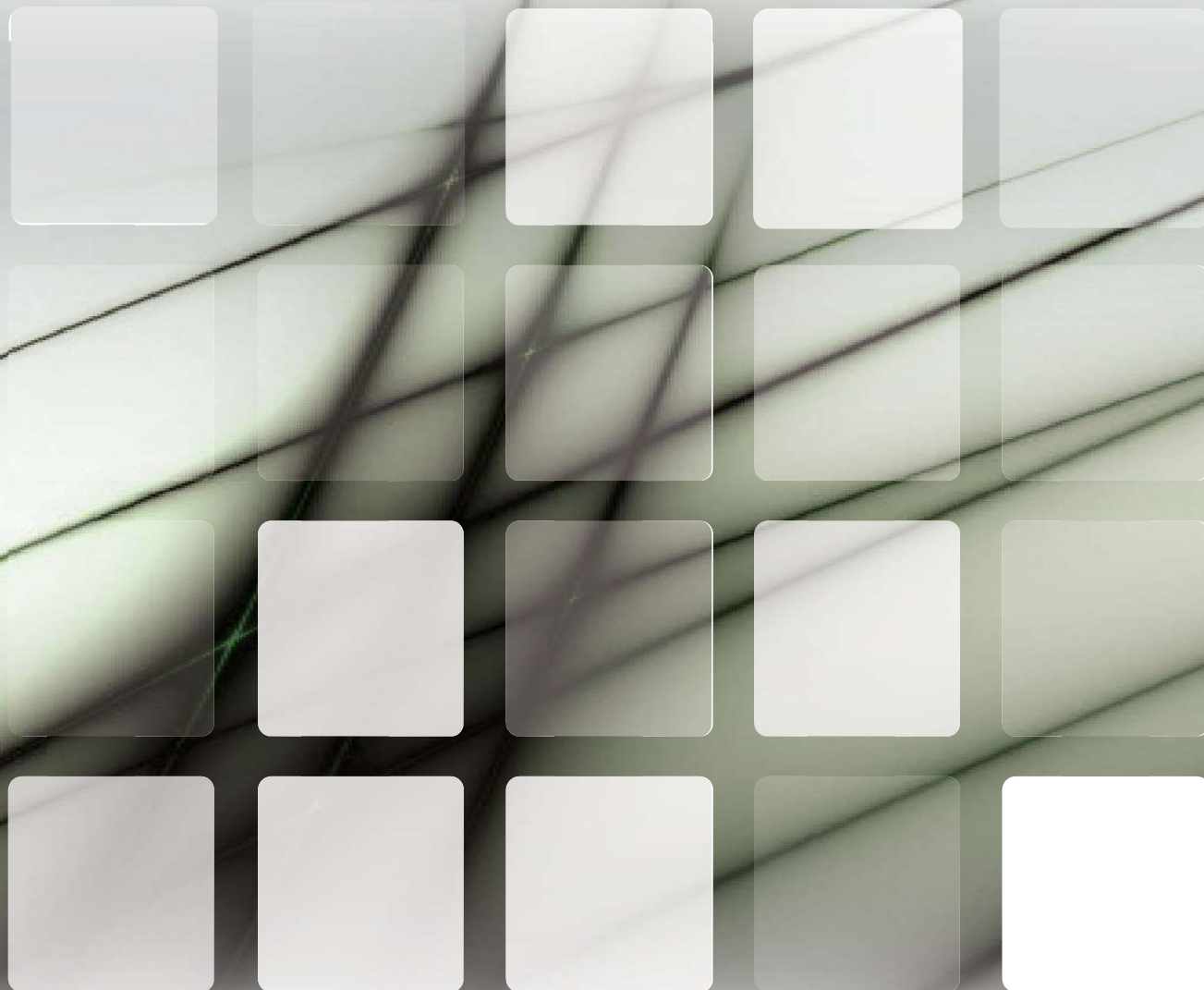


# BELP(MP,HP)-D Ultima Series

60Hz Ducted Fan Coil VRF Indoor Unit  
Technical Manual

**208~230V/1/60Hz**



R410A

Commercial Air Conditioners

# Engineering Data

## Medium Static Pressure Duct

### VRF IDU



BEHP060Q2A-DCM160

BEMP027Q2A-DCM080

BELP010Q2A-DCM028

BEMP031Q2A-DCM090

BELP012Q2A-DCM036

BEMP038Q2A-DCM112

BELP015Q2A-DCM045

BEMP048Q2A-DCM140

BELP019Q2A-DCM056

BEHP060Q2A-DCM160

BEMP024Q2A-DCM071

# Medium Static Pressure Duct

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# Ultima Series VRF Indoor Units

## 1 Specifications

BELP008Q2A-DCM022 / BLP010Q2A-DCM028 / BLP012Q2A-DCM036

Table 1.1: BELP08(10,12) specifications

Model			BELP008Q2A-DCM022	BELP010Q2A-DCM028	BELP012Q2A-DCM036
Power supply			1 phase, 220-240V,60Hz		
Cooling <sup>1</sup>	Capacity	kBtu/h	7	9	12
	Power input	W	66	72	77
Heating <sup>2</sup>	Capacity	kBtu/h	8	10	13
	Power input	W	66	72	77
Fan motor	Type		AC		
	Number		1		
Indoor coil	Number of rows		2	2	2
	Tube pitch × row pitch	in.(mm)	13/16×17/32(21×13.37)		
	Fin spacing	in.(mm)	1/16(1.5)	1/16(1.5)	1/16(1.5)
	Fin type		Hydrophilic aluminum		
	Tube OD and type	in.(mm)	9/32(Φ7), inner-groove tube		
	Dimensions (L×H ×W)	in.(mm)	20-9/32×5-25/32×1-3/64 (515×147×26.74)		
	Number of circuits		3	4	4
Indoor air flow(SH/H/M/L)	m <sup>3</sup> /h		588(30pa)/538/456/375	588(30pa)/538/456/375	614(30pa)/597/514/429
	CFM		346/317/268/221	346/317/268/221	361/351/303/253
Sound pressure level(H/M/L)	dB(A)		36/35/32	36/35/32	39/38/34
Indoor external static pressure	Pa		10(10~30)	10(10~30)	10(10~30)
Indoor unit	Net dimensions (W×H×D)	in.(mm)	30-45/64x8-17/64x19-11/16(780x210x500)		
	Packed dimensions(W×H×D)	in.(mm)	34-1/4×11-7/32×20-43/64(870×285×525)		
	Net/Gross weight	lbs.(kg)	38.6/44.1(17.5/20)		
Refrigerant type			R410A		
Pipe connections	Liquid pipe	in.(mm)	1/4(Φ6.35)		
	Gas pipe	in.(mm)	1/2(Φ12.7)		
	Drain pipe	in.(mm)	OD 63/64(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.

