

OMEGA Heat Pump Modular VRF

SUBMITTAL DATA

220~240V/3/50-60Hz

Job: _____
 Location: _____
 Schedule No.: _____
 System Designation: _____

Engineer: _____
 Architect: _____
 Date: _____
 For: Reference Approval Review Construction

FEATURES

- ALL DC Inverter Compressor
- ALL DC Fan Motor
- Advanced Silence Technology
- Intelligent Defrosting Technology
- Automatic Address Setting
- Precise Oil Control Technology



1. Specifications

VMEX008Q4A-D13V224, VMEX009Q4A-D16V280, VMEX010Q4A-D20V335

Table 2-1.1: VMEX008(009,010)Q4A specifications

HP		8		10		12	
Model name		VMEX008Q4A-D13V224		VMEX009Q4A-D16V280		VMEX010Q4A-D20V335	
Power supply		3 phase, 220-240V, 50/60Hz					
Cooling ¹	Capacity	kW	25.2	28	33.5		
		kBtu/h	86	95.5	114.3		
	Power input	kW	5.36	6.22	7.79		
	EER		4.7	4.5	4.3		
Heating ²	Capacity	kW	27	31.5	37.5		
		kBtu/h	92.1	107.5	128		
	Power input	kW	4.82	5.94	7.65		
	COP		5.6	5.3	4.9		
Connected indoor units	Total capacity		50-130% of outdoor unit capacity				
	Maximum quantity		13	16	20		
Compressors	Type		DC inverter				
	Quantity		1				
	Oil type		FV68H				
	Start-up method		Soft start				
Fans	Type		Propeller				
	Motor type		DC				
	Quantity		1				
	Insulation class		E				
	Safety class		IP23				
	Motor input	W	580				
	Motor output	W	465				
	Airflow rate	m ³ /h	12000				
	Static pressure	Pa (in. W.G.)	0-20 (0-0.08) (default)				
		Pa (in. W.G.)	20-60 (0.08-0.24) (customized)				
Drive type		Direct					
Refrigerant	Type		R410A				
	Factory charge	kg (lbs.)	9 (20)	9 (20)	11 (24)		
Pipe connections ³	Liquid pipe	mm (in.)	Φ12.7 (Φ1/2)	Φ12.7 (Φ1/2)	Φ15.9 (Φ5/8)		
	Gas pipe	mm (in.)	Φ25.4 (Φ1)	Φ25.4 (Φ1)	Φ28.6 (Φ1-1/8)		
	Oil balance pipe	mm (in.)	Φ6.35 (Φ1/4)				
Sound pressure level ⁴		dB(A)	58	59	60		
Net dimensions (W×H×D)	mm		990×1635×790				
	in.		39×64-3/8×31-1/8				
Packed dimensions (W×H×D)	mm		1090×1805×860				
	in.		42-7/8×71-1/16×33-7/8				
Net weight	kg (lbs.)	219 (483)	219 (483)	237 (523)			
Gross weight	kg (lbs.)	234 (516)	234 (516)	252 (556)			
Operating temperature range	°C (°F)	Cooling: -5 to 48 (23 to 118.4); heating: -20 to 24 (-4 to 75.2)					
Safety devices	High/low pressure switch, fan driver overload protector, overcurrent relay, inverter overload protector, overvoltage protector						
Standard accessories	Installation manual, operation manual, connection pipes, clamps						

Notes:

- Indoor air temperature 27°C (80.6°F) DB, 19°C (66.2°F) WB; outdoor air temperature 35°C (95.0°F) DB; equivalent refrigerant piping length 7.5m (24.6ft.) with zero level difference.
- Indoor air temperature 20°C (68.0°F) DB; outdoor air temperature 7°C (44.6°F) DB, 6°C (42.8°F) WB; equivalent refrigerant piping length 7.5m (24.6ft.) with zero level difference.
- Diameters given are those of the unit's stop valve.
- Sound pressure level is measured at a position 1m (3.28ft.) in front of the unit and 1.3m (4.26ft.) above the floor in a semi-anechoic chamber.

