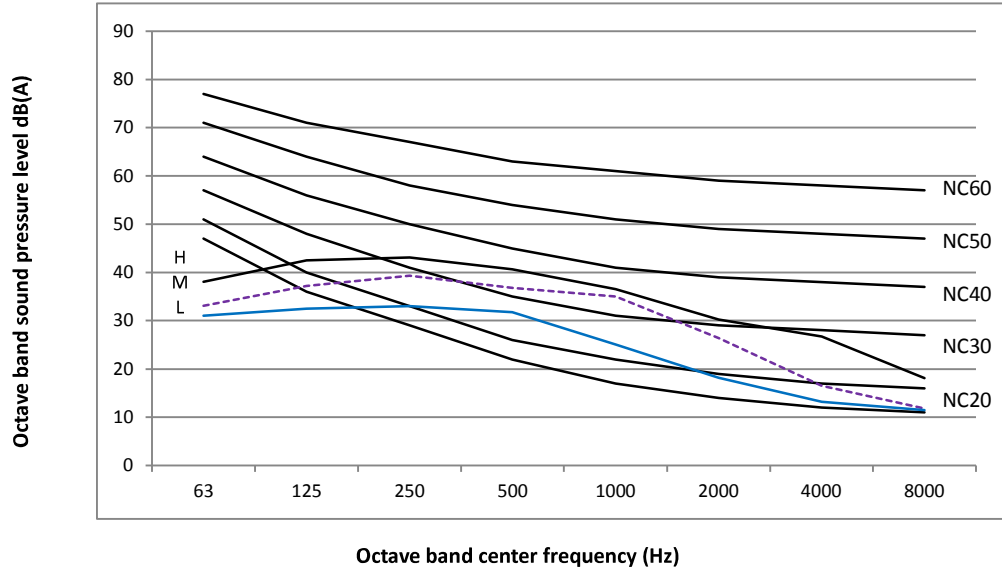


Figure 8.6: BECS036(38)Q2A octave band levels

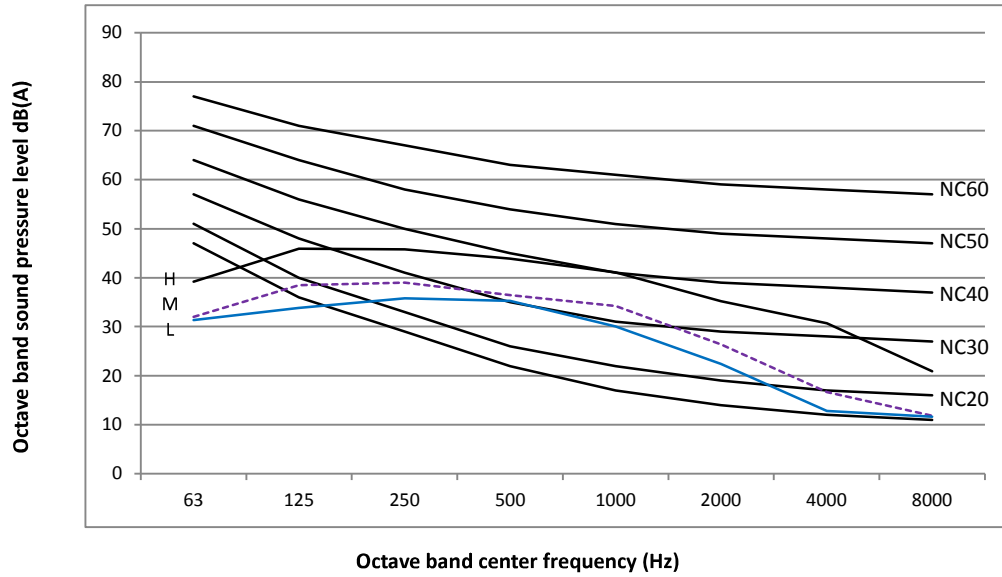


Figure 8.7: BECS048Q2A octave band levels