# Ultima Series VRF Indoor Units

## BELP015Q2A-DCM045 / BLP019Q2A-DCM056 / BEMP024Q2A-DCM071

Table 1.2: BELP015(19,24) specifications

Model			BELP015Q2A-DCM045	BELP019Q2A-DCM056	BEMP024Q2A-DCM071
Power supply			1 phase, 220-240V,60Hz		
Cooling <sup>1</sup>	Capacity	kBtu/h	15	19	24
	Power input	W	100	100	125
Heating <sup>2</sup>	Capacity	kBtu/h	17	21	27
	Power input	W	100	100	125
Fan motor	Type		AC		
	Number		1		
Indoor coil	Number of rows		2		
	Tube pitch × row pitch	in.(mm)	13/16×17/32(21×13.37)		
	Fin spacing	in.(mm)	3/64(1.3)		
	Fin type		Hydrophilic aluminum		
	Tube OD and type	in.(mm)	9/32(Φ7), inner-groove tube		
	Dimensions (L×H×W)	in.(mm)	28-57/64×5-25/32×1-3/64(734×147×26.74)		37-33/64×5-25/32×1-3/64(953×147×26.74)
	Number of circuits		6		
Indoor air flow(SH/H/M/L)		m <sup>3</sup> /h	763(30pa)/811/684/575	763(30pa)/811/684/575	1127(30pa)/1029/934/781
		CFM	449/477/403/338	449/477/403/338	663/606/550/460
Sound pressure level(H/M/L)		dB(A)	39/38/34	39/38/34	41/39/35
Indoor external static pressure		Pa	10(10~30)	10(10~30)	10(10~30)
Indoor unit	Net dimensions (W×H×D)	in.(mm)	39-3/8×8-17/64×19-11/16(1000×210×500)		48-1/32×8-17/64×19-11/16(1220×210×500)
	Packed dimensions (W×H×D)	in.(mm)	43-57/64×11-7/32×20-43/64(1115×285×525)		52-9/16×11-7/32×20-43/64(1335×285×525)
	Net/Gross weight	lbs.(kg)	49.6/57.3(22.5/26)		61.8/69.5(28/31.5)
Refrigerant type			R410A		
Pipe connections	Liquid pipe	in.(mm)	1/4(Φ6.35)	3/8(Φ9.53)	3/8(Φ9.53)
	Gas pipe	in.(mm)	1/2(Φ12.7)	5/8(Φ15.9)	5/8(Φ15.9)
	Drain pipe	in.(mm)	OD 63/64(Φ25)		

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.

# Ultima Series VRF Indoor Units

BEMP027Q2A-DCM080 / BEMP031Q2A-DCM090 / BEMP038Q2A-DCM112

Table 1.3: BELP027(31,38) specifications

Model			BEMP027Q2A-DCM080	BEMP031Q2A-DCM090	BEMP038Q2A-DCM112
Power supply			1 phase, 220-240V,60Hz		
Cooling <sup>1</sup>	Capacity	kBtu/h	27	30	38
	Power input	W	133	134	378
Heating <sup>2</sup>	Capacity	kBtu/h	30	34	42
	Power input	W	133	134	378
Fan motor	Type		AC		
	Number		1		
Indoor coil	Number of rows		4	4	4
	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		
	Tube OD and type	in.(mm)	9/32(Φ7), inner-groove tube		
	Dimensions (L×H×W)	in.(mm)	37-19/32×13-15/64×2-7/64(955×336×53.5)		
	Number of circuits		5	8	8
Indoor air flow(SH/H/M/L)	m <sup>3</sup> /h		1388(50pa)/1345/1165/10	1388(50pa)/1345/1165/10	1851(80pa)/1800/1556/140
			13	13	0
	CFM		817/792/686/596	817/792/686/596	1089/1059/916/824
Sound pressure level(H/M/L)	dB(A)		45/40/37	45/40/37	48/42/38
*Indoor external static pressure	Pa		20(10~50)	20(10~50)	40(10~80)
Indoor unit	Net dimensions (W×H×D)	in.(mm)	48-27/64×10-5/8×30-33/64(1230×270×775)		
	Packed dimensions (W×H×D)	in.(mm)	53-11/32×13-25/32×31-5/16(1355×350×795)		
	Net/Gross weight	kg	79.2/92.4(36/42)	79.2/92.4(36/42)	79.2/92.4(36/42)
Refrigerant type			R410A		
Pipe connections	Liquid pipe	in.(mm)	3/8(Φ9.53)		
	Gas pipe	in.(mm)	5/8(Φ15.9)		
	Drain pipe	in.(mm)	OD 63/64(Φ25)		

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.

\*This is the available static pressure range which means the unit can run stably in this static pressure range, and the optimal static pressure range please refers to the Installation Manual. When choosing any static pressure which is out of optimal static pressure range, risk like bigger noise, lower air flow volume etc. should be considered in advanced.

# Ultima Series VRF Indoor Units

## BEMP048Q2A-DCM140 / BEHP060Q2A-DCM160 Table

### 1.3: BELP048(60) specifications

Model			BEMP048Q2A-DCM140	BEHP060Q2A-DCM160
Power supply			1 phase, 220-240V, 60Hz	
Cooling <sup>1</sup>	Capacity	kBtu/h	47	51
	Power input	W	352	532
Heating <sup>2</sup>	Capacity	kBtu/h	52	56
	Power input	W	352	532
Fan motor	Type		AC	
	Number		1	
Indoor coil	Number of rows		4	
	Tube pitch × row pitch	in.(mm)	1×55/64(25.4×22)	1×7/8(25.4×22)
	Fin spacing	in.(mm)	1/16(1.5)	1/16(1.6)
	Fin type		Hydrophilic aluminum	
	Tube OD and type	in.(mm)	9/32(Φ7), inner-groove tube	3/8(Φ9.53), inner-groove tube
	Dimensions (L×H×W)	in.(mm)	40-35/64×14-7/8×2-7/64(1030×378×53.5)	39-7/32×14×3-15/32 (996×355.6×88)
	Number of circuits		8	7
Indoor air flow(SH/H/M/L)		m <sup>3</sup> /h	1745(100pa)/1905/1636/1400	2892/2683/2472/2339
		CFM	1027/1121/963/824	1701/1578/1454/1376
Sound pressure level(H/M/L)		dB(A)	48/43/39	54/52/50
*Indoor external static pressure		Pa	40(10~100)	50(50~196)
Indoor unit	Net dimensions (W×H×D)	in.(mm)	50-25/32×11-13/16×34- 1/16 (1290×300×865)	52-3/64×16-21/32×27-13/64 (1322×423×691)
	Packed dimensions (W×H×D)	in.(mm)	55-1/8×14-49/64×36-27/64 (1400×375×925)	56-17/32×17-23/32×30-15/64 (1436×450×768)
	Net/Gross weight	lbs.(kg)	102.3/122.1(46.5/55.5)	147.4/160.6(67/73)
Refrigerant type			R410A	
Pipe connections	Liquid/Gas pipe	in.(mm)	3/8(Φ9.53)	
	Liquid/Gas pipe	in.(mm)	5/8(Φ15.9)	
	Drain pipe	in.(mm)	OD 63/64(Φ25)	

#### 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.
- \*This is the available static pressure range which means the unit can run stably in this static pressure range, and the optimal static pressure range please refers to the Installation Manual. When choosing any static pressure which is out of optimal static pressure range, risk like bigger noise, lower air flow volume etc. should be considered in advanced.

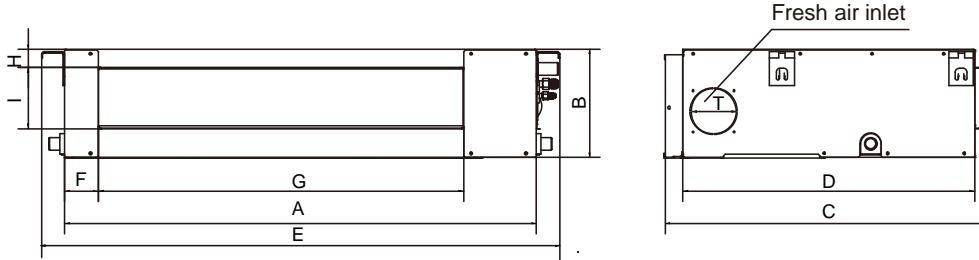
# Ultima Series VRF Indoor Units

## 2 Dimensions

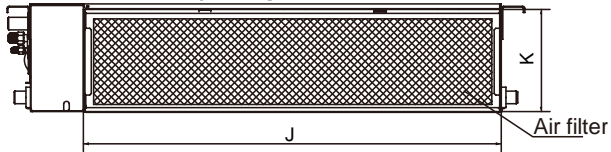
### 2.1 Unit Dimensions

Figure 2.1: BELP008(10.12.15.19.24,27,31,38,48,60) Medium Static Pressure Duct dimensions (unit: mm)