Conversion Formulae:
 kBtu/h = kW × 3.412;
 in.W.G. = Pa × 0.004;
 lbs. = kg × 2.2;
 in. = mm / 25.4

1. Specifications

VMEX012Q4A-D23V400, VMEX014Q4A-D26V450, VMEX016Q4A-D29V500

Table 2-1.2: VMEX012(014, 016)Q4A specifications

HP			14	16	18
Model name			VMEX012Q4A-D23V400	VMEX014Q4A-D26V450	VMEX016Q4A-D29V500
Power supply			3 phase, 220-240V, 50/60Hz		
Cooling ¹	Capacity	kW	40	45	50
		kBtu/h	136.5	153.5	170.6
	Power input	kW	9.3	10.98	12.82
	EER		4.3	4.1	3.9
Heating ²	Capacity	kW	45	50	56
		kBtu/h	153.5	170.6	191.1
	Power input	kW	9.38	10.87	13.18
	COP		4.8	4.6	4.25
Connected indoor units	Total capacity	50-130% of outdoor unit capacity			
	Maximum quantity	23	26	29	
Compressors	Type	DC inverter			
	Quantity	2			
	Oil type	FV68H			
	Start-up method	Soft start			
Fans	Type	Propeller			
	Motor type	DC			
	Quantity	2			
	Insulation class	E			
	Safety class	IP23			
	Motor input	W	360+290	360+290	520+440
	Motor output	W	290+230	290+230	420+350
	Airflow rate	m ³ /h	14000	14000	16000
	Static pressure	Pa (in. W.G.)	0-20 (0-0.08) (default)		
		Pa (in. W.G.)	20-60 (0.08-0.24) (customized)		
Drive type	Direct				
Refrigerant	Type	R410A			
	Factory charge	kg (lbs.)	13 (29)		
Pipe connections ³	Liquid pipe	mm (in.)	Φ15.9 (Φ5/8)	Φ15.9 (Φ5/8)	Φ19.1 (Φ3/4)
	Gas pipe	mm (in.)	Φ31.8 (Φ1-1/4)	Φ31.8 (Φ1-1/4)	Φ31.8 (Φ1-1/4)
	Oil balance pipe	mm (in.)	Φ6.35 (Φ1/4)		
Sound pressure level ⁴	dB(A)	62	62	63	
Net dimensions (W×H×D)	mm	1340×1635×790			
	in.	52-3/4×64-3/8×31-1/8			
Packed dimensions (W×H×D)	mm	1405×1805×855			
	in.	55-3/8×71-1/16×33-5/8			
Net weight	kg (lbs.)	297 (655)	297 (655)	305 (673)	
Gross weight	kg (lbs.)	315 (695)	315 (695)	323 (712)	
Operating temperature range	°C (°F)	Cooling: -5 to 48 (23 to 118.4); heating: -20 to 24 (-4 to 75.2)			
Safety devices	High/low pressure switch, fan driver overload protector, overcurrent relay, inverter overload protector, overvoltage protector				
Standard accessories	Installation manual, operation manual, connection pipes, clamps				

Notes:

- Indoor air temperature 27°C (80.6°F) DB, 19°C (66.2°F) WB; outdoor air temperature 35°C (95.0°F) DB; equivalent refrigerant piping length 7.5m (24.6ft.) with zero level difference.
- Indoor air temperature 20°C (68.0°F) DB; outdoor air temperature 7°C (44.6°F) DB, 6°C (42.8°F) WB; equivalent refrigerant piping length 7.5m (24.6ft.) with zero level difference.
- Diameters given are those of the unit's stop valve.
- Sound pressure level is measured at a position 1m (3.28ft.) in front of the unit and 1.3m (4.26ft.) above the floor in a semi-anechoic chamber.