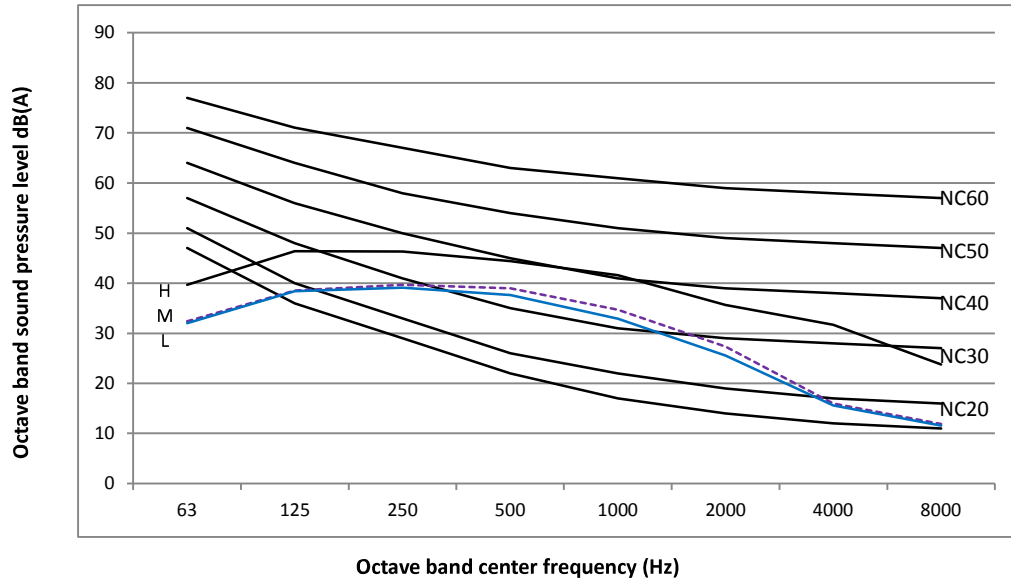
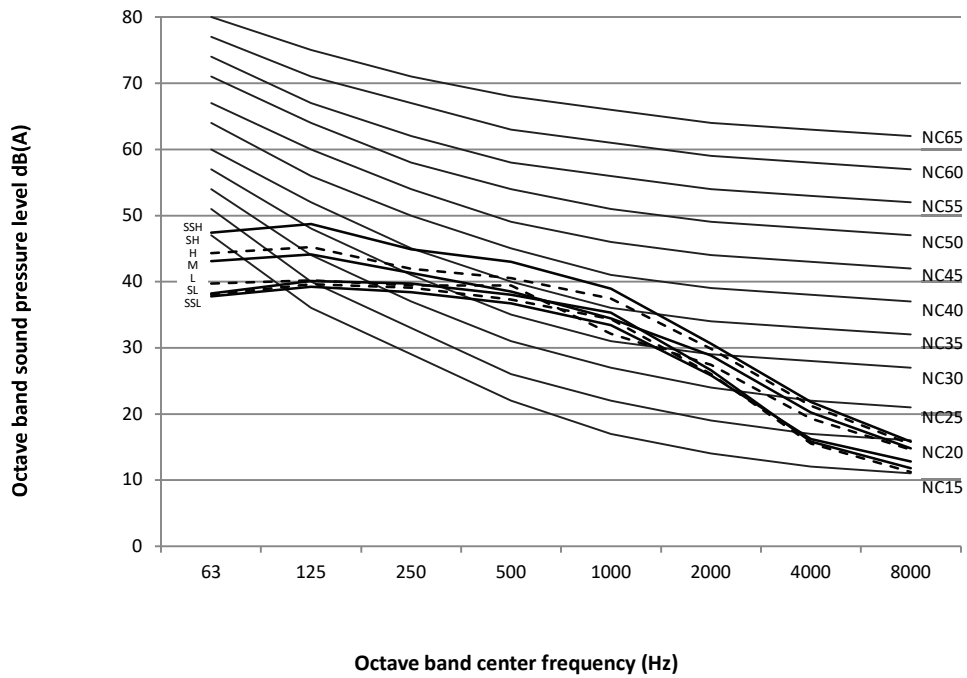


Figure 8.9: BECS060Q0A-DWM160 octave band levels





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