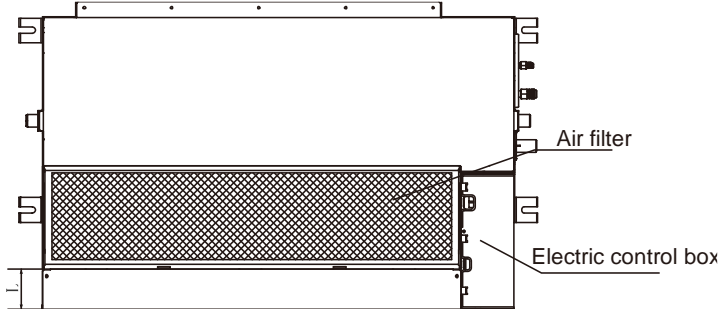
#### External dimensions and size of air outlet opening:



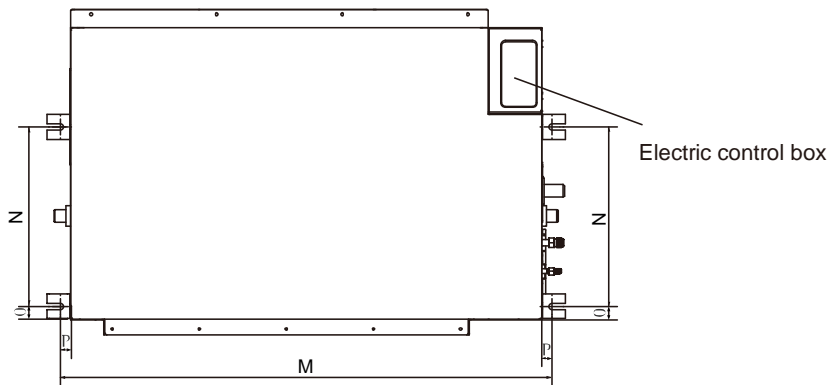
#### Size of air inlet opening (air intake from rear):



#### Size of air inlet opening (air intake from below):



#### Distance between the lugs:





# Ultima Series VRF Indoor Units

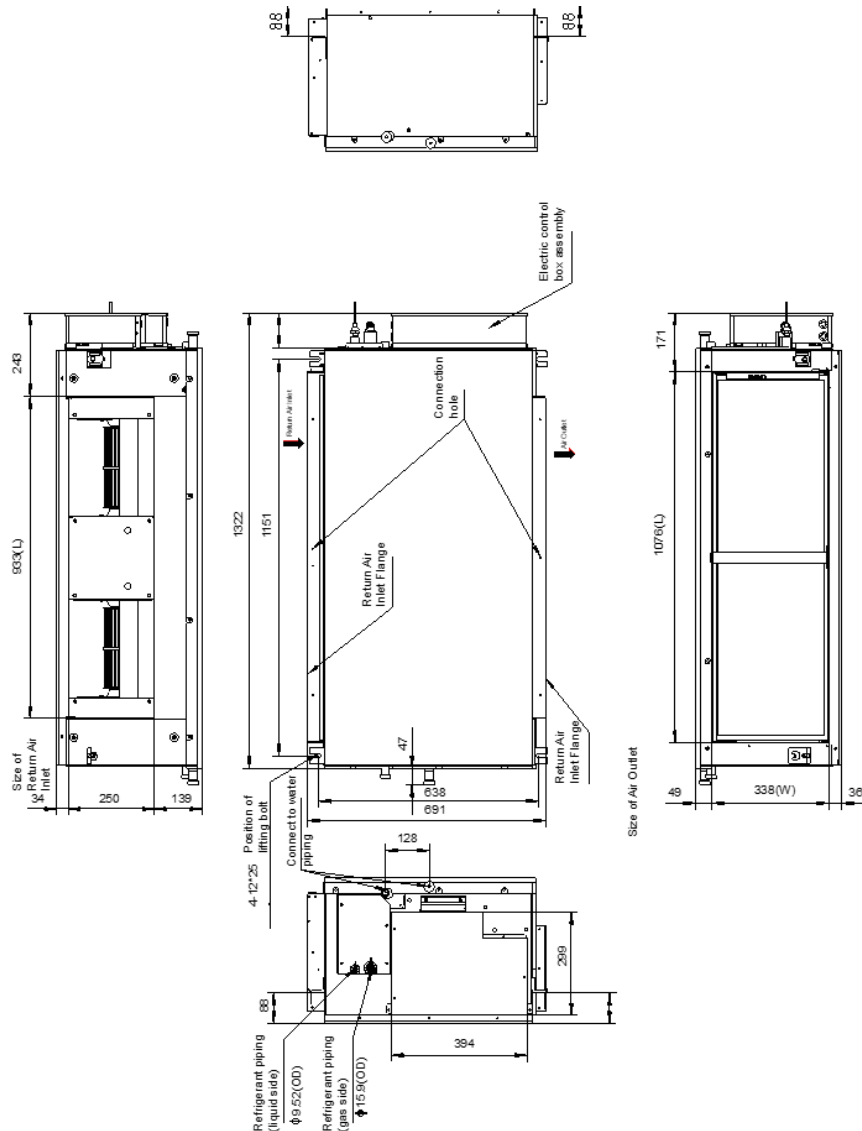
Table 2.1: BELP008(10,12,15,19,24,27,31,38,48) Medium Static Pressure Duct External dimensions and size of air outlet opening (unit: mm)

Model names	External dimensions (mm)					Size of air outlet opening (mm)			
	A	B	C	D	E	F	G	H	I
BELP008(10,12)	700	210	500	450	780	45	512	17	145
BELP015(19)	920	210	500	450	1000	45	732	17	145
BEMP024Q2A-DCM071	1140	210	500	450	1220	45	950	17	145
BELP027(31,38)	1140	270	775	710	1230	65	933	35	179
BEMP048Q2A-DCM140	1200	300	865	800	1290	80	969	40	204

Table 2.2: BELP008(10,12,15,19,24,27,31,38,48) Medium Static Pressure Duct Size of air inlet opening and spacing between lugs (unit: mm)

Model names	Size of air inlet opening (mm)			Spacing between lugs (mm)				Fresh air inlet diameter
	J	K	L	M	N	O	P	
BELP008(10,12)	600	196	-	740	350	35	20	Φ92
BELP015(19)	820	200	-	960	350	35	20	Φ92
BEMP024Q2A-DCM071	1040	200	-	1180	350	35	20	Φ92
BELP027(31,38)	1035	260	20	1180	490	26	20	Φ125
BEMP048Q2A-DCM140	1094	288	45	1240	500	26	20	Φ125

Figure 2.2: BEHP060Q2A-DCM160 Medium Static Pressure Duct dimensions (unit: mm)



