OMEGA TECHNOLOGY

OTEC AIR CONDITIONING
The Art of Comfort

OMEGA Heat Pump MODULAR VRF
SUBMITTAL DATA

460~480V/3/60Hz

Job:	**Engineer:**
Location:	**Architect:**
Schedule No.:	**Date:**
System Designation:	**For:** ☐ Reference ☐ Approval ☐ Review ☐ Construction

FEATURES

- Auto-Refrigerant Charge
- Refrigerant Cooling PCB
- Auto Dust-Clean Function
- Real-Time Refrigerant Volume Monitoring
- Automatic Address Setting
- Automatic Fault Detection

1. Specifications

VMEX008Q8A-D13V224/ VMEX009Q8A-D16V280/ VMEX010Q8A-D20V335

Table 2-1.1: VMEX008(009,010)Q8A specifications

HP			8	10	12
Model name			VMEX008Q8A-D13V224	VMEX009Q8A-D16V280	VMEX010Q8A-D20V335
Power supply			3 phase, 460V, 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	618		
	Motor output	W	490		
	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.)	229 (505)	229 (505)	247 (543)
Gross weight		kg (lbs.)	249 (548)	249 (548)	267 (587)
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:

1. 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.
2. 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.
3. Diameters given are those of the unit's stop valve.
4. 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

VMEX012Q8A-D23V400/ VMEX014Q8A-D26V450/ VMEX016Q8A-D29V500

Table 2-1.2: VMEX012(014,016)Q8A specifications

HP			14	16	18
Model name			VMEX012Q8A-D23V400	VMEX014Q8A-D26V450	VMEX016Q8A-D29V500
Power supply			3 phase, 460V, 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	315+310	315+310	325+315
	Motor output	W	260+250	260+250	280+270
	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.)	326 (719)	326 (719)	334 (736)
Gross weight		kg (lbs.)	353 (778)	353 (778)	361(796)
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:

1. 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.
2. 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.
3. Diameters given are those of the unit's stop valve.
4. 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

VMEX018Q8A-D33V560/ VMEX020Q8A-D36V615

Table 2-1.3: VMEX018(020)Q8A specifications

HP			20	22
Model name			VMEX018Q8A-D33V560	VMEX020Q8A-D36V615
Power supply			3 phase, 460V, 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	330+320	
	Motor output	W	290+270	
	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.)	369 (813)	
Gross weight		kg (lbs.)	396 (873)	
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:

1. 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.
2. 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.
3. Diameters given are those of the unit's stop valve.
4. 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.

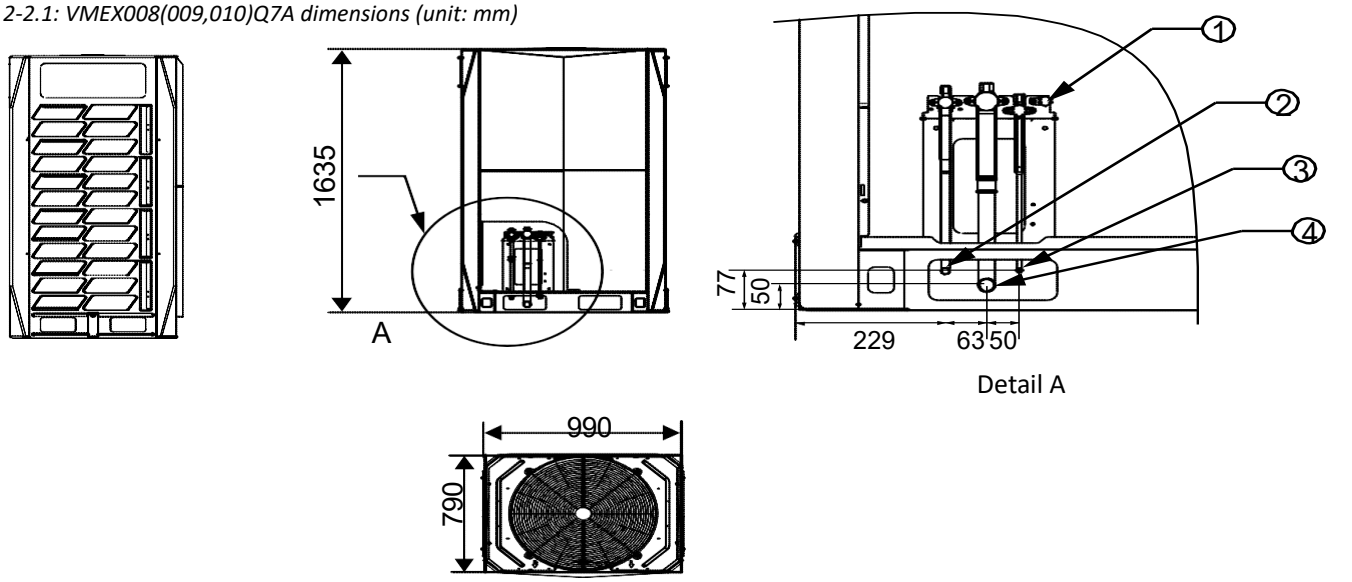
Conversion Formulae:
kBtu/h = kW × 3.412;
in.W.G. = Pa × 0.004;
lbs. = kg × 2.2;
in. = mm / 25.4