Conversion Formulae:
 kBtu/h = kW × 3.412;
 in.W.G. = Pa × 0.004;
 lbs. = kg × 2.2;
 in. = mm / 25.4

1. Specifications

VMEX018Q4A-D33V560, VMEX020Q4A-D36V615

Table 2-1.3: VMEX018(020)Q4A specifications

HP			20	22
Model name			VMEX018Q4A-D33V560	VMEX020Q4A-D36V615
Power supply			3 phase, 220-240V, 50/60Hz	
Cooling ¹	Capacity	kW	56	61.5
		kBtu/h	191.1	209.8
	Power input	kW	14.51	16.44
	EER		3.86	3.74
Heating ²	Capacity	kW	63	69
		kBtu/h	214.9	235.4
	Power input	kW	15.29	17.12
	COP		4.12	4.03
Connected indoor units	Total capacity		50-130% of outdoor unit capacity	
	Maximum quantity		33	36
Compressors	Type		DC inverter	
	Quantity		2	
	Oil type		FV68H	
	Start-up method		Soft start	
Fans	Type		Propeller	
	Motor type		DC	
	Quantity		2	
	Insulation class		E	
	Safety class		IP23	
	Motor input	W	550+430	
	Motor output	W	440+350	
	Airflow rate	m ³ /h	16000	
	Static pressure	Pa (in. W.G.)	0-20 (0-0.08) (default)	
		Pa (in. W.G.)	20-60 (0.08-0.24) (customized)	
Drive type		Direct		
Refrigerant	Type		R410A	
	Factory charge	kg (lbs.)	16 (35)	
Pipe connections ³	Liquid pipe	mm (in.)	Φ19.1 (Φ3/4)	
	Gas pipe	mm (in.)	Φ31.8 (Φ1-1/4)	
	Oil balance pipe	mm (in.)	Φ6.35 (Φ1/4)	
Sound pressure level ⁴		dB(A)	63	
Net dimensions (W×H×D)		mm	1340×1635×790	
		in.	52-3/4×64-3/8×31-1/8	
Packed dimensions (W×H×D)		mm	1405×1805×855	
		in.	55-3/8×71-1/16×33-5/8	
Net weight		kg (lbs.)	340 (750)	
Gross weight		kg (lbs.)	358 (790)	
Operating temperature range		°C (°F)	Cooling: -5 to 48 (23 to 118.4); heating: -20 to 24 (-4 to 75.2)	
Safety devices	High/low pressure switch, fan driver overload protector, overcurrent relay, inverter overload protector, overvoltage protector			
Standard accessories	Installation manual, operation manual, connection pipes, clamps			

Notes:

- Indoor air temperature 27°C (80.6°F) DB, 19°C (66.2°F) WB; outdoor air temperature 35°C (95.0°F) DB; equivalent refrigerant piping length 7.5m (24.6ft.) with zero level difference.
- Indoor air temperature 20°C (68.0°F) DB; outdoor air temperature 7°C (44.6°F) DB, 6°C (42.8°F) WB; equivalent refrigerant piping length 7.5m (24.6ft.) with zero level difference.
- Diameters given are those of the unit's stop valve.
- Sound pressure level is measured at a position 1m (3.28ft.) in front of the unit and 1.3m (4.26ft.) above the floor in a semi-anechoic chamber.