# Ultima Series VRF Indoor Units

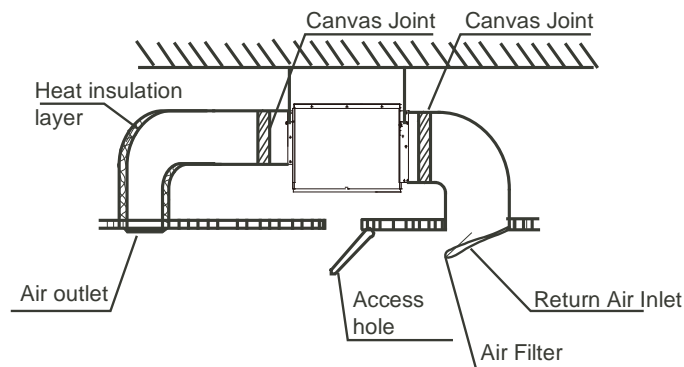
## 3 Unit Placement

### 3.1 Placement Considerations

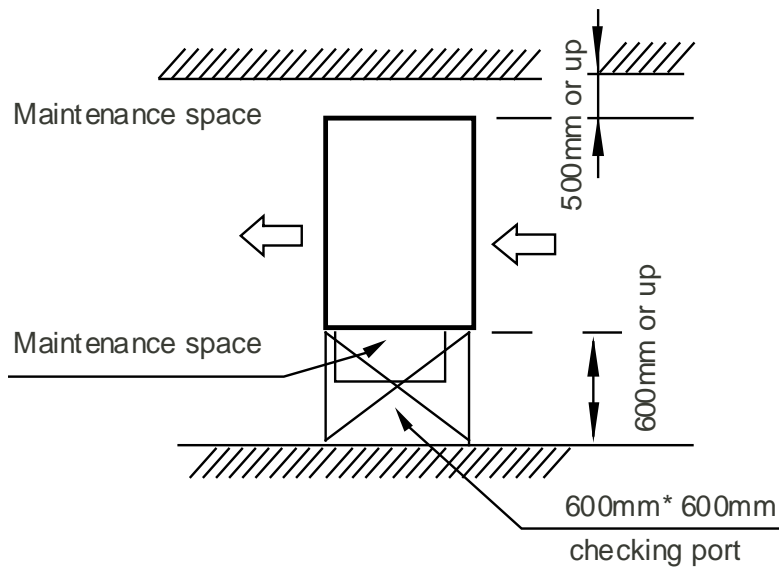
- Unit placement should take account of the following considerations:
  - Ensure the needed spaces for installation and maintenance.
  - The ceiling is horizontal, and its structure can endure the weight of the indoor unit.
  - The outlet and the inlet are not impeded.
  - The air flow can reach throughout the room.
  - The connecting pipe and drainpipe could be extracted out easily.
  - There is no direct radiation from heaters.

### 3.2 Space Requirements

- Below is the recommended duct installation method:

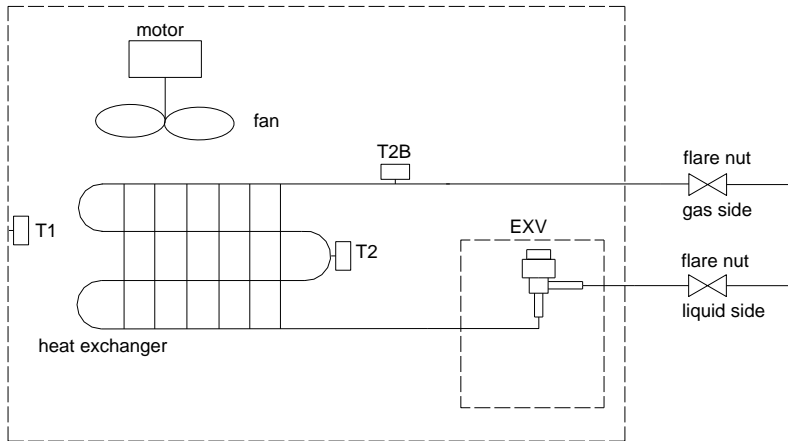


- Keep min. 600(mm)\*600(mm) space for checking & maintenance:



## 4 Piping Diagram

Figure 4.1: BELP008(10.12.15.19.24,27,31,38,48,60) Medium Static Pressure Duct piping diagram

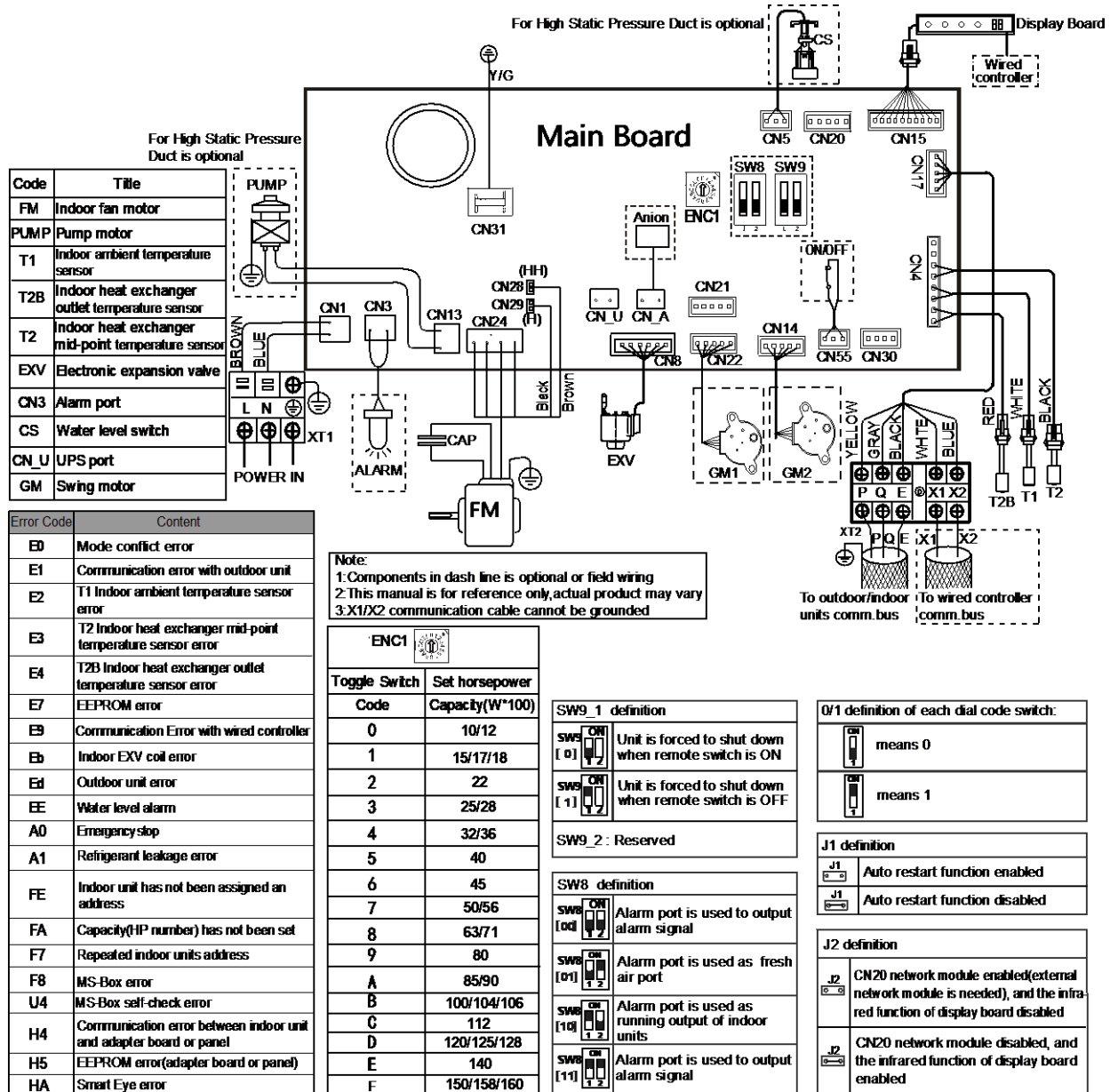


Legend	
T1	Indoor ambient temperature sensor
T2	Indoor heat exchanger mid-point temperature sensor
T2B	Indoor heat exchanger outlet temperature sensor

