2. Specifications

2.1 WH-MDF12C6E5 (WH-MDF12C6E5-1)

Item		Unit	Refrigerant System	
Performance Test Condition			EN 14511	
Condition (Ambient/Water)			A7W35	A2W35
Heating Capacity		kW	12.00	11.40
		BTU/h	41000	38900
		kcal/h	10320	9800
COP		W/W	4.67	3.41
		kcal/hW	4.02	2.94
Air Flow		m^3/min (ft^3/min)	80.0 (2830)	
Refrigeration Control Device			Expansion Valve	
Refrigeration Oil		cm^3	FV50S (1200)	
Refrigerant (R410A)		kg (oz)	2.30 (81.2)	
Pipe Diameter	Liquid	mm (inch)	9.52 (3/8)	
	Gas	mm (inch)	15.88 (5/8)	
Compressor	Type		Hermetic Motor (Rotary)	
	Motor Type		Brushless (4-poles)	
	Rated Output	kW	3.00	
Fan	Type		Propeller Fan	
	Material		PP	
	Motor Type		Induction (8-poles)	
	Input Power	W	—	
	Output Power	W	60	
	Fan Speed	rpm	510 (Top Fan) 550 (Bottom Fan)	
Heat Exchanger	Fin material		Aluminium (Pre Coat)	
	Fin Type		Corrugated Fin	
	Row × Stage × FPI		2 × 51 × 18	
	Size (W × H × L)	mm	881.5 × 1295.4 × 44	

Item		Unit	Mono bloc Unit	
Dimension	Height	mm (inch)	1410 (55.5)	
	Width	mm (inch)	1283 (50.5)	
	Depth	mm (inch)	320 (12.6)	
Net Weight		kg (lbs)	153 (337)	
Noise Level		dB-A	50	-
		Power Level dB	67	-
Power Source (Phase, Voltage, Cycle)		ø	Single	
		V	230	
		Hz	50	
Input Power		kW	2.57	3.34
Maximum Input Power For Mono bloc Unit		kW	5.30	
Power Supply 1: Phase (ø) / Max.Current (A) / Max. Input Power (W)			Single / 24.0 / 5.30k	
Power Supply 2: Phase (ø) / Max.Current (A) / Max. Input Power (W)			Single / 26.0 / 6.00k	
Power Supply 3: Phase (ø) / Max.Current (A) / Max. Input Power (W)			Single / 13.0 / 3.00k	
Maximum Input Power For Internal Heater (Back-up Heater + Tank Heater)		kW	6.00 (9.00)	
Starting Current		A	11.6	
Running Current		A	11.6	15.2
Maximum Current For Mono bloc Unit		A	24.0	

Item		Unit	Mono bloc Unit	
Maximum Current For Internal Heater (Back-up Heater + Tank Heater)		A	26 (39)	
Power Factor		%	96	96
Power factor means total figure of compressor and outdoor fan motor.				
Power Cord	Number of core		-	
	Length	m (ft)	-	
Thermostat			Electronic Control	
Protection Device			Electronic Control	

Item		Unit	Water System
Performance Test Condition			EN 14511
Operation Range	Outdoor Ambient	°C	-20 ~ 35
	Water Outlet	°C	25 ~ 55
Internal Pressure Differential		kPa	27.5
Refrigerant Pipe Diameter	Liquid	mm (inch)	9.52 (3/8)
	Gas	mm (inch)	15.88 (5/8)
Water Pipe Diameter	Inlet	mm (inch)	30 (1-3/16)
	Outlet	mm (inch)	30 (1-3/16)
Water Drain Hose Inner Diameter		mm (inch)	15.00 (19/32)
Pump	Motor Type		Capacitor Run Induction Motor (5 μF)
	No. of Speed		3
	Input Power	W	180
Hot Water Coil	Type		Brazed Plate
	No. of Plates		60
	Size (W x H x L)	mm	100 x 93 x 325
	Water Flow Rate	l/min (m^3/h)	34.4 (2.1)
Pressure Relief Valve Water Circuit		kPa	Open: 300, Close: 265 and below
Flow Switch			Magnetic Lead Switch
Protection Device		A	Residual Current Circuit Breaker (40)
Expansion Vessel	Volume	l	10
	MWP	bar	3
Capacity of Integrated Electric Heater		kW	6.00

Note:

- Heating capacities are based on outdoor air temperature of 7°C Dry Bulb (44.6°F Dry Bulb), 6°C Wet Bulb (42.8°F Wet Bulb) with controlled water inlet temperature of 30°C and water outlet temperature of 35°C.
- Specification are subjected to change without prior notice for further improvement.