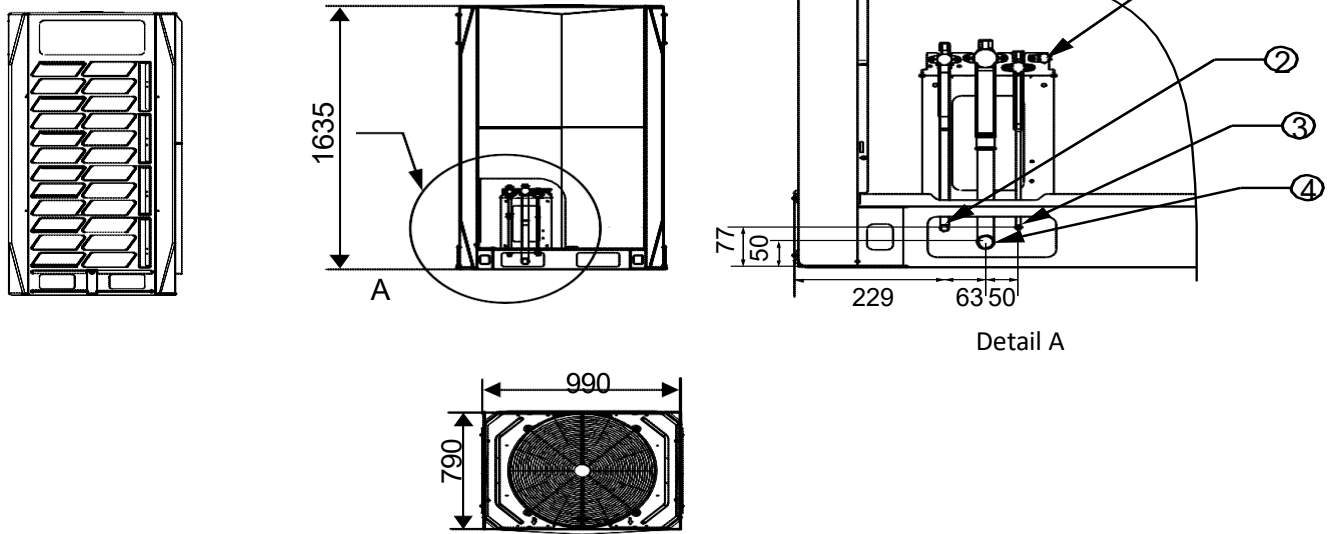
Conversion Formulae:
 kBtu/h = kW × 3.412;
 in.W.G. = Pa × 0.004;
 lbs. = kg × 2.2;
 in. = mm / 25.4

2-DIMENSIONAL DRAWINGS - (MM)

2.1 Single Units

VMEX008Q7A-D13V224, VMEX009Q7A-D16V280, VMEX010Q7A-D20V335

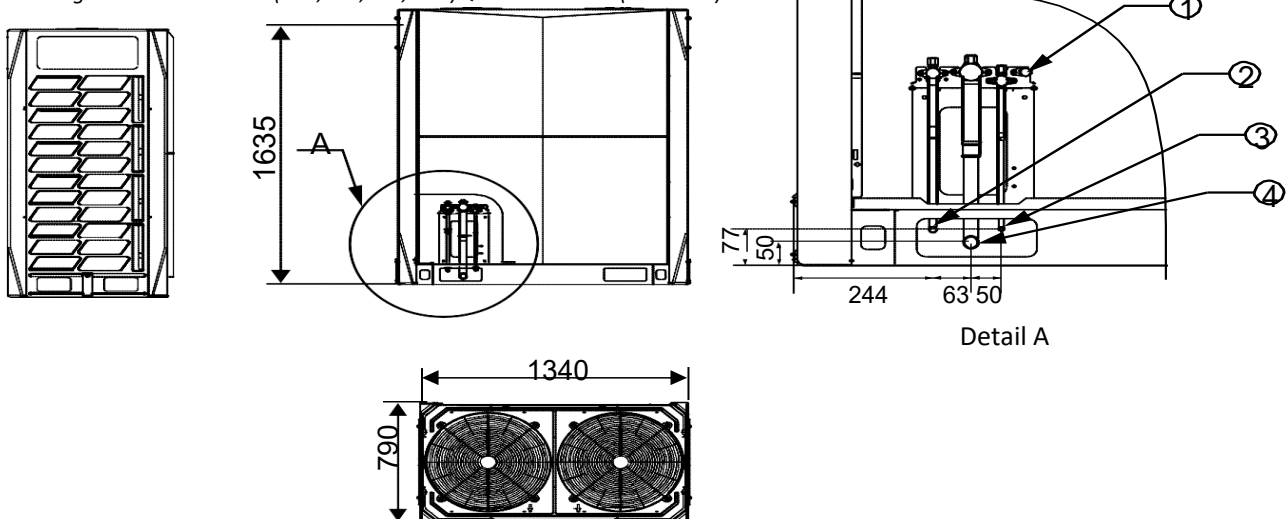
Figure 2-2.1: VMEX008(009,010)Q7A dimensions (unit: mm)