# Ultima Series VRF Indoor Units

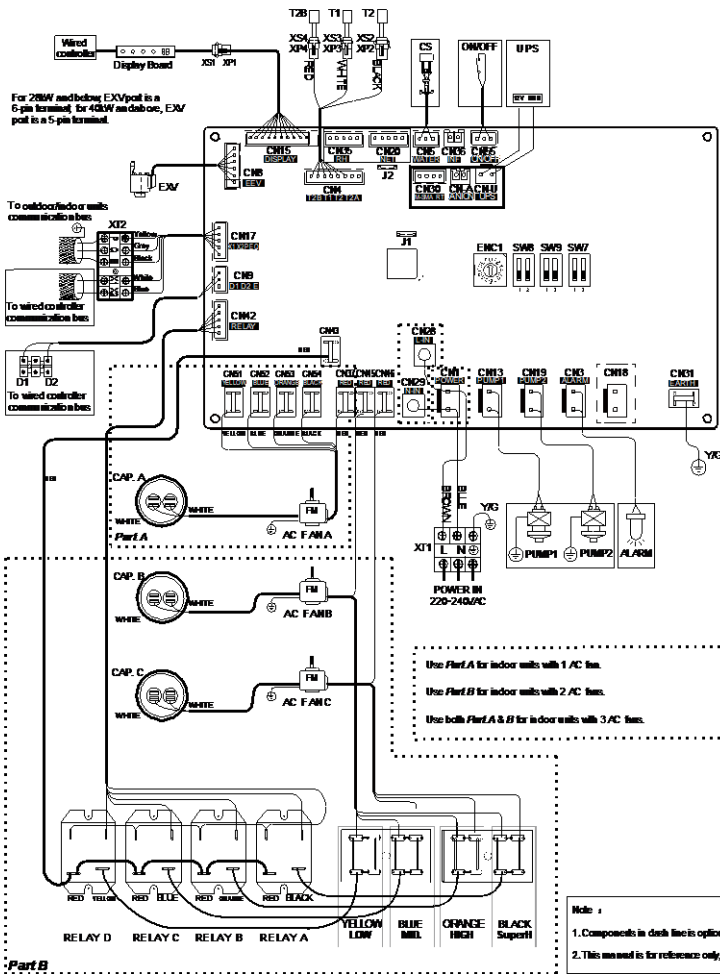
## 5 Wiring Diagram

Figure 5.1:BELP008(10.12.15.19.24,27,31,38,48) Medium Static Pressure Duct wiring diagram



# Ultima Series VRF Indoor Units

Figure 5.2: BEHP060Q2A-DCM160 Medium Static Pressure Duct wiring diagram



ENCL1	Toggle Switch	Set Horsepower (+100kW)
Code	E	Capacity 140
	F	150kW (50T)
ENCL2	Toggle Switch	Set Horsepower (+100kW)
Code	0	Capacity 180
	1	200
	2	224/252/252
	3	280
	4	336
	5	400
	6	480
	7	500/505/500

Code	Title
FM	Indoor fan motor
PUMP	Pump motor
T1	Indoor ambient temperature sensor
T2	Indoor heat exchange mid-point temperature sensor
T2B	Indoor heat exchange outlet temperature sensor
EXV	Electronic expansion valve
CAP.	Capacitors
XI1-2	Terminals
XP1-4	Connectors
XSH-4	Connectors
ONOFF	Remote on/off switch
CS	Water level switch
UPS	Uninterruptible Power Supply

Error Content	Error Code	Factory code	1682600019#
The indoor unit has not been assigned an address	FE	Date	2020/7/24
		Revision	A
J1 definition of each bit code (default)			
Modem coil error	E0	mean 0	mean 1
Communication error with outdoor unit	E1	SW7_1 Reserved	
T1(indoor ambient) temperature sensor error	E2	SW7_2 definition	
T2(indoor heat exchange mid-point) temperature sensor error	E3	Unit with capacity less than 1 kW	
T2B(indoor heat exchange outlet) temperature sensor error	E4	Unit with capacity equal or more than 18kW	
SW8 definition (function reserved)			
EERR01 error	E7	Alarm port is used to output alarm signal (default)	
Communication error with wired controller	E9	Alarm port is used as fresh air port	
Outdoor unit error	Ea	Alarm port is used as running output of indoor unit	
Indoor EXV coil error	Eb	Alarm port is used to output alarm signal	
Communication error between indoor unit and outdoor board or panel	H4	SW9_1 definition (function reserved)	
EERR01 error (outdoor board or panel)	H5	Unit is forced to shut down when remote switch is ON (default)	
Smart Eye error	HA	Unit is forced to shut down when remote switch is OFF	
SW9_2 Reserved			
J1 definition			
MS-Box error	F8	Auto restart function enabled (default)	
MS-Box self-check error	H4	Auto restart function disabled	
Refrigerant leakage error	A1		
Emergency stop	A0		
Water level alarm	EE	CH20 indoor module is called (external indoor module is a code 0) and the infrared function of display board is disabled	
Capacity (HP number) has not increased	FA	CH20 indoor module is disabled, and the infrared function of display board can be disabled	

# Ultima Series VRF Indoor Units

## 6 Fan Performance

### 6.1 How to Read the Diagram

The vertical axis is the External Static Pressure (Pa) while the horizontal axis represents the Air Flow (m<sup>3</sup>/h). The characteristic curve for the “SH,” “H,” “M,” and “L” fan speed control, the nameplate values are shown based on the “H” air flow.

Therefore in the case of 80/90T2Type, the air flow is 900 m<sup>3</sup>/h, while the External Static Pressure is 80Pa at “H” position. If 90Pa needed, the airflow is at 'SH'.