2.2 WH-MDF14C6E5 (WH-MDF14C6E5-1)

Item		Unit	Refrigerant System	
Performance Test Condition			EN 14511	
Condition (Ambient/Water)			A7W35	A2W35
Heating Capacity		kW	14.00	12.40
		BTU/h	47800	42300
		kcal/h	12040	10660
COP		W/W	4.50	3.32
		kcal/hW	3.87	2.86
Air Flow		m^3/min (ft^3/min)	84.0 (2970)	
Refrigeration Control Device			Expansion Valve	
Refrigeration Oil		cm^3	FV50S (1200)	
Refrigerant (R410A)		kg (oz)	2.30 (81.2)	
Pipe Diameter	Liquid	mm (inch)	9.52 (3/8)	
	Gas	mm (inch)	15.88 (5/8)	
Compressor	Type		Hermetic Motor (Rotary)	
	Motor Type		Brushless (4-poles)	
	Rated Output	kW	3.00	
Fan	Type		Propeller Fan	
	Material		PP	
	Motor Type		Induction (8-poles)	
	Input Power	W	—	
	Output Power	W	60	
	Fan Speed	rpm	540 (Top Fan) 580 (Bottom Fan)	
Heat Exchanger	Fin material		Aluminium (Pre Coat)	
	Fin Type		Corrugated Fin	
	Row × Stage × FPI		2 × 51 × 18	
	Size (W × H × L)	mm	881.5 × 1295.4 × 44	

Item		Unit	Mono bloc Unit	
Dimension	Height	mm (inch)	1410 (55.5)	
	Width	mm (inch)	1283 (50.5)	
	Depth	mm (inch)	320 (12.6)	
Net Weight		kg (lbs)	153 (337)	
Noise Level		dB-A	51	-
		Power Level dB	68	-
Power Source (Phase, Voltage, Cycle)		ø	Single	
		V	230	
		Hz	50	
Input Power		kW	3.11	3.73
Maximum Input Power For Mono bloc Unit		kW	5.52	
Power Supply 1: Phase (ø) / Max. Current (A) / Max. Input Power (W)			Single / 25.0 / 5.52k	
Power Supply 2: Phase (ø) / Max. Current (A) / Max. Input Power (W)			Single / 26.0 / 6.00k	
Power Supply 3: Phase (ø) / Max. Current (A) / Max. Input Power (W)			Single / 13.0 / 3.00k	
Maximum Input Power For Internal Heater (Back-up Heater + Tank Heater)		kW	6.00 (9.00)	
Starting Current		A	14.1	
Running Current		A	14.1	16.9
Maximum Current For Mono bloc Unit		A	25.0	
Maximum Current For Internal Heater (Back-up Heater + Tank Heater)		A	26 (39)	

Item		Unit	Mono bloc Unit	
Power Factor		%	96	96
Power factor means total figure of compressor and outdoor fan motor.				
Power Cord	Number of core		-	
	Length	m (ft)	-	
Thermostat			Electronic Control	
Protection Device			Electronic Control	

Item		Unit	Water System
Performance Test Condition			EN 14511
Operation Range	Outdoor Ambient	°C	-20 ~ 35
	Water Outlet	°C	25 ~ 55
Internal Pressure Differential		kPa	36.0
Refrigerant Pipe Diameter	Liquid	mm (inch)	9.52 (3/8)
	Gas	mm (inch)	15.8 (5/8)
Water Pipe Diameter	Inlet	mm (inch)	30 (1-3/16)
	Outlet	mm (inch)	30 (1-3/16)
Water Drain Hose Inner Diameter		mm (inch)	15.00 (19/32)
Pump	Motor Type		Capacitor Run Induction Motor (5 μF)
	No. of Speed		3
	Input Power	W	180
Hot Water Coil	Type		Brazed Plate
	No. of Plates		60
	Size (W x H x L)	mm	100 x 93 x 325
	Water Flow Rate	l/min (m^3/h)	40.1 (2.4)
Pressure Relief Valve Water Circuit		kPa	Open: 300, Close: 265 and below
Flow Switch			Magnetic Lead Switch
Protection Device		A	Residual Current Circuit Breaker (40)
Expansion Vessel	Volume	l	10
	MWP	bar	3
Capacity of Integrated Electric Heater		kW	6.00

Note:

- Heating capacities are based on outdoor air temperature of 7°C Dry Bulb (44.6°F Dry Bulb), 6°C Wet Bulb (42.8°F Wet Bulb) with controlled water inlet temperature of 30°C and water outlet temperature of 35°C.
- Specification are subjected to change without prior notice for further improvement.