Legend		
No.	Parts name	Remarks
1	Check port	The check port is used to measure system pressure, charge refrigerant and vacuumize the system.
2	Liquid pipe connection port	Φ12.7 brazed connection on VMEX008Q4A-D13V224, VMEX009Q4A-D16V280 Φ15.9 brazed connection on VMEX010Q4A-D20V335
3	Oil balance pipe connection port	The oil balance pipe runs between outdoor units. Φ8 brazed connection.
4	Gas pipe connection port	Φ25.4 brazed connection on VMEX008Q4A-D13V224, VMEX009Q4A-D16V280 Φ28.6 brazed connection on VMEX010Q4A-D20V335

VMEX012Q7A-D23V400/ VMEX014Q7A-D26V450/ VMEX016Q7A-D29V500/ VMEX018Q7A-D33V560/ VMEX020Q7A-D36V615

Figure 2-2.2: VMEX012(014,016,018, 020)Q7A dimensions (unit: mm)



Legend		
No.	Parts name	Remarks
1	Check port	The check port is used to measure system pressure, charge refrigerant and vacuumize the system.
2	Liquid pipe connection port	Φ15.9 brazed connection on VMEX012Q4A-D23V400, VMEX014Q4A-D26V450 Φ19.1 brazed connection on VMEX016Q4A-D29V500, VMEX018Q4A-D33V560, VMEX020Q4A-D36V615
3	Oil balance pipe connection port	The oil balance pipe runs between outdoor units. Φ8 brazed connection.
4	Gas pipe connection port	Φ31.8 brazed connection on VMEX012Q4A-D23V400, VMEX014Q4A-D26V450, VMEX016Q4A-D29V500, VMEX018Q4A-D33V560, VMEX020Q4A-D36V615

3. Electrical Characteristics

Electrical Characteristics

Table 3.1: Outdoor unit electrical characteristics

Capacity	Model	Power supply ¹							Compressors		Outdoor fan motors	
		Hz	Volts	Min. volts	Max. volts	MCA ²	TOCA ³	MFA ⁴	MSC ⁵	RLA ⁶	Rated motor output (kW)	FLA
8HP	†U-(E j °) †	50/60	220	198	242	35.0	41.6	40	-	17.3	0.465	4.6
10HP	†U-(E j °) †	50/60	220	198	242	35.0	41.6	40	-	19.7	0.465	4.6
12HP	†U-(E j °) †	50/60	220	198	242	49.5	41.5	55	-	22	0.465	4.5
14HP	†U-(E j °) †	50/60	220	198	242	54.4	58.2	60	-	14.6×2	0.29+0.23	2.8+2.4
16HP	†U-(E j °) †	50/60	220	198	242	54.4	58.2	60	-	16.2×2	0.29+0.23	2.8+2.4
18HP	†U-(E j °) †	50/60	220	198	242	79.5	70.9	85	-	22.5+14.1	0.42+0.35	3.9+3.5
20HP	†U-(E j °) †	50/60	220	198	242	94.0	81.4	100	-	20.3×2	0.44+0.35	4.0+3.4
22HP	VMEX020Q7A-D36V615	50/60	220	198	242	94.0	81.4	100	-	23.4×2	0.44+0.35	4.0+3.4

Abbreviations:

- MCA: Minimum Circuit Amps
- TOCA: Total Over-current Amps
- MFA: Maximum Fuse Amps
- MSC: Maximum Starting Current (A)
- RLA: Rated Load Amps
- FLA: Full Load Amps

Notes:

1. Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits. Maximum allowable voltage variation between phases is 2%.
2. Select wire size based on the value of MCA.
3. TOCA indicates the total overcurrent amps value of each OC set.
4. MFA is used to select overcurrent circuit breakers and residual-current circuit breakers.
5. MSC indicates the maximum current on compressor start-up in amps.
6. RLA is based on the following conditions: indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB.



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