### 6.2 Medium Static Pressure Duct fan performance diagram

Table 6.1: BELP08(10,12) fan performance diagram

Table 6.2: BELP15(19) fan performance diagram

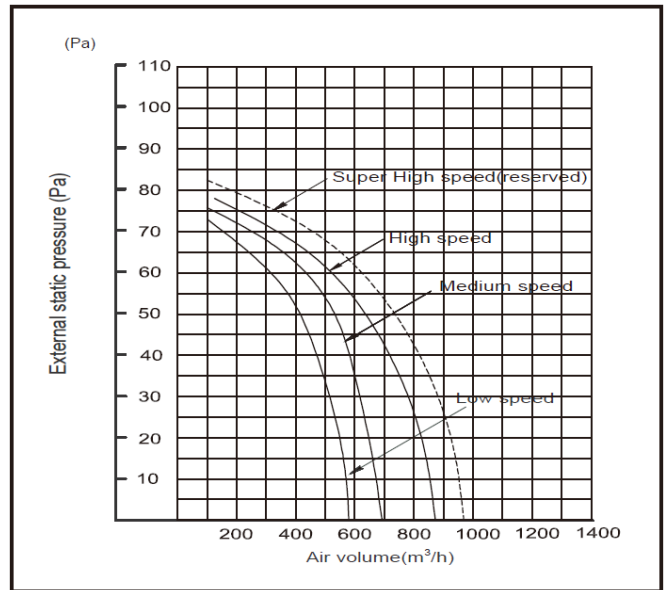
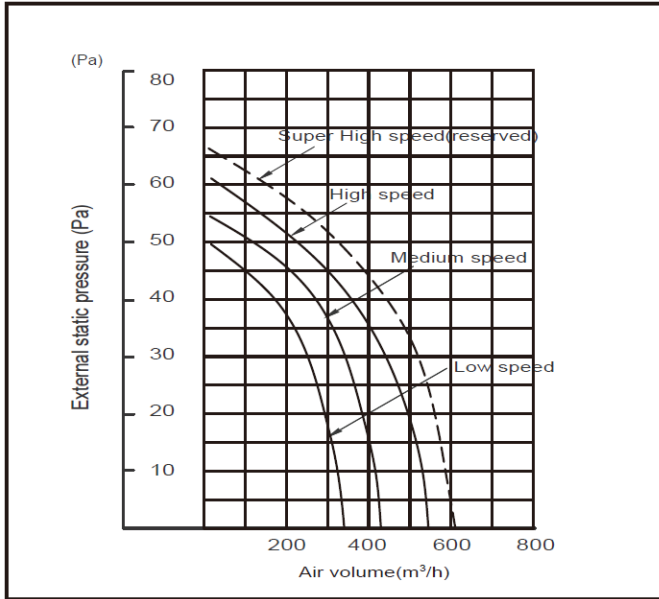
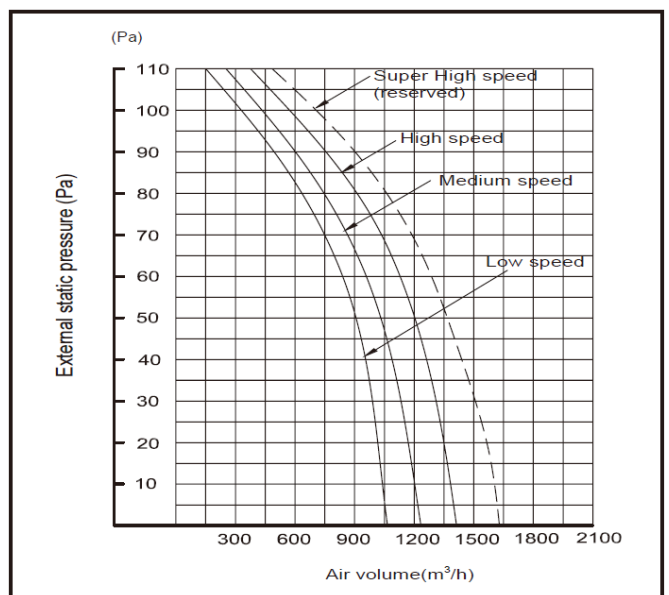
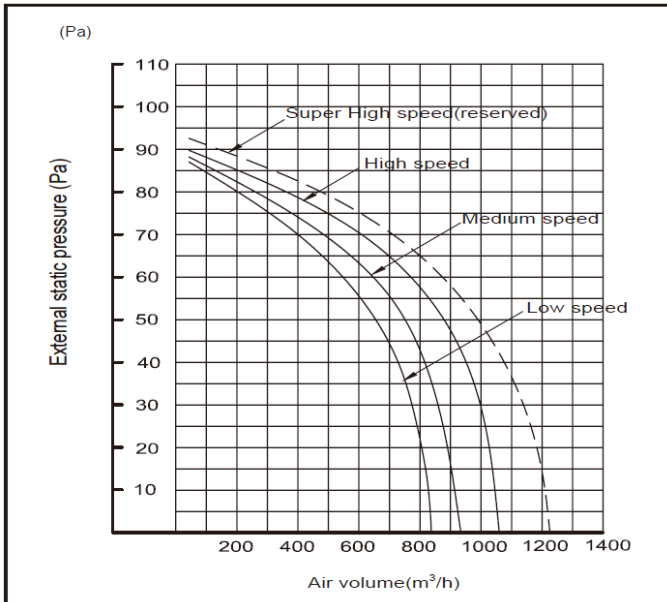


Table 6.3: BEMP024Q2A-DCM071 fan performance diagram

Table 6.4: BELP27(31)fan performance diagram



# Ultima Series VRF Indoor Units

Table 6.5: BEMP038Q2A-DCM112 fan performance diagram

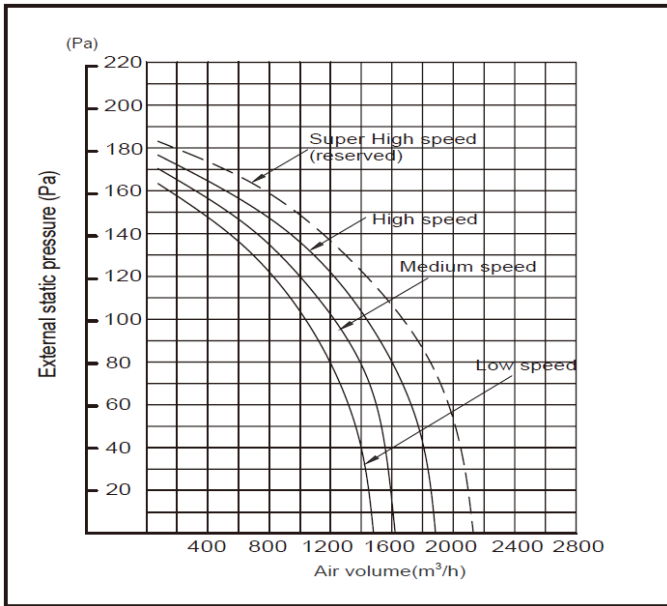


Table 6.6: BEMP048Q2A-DCM140 fan performance diagram

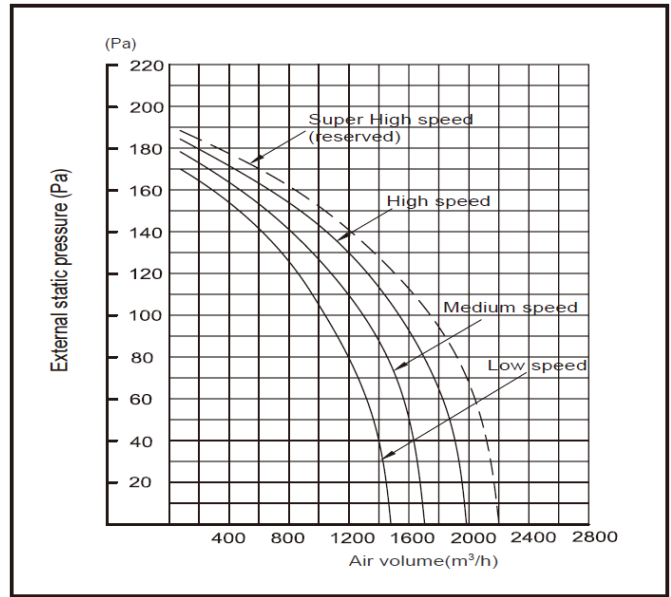
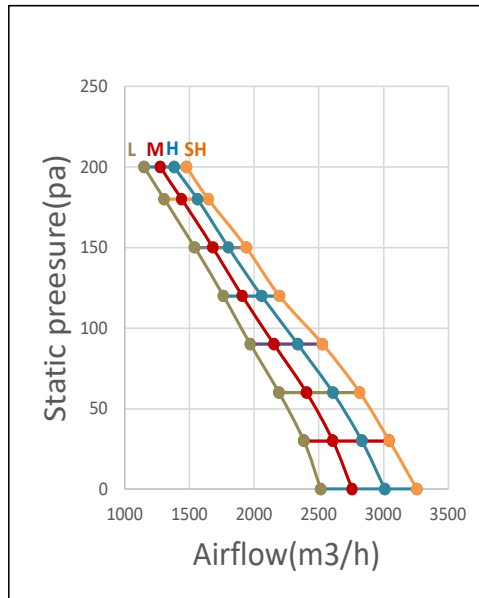