2.3 WH-MDF16C6E5 (WH-MDF16C6E5-1)

Item		Unit	Refrigerant System	
Performance Test Condition			EN 14511	
Condition (Ambient/Water)			A7W35	A2W35
Heating Capacity		kW	16.00	13.00
		BTU/h	54600	44300
		kcal/h	13760	11180
COP		W/W	4.23	3.25
		kcal/hW	3.64	2.80
Air Flow		m^3/min (ft^3/min)	90.0 (3180)	
Refrigeration Control Device			Expansion Valve	
Refrigeration Oil		cm^3	FV50S (1200)	
Refrigerant (R410A)		kg (oz)	2.30 (81.2)	
Pipe Diameter	Liquid	mm (inch)	9.52 (3/8)	
	Gas	mm (inch)	15.88 (5/8)	
Compressor	Type		Hermetic Motor (Rotary)	
	Motor Type		Brushless (4-poles)	
	Rated Output	kW	3.00	
Fan	Type		Propeller Fan	
	Material		PP	
	Motor Type		Induction (8-poles)	
	Input Power	W	—	
	Output Power	W	60	
	Fan Speed	rpm	580 (Top Fan) 620 (Bottom Fan)	
Heat Exchanger	Fin material		Aluminium (Pre Coat)	
	Fin Type		Corrugated Fin	
	Row × Stage × FPI		2 × 51 × 18	
	Size (W × H × L)	mm	881.5 × 1295.4 × 44	

Item		Unit	Mono bloc Unit	
Dimension	Height	mm (inch)	1410 (55.5)	
	Width	mm (inch)	1283 (50.5)	
	Depth	mm (inch)	320 (12.6)	
Net Weight		kg (lbs)	153 (337)	
Noise Level		dB-A	53	-
		Power Level dB	70	-
Power Source (Phase, Voltage, Cycle)		ø	Single	
		V	230	
		Hz	50	
Input Power		kW	3.78	4.00
Maximum Input Power For Mono bloc Unit		kW	5.74	
Power Supply 1: Phase (ø) / Max. Current (A) / Max. Input Power (W)			Single / 26.0 / 5.74k	
Power Supply 2: Phase (ø) / Max. Current (A) / Max. Input Power (W)			Single / 26.0 / 6.00k	
Power Supply 3: Phase (ø) / Max. Current (A) / Max. Input Power (W)			Single / 13.0 / 3.00k	
Maximum Input Power For Internal Heater (Back-up Heater + Tank Heater)		kW	6.00 (9.00)	
Starting Current		A	17.1	
Running Current		A	17.1	18.1
Maximum Current For Mono bloc Unit		A	26.0	
Maximum Current For Internal Heater (Back-up Heater + Tank Heater)		A	26 (39)	

Item		Unit	Mono bloc Unit	
Power Factor		%	96	96
Power factor means total figure of compressor and outdoor fan motor.				
Power Cord	Number of core		-	
	Length	m (ft)	-	
Thermostat			Electronic Control	
Protection Device			Electronic Control	

Item			Unit	Water System
Performance Test Condition				EN 14511
Operation Range	Outdoor Ambient		°C	-20 ~ 35
	Water Outlet		°C	25 ~ 55
Internal Pressure Differential			kPa	47.5
Refrigerant Pipe Diameter	Liquid		mm (inch)	9.52 (3/8)
	Gas		mm (inch)	15.88 (5/8)
Water Pipe Diameter	Inlet		mm (inch)	30 (1-3/16)
	Outlet		mm (inch)	30 (1-3/16)
Water Drain Hose Inner Diameter			mm (inch)	15.00 (19/32)
Pump	Motor Type			Capacitor Run Induction Motor (5 μF)
	No. of Speed			3
	Input Power		W	180
Hot Water Coil	Type			Brazed Plate
	No. of Plates			60
	Size (W x H x L)		mm	100 x 93 x 325
	Water Flow Rate		l/min (m^3/h)	45.9 (2.8)
Pressure Relief Valve Water Circuit			kPa	Open: 300, Close: 265 and below
Flow Switch				Magnetic Lead Switch
Protection Device			A	Residual Current Circuit Breaker (40)
Expansion Vessel		Volume	l	10
		MWP	bar	3
Capacity of Integrated Electric Heater			kW	6.00

Note:

- Heating capacities are based on outdoor air temperature of 7°C Dry Bulb (44.6°F Dry Bulb), 6°C Wet Bulb (42.8°F Wet Bulb) with controlled water inlet temperature of 30°C and water outlet temperature of 35°C.
- Specification are subjected to change without prior notice for further improvement.