2-DIMENSIONAL DRAWINGS - (MM)

2.1 Single Units

VMEX008Q8A-D13V224,VMEX009Q8A-D16V280,VMEX010Q8A-D20V335

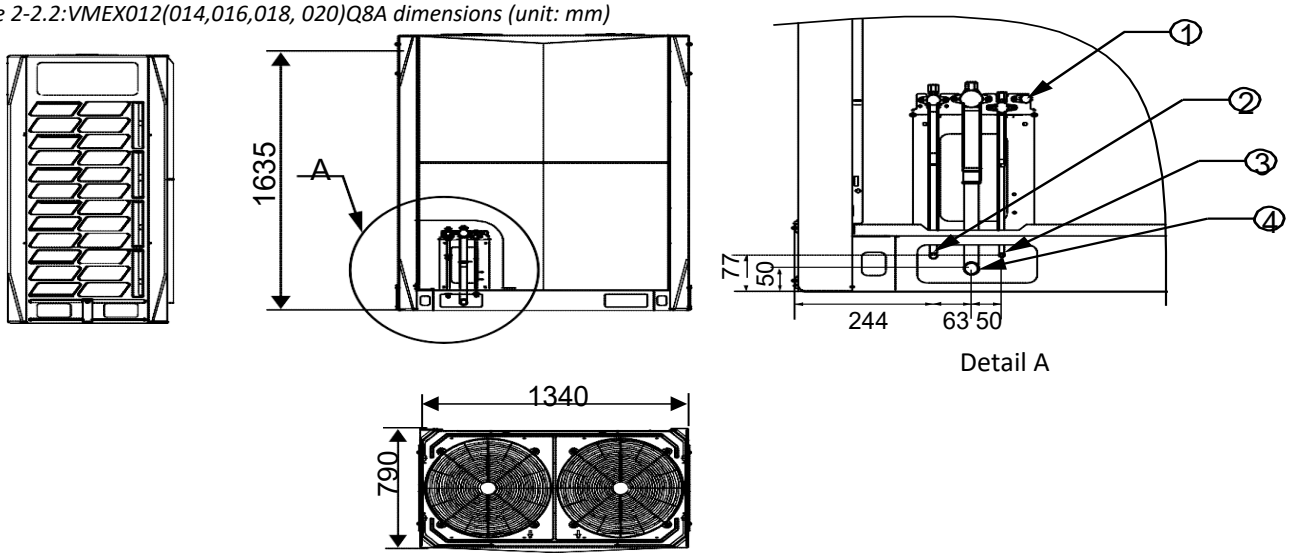
Figure 2-2.1: VMEX008(009,010)Q7A dimensions (unit: mm)



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 VMEX008Q8A-D13V224,VMEX009Q8A-D16V280 Φ15.9 brazed connection on VMEX010Q8A-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 VMEX008Q8A-D13V224,VMEX009Q8A-D16V280 Φ28.6 brazed connection on VMEX010Q8A-D20V335

VMEX012Q8A-D23V400/ VMEX014Q8A-D26V450/VMEX016Q8A-D29V500/ VMEX018Q8A-D33V560/VMEX020Q8A-D36V615

Figure 2-2.2:VMEX012(014,016,018, 020)Q8A 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 VMEX012Q8A-D23V400,VMEX014Q8A-D26V450 Φ19.1 brazed connection onVMEX016Q8A-D29V500,VMEX018Q8A-D33V560,VMEX020Q8A-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 VMEX012Q8A-D23V400,VMEX014Q8A-D26V450,VMEX016Q8A-D29V500,VMEX018Q8A-D33V560,VMEX020Q8A-D36V615

3.Electrical Characteristics

Electrical Characteristics

Table 3.1: Outdoor unit electrical characteristics

Model		Power supply[1]							Compressors		Outdoor fan motors	
Capacity	Modules	Hz	Volts	Min. volts	Max. volts	MCA[2]	TOCA[3]	MFA[4]	MSC[5]	RLA[6]	Rated motor output (kW)	FLA
8HP	VMEX008Q8A-D13V224	60	460	414	506	16.6	24.5	25	-	5.9	0.75	3.5
10HP	VMEX009Q8A-D16V280	60	460	414	506	17.8	24.5	25	-	6.8	0.75	3.5
12HP	VMEX010Q8A-D20V335	60	460	414	506	18.6	26.5	25	-	7.6	0.75	3.5
14HP	VMEX012Q8A-D23V400	60	460	414	506	24.1	32.6	30	-	5.1×2	0.75+0.75	1.4+1.2
16HP	VMEX014Q8A-D26V450	60	460	414	506	25.1	32.6	30	-	5.9×2	0.75+0.75	1.4+1.2
18HP	VMEX016Q8A-D29V500	60	460	414	506	27.5	38.0	40	-	8.5+5	0.75+0.75	1.6+1.4
20HP	VMEX018Q8A-D33V560	60	460	414	506	35.6	49.2	50	-	9.2×2	0.75+0.75	1.7+1.5
22HP	VMEX020Q8A-D36V615	60	460	414	506	37.3	49.2	50	-	9.7×2	0.75+0.75	1.7+1.5

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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