Table 6.7: BEHP060Q2A-DCM160 fan performance diagram



# Ultima Series VRF Indoor Units

## 7 Capacity Tables

### 7.1 Cooling Capacity Table

Table 7.1: BELP008(10.12.15.19.24,27,31,38,48,60)Medium Static Pressure Duct 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
BELP008Q2A-DCM022	2.0	2.0	2.1	2.0	2.2	1.9	2.2	1.9	2.3	1.9	2.3	1.7	2.4	1.7
BELP010Q2A-DCM028	2.5	2.5	2.7	2.5	2.8	2.5	2.8	2.3	2.9	2.3	2.9	2.2	3.0	2.1
BELP012Q2A-DCM036	3.2	3.2	3.4	3.1	3.6	3.1	3.6	3.0	3.7	3.0	3.8	2.8	3.9	2.7
BELP015Q2A-DCM045	4.0	3.9	4.3	3.9	4.5	3.9	4.5	3.7	4.6	3.6	4.7	3.5	4.8	3.3
BELP019Q2A-DCM056	5.0	4.9	5.3	4.8	5.6	4.8	5.6	4.6	5.7	4.5	5.8	4.3	6.0	4.1
BEMP024Q2A-DCM071	6.3	6.2	6.7	6.1	7.0	6.1	7.1	5.9	7.2	5.7	7.4	5.4	7.6	5.2
BEMP027Q2A-DCM080	7.1	6.8	7.6	6.9	7.9	6.8	8.0	6.6	8.1	6.4	8.3	6.1	8.5	5.8
BEMP031Q2A-DCM090	8.0	7.7	8.5	7.7	8.9	7.6	9.0	7.4	9.1	7.1	9.4	6.8	9.6	6.5
BEMP038Q2A-DCM112	9.9	9.6	10.6	9.7	11.1	9.6	11.2	9.2	11.3	8.9	11.6	8.5	11.9	8.2
BEMP048Q2A-DCM140	12.4	12.0	13.2	12.0	13.8	11.9	14.0	11.5	14.2	11.2	14.5	10.6	14.9	10.2
BEHP060Q2A-DCM160	14.2	13.8	15.1	13.7	15.8	13.6	16.0	13.1	16.2	12.7	16.6	12.1	17.0	11.7

Abbreviations:

TC: Total capacity (kW)

SC: Sensible capacity(kW)

Notes:

1. Shaded cells indicate rating condition.

### 7.2 Heating Capacity Table

Table 7.2: BELP008(10.12.15.19.24,27,31,38,48,60) Medium Static Pressure Duct heating capacity

Model	Indoor air temperature (°C DB)					
	16	18	20	21	22	24
	TC	TC	TC	TC	TC	TC
BELP008Q2A-DCM022	2.6	2.6	2.4	2.3	2.3	2.1
BELP010Q2A-DCM028	3.4	3.4	3.2	3.1	3.0	2.8
BELP012Q2A-DCM036	4.2	4.2	4.0	3.8	3.8	3.5
BELP015Q2A-DCM045	5.3	5.3	5.0	4.8	4.7	4.4
BELP019Q2A-DCM056	6.7	6.6	6.3	6.1	5.9	5.5
BEMP024Q2A-DCM071	8.5	8.4	8.0	7.8	7.5	7.0
BEMP027Q2A-DCM080	9.5	9.5	9.0	8.7	8.5	7.8
BEMP031Q2A-DCM090	10.6	10.5	10.0	9.7	9.4	8.8
BEMP038Q2A-DCM112	13.3	13.1	12.5	12.1	11.8	10.9
BEMP048Q2A-DCM140	16.4	16.3	15.5	15.0	14.6	13.5
BEHP060Q2A-DCM160	18.0	17.9	17.0	16.5	16.0	14.8

Abbreviations:

TC: Total capacity (kW)

Notes:

1. Shaded cells indicate rating condition.



## 8 Electrical Characteristics

Table 8.1: BELP008(10.12.15.19.24,27,31,38,48,60) Medium Static Pressure Duct electrical characteristics

Model name	Power supply						Indoor fan motors	
	Hz	Volts	Min. volts	Max. volts	MCA	MFA	Rated motor output (kW)	FLA
BELP008Q2A-DCM022	60	220-240	198	264	0.3	15	0.03	0.2
BELP010Q2A-DCM028	60	220-240	198	264	0.3	15	0.03	0.2
BELP012Q2A-DCM036	60	220-240	198	264	0.3	15	0.03	0.2
BELP015Q2A-DCM045	60	220-240	198	264	0.4	15	0.03	0.3
BELP019Q2A-DCM056	60	220-240	198	264	0.4	15	0.03	0.3
BEMP024Q2A-DCM071	60	220-240	198	264	0.6	15	0.06	0.5
BEMP027Q2A-DCM080	60	220-240	198	264	1.0	15	0.15	0.8
BEMP031Q2A-DCM090	60	220-240	198	264	1.0	15	0.15	0.8
BEMP038Q2A-DCM112	60	220-240	198	264	1.3	15	0.15	1.0
BEMP048Q2A-DCM140	60	220-240	198	264	1.6	15	0.24	1.3
BEHP060Q2A-DCM160	60	208-230V	187	253	4.7	15	0.56	3.8

Abbreviations:

MCA: Minimum Circuit Amps

MFA: Maximum Fuse Amps

FLA: Full Load Amps

9 Sound Levels 9.1 Overall

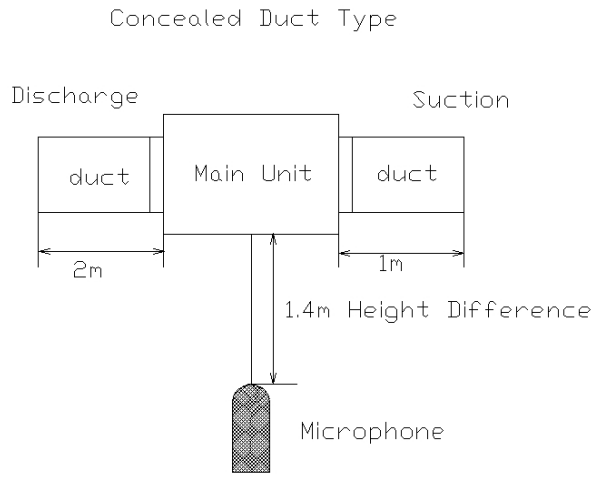
Table 9.1: BELP008(10.12.15.19.24,27,31,38,48,60) Medium Static Pressure Duct sound Figure pressure levels.

Model name	Sound pressure levels dB(A)		
	H	M	L
BELP008Q2A-DCM022	36	35	32
BELP010Q2A-DCM028	36	35	32
BELP012Q2A-DCM036	38.6	37.5	33.8
BELP015Q2A-DCM045	39	37.9	34
BELP019Q2A-DCM056	39	37.9	34
BEMP024Q2A-DCM071	41.4	39	35
BEMP027Q2A-DCM080	45.4	39.8	37
BEMP031Q2A-DCM090	45.4	39.8	37
BEMP038Q2A-DCM112	48.0	41.9	38
BEMP048Q2A-DCM140	47.7	43.2	39
BEHP060Q2A-DCM160	54	52	50

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 9.1: sound<sup>1</sup>pressure level measurement



9.2 Octave Band Levels

Figure 9.2: BELP008Q2A-DCM022 octave band levels

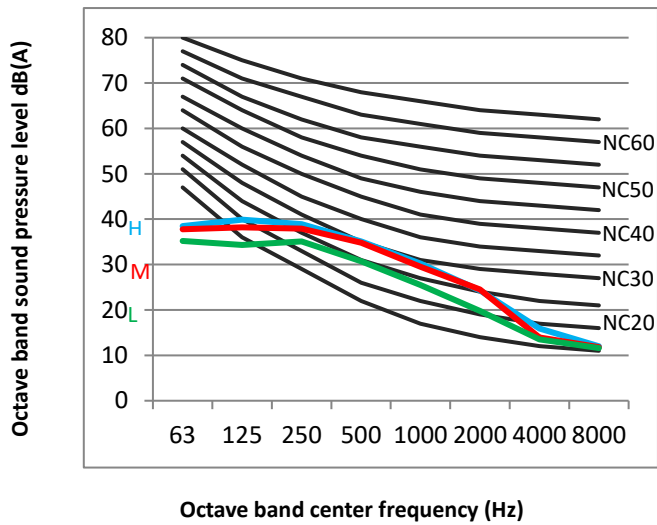


Figure 9.3: BELP010Q2A-DCM028 octave band levels

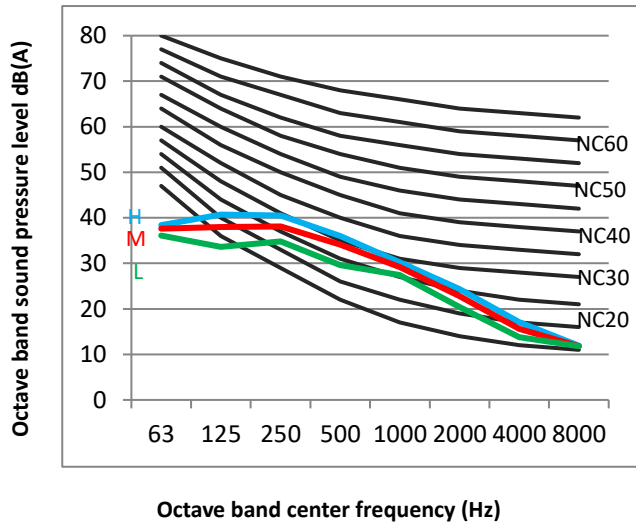


Figure 9.4: BEMP012(15,19) octave band levels

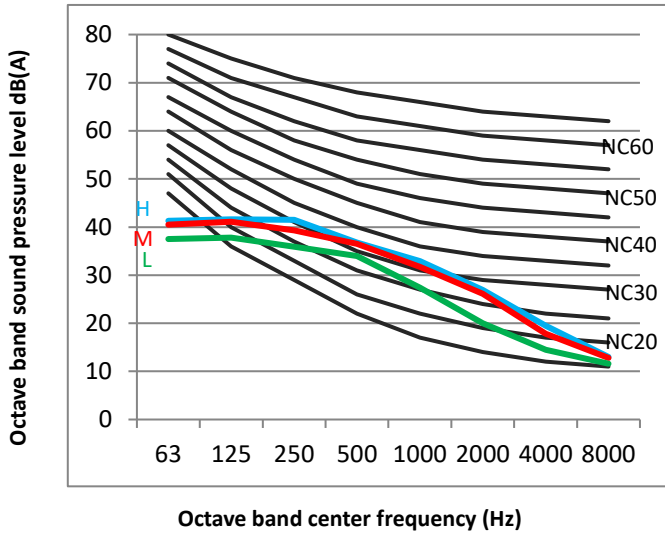


Figure 9.5: BEMP024Q2A-DCM071 octave band levels

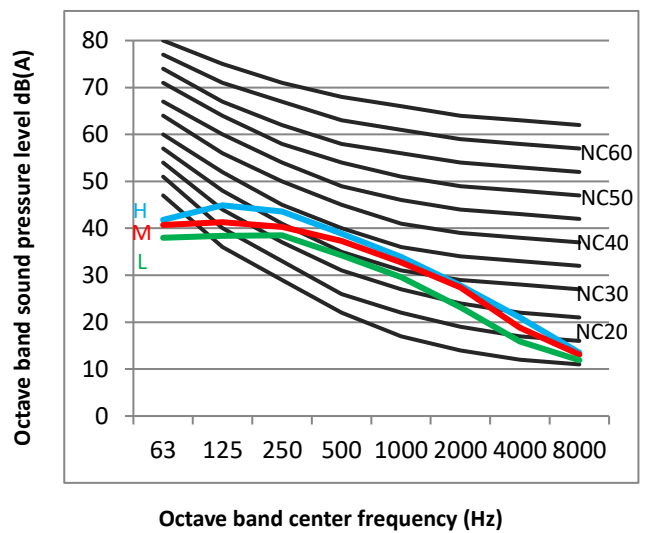


Figure 9.6: BELP027(31) octave band levels

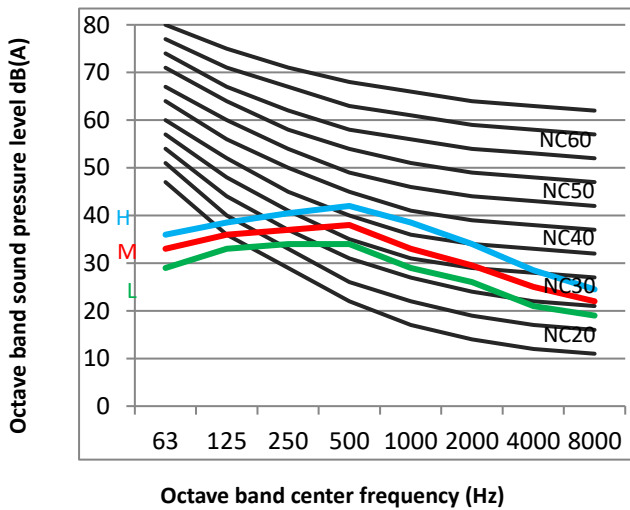


Figure 9.7: BEMP038Q2A-DCM112 octave band levels

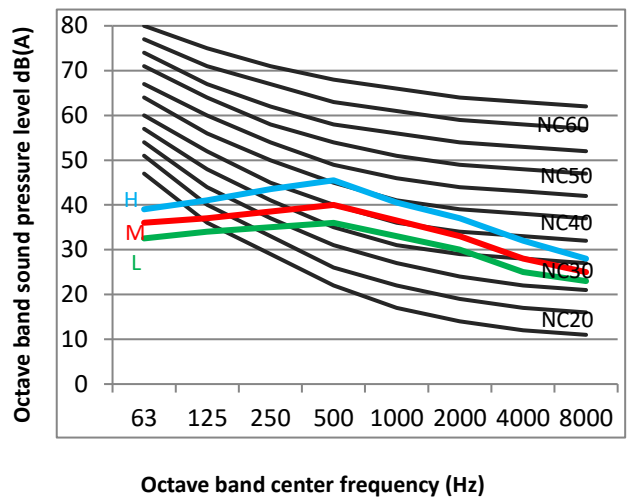


Figure 9.8: BEMP048Q2A-DCM140 octave band levels

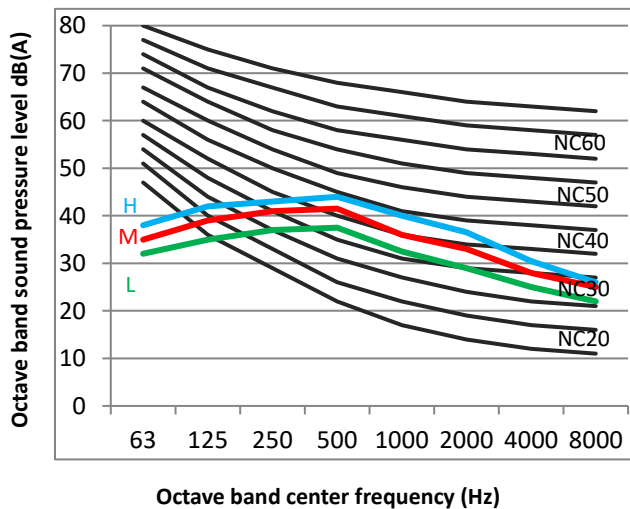
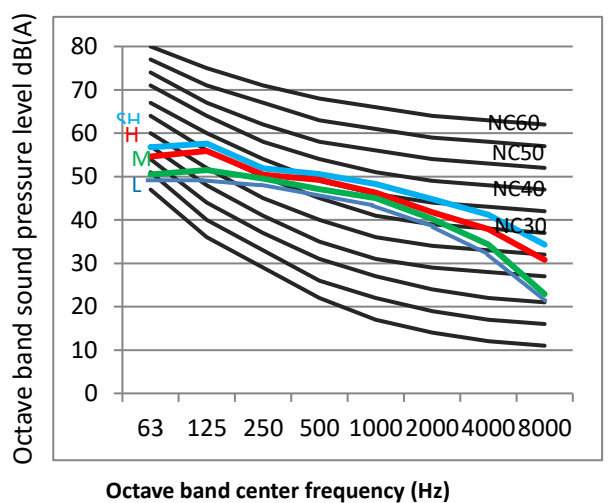


Figure 9.9: BEHP060Q2A-DCM160 octave band levels





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