

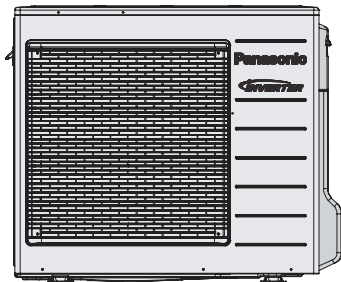
Service Manual

Air Conditioner

Outdoor Unit WH-UD09JE5-1

Destination Europe Turkey UK Denmark

Simplified




Please file and use this supplement manual together with the service manual for Model No. WH-ADC0309J3E5, WH-ADC0309J3E5B, WH-ADC0309J3E5UK, WH-ADC0309J3E5AN, Order No. PAPAMY1905037CE, PAPAMY1905038CE, PAPAMY1905039CE, PAPAMY1905040CE.

WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the products dealt with in this service information by anyone else could result in serious injury or death.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by  in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

PRECAUTION OF LOW TEMPERATURE

In order to avoid frostbite, be assured of no refrigerant leakage during the installation or repairing of refrigerant circuit.

CAUTION

R32 REFRIGERANT – This Air-to-Water Hydromodule + Tank contains and operates with refrigerant R32.

THIS PRODUCT MUST ONLY BE INSTALLED OR SERVICED BY QUALIFIED PERSONNEL.

Refer to National, State, Territory and local legislation, regulations, codes, installation & operation manuals, before the installation, maintenance and/or service of this product.

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1. Specifications

1.1 WH-ADC0309J3E5 WH-UD09JE5-1

Item		Unit	Outdoor Unit			
Performance Test Condition			EN 14511			
			EN 14825			
Cooling Capacity	Condition (Ambient/Water)		A35W7			
	kW		8.20			
	BTU/h		28000			
	kcal/h		7050			
Cooling EER	W/W		2.72			
	kcal/hW		2.33			
Heating Capacity	Condition (Ambient/Water)		A7W35	A2W35		
	kW		9.00	7.00		
	BTU/h		30700	23900		
	kcal/h		7740	6020		
Heating COP	W/W		4.48	3.40		
	kcal/hW		3.85	2.92		
Heating Erp	Low Temperature Application (W35)		Warmer	Average	Colder	
	Application	Climate				
	Pdesign	kW	7.0	7.0	7.0	
	Tbivalent/TOL	°C	2 / 2	-10 / -10	-15 / -22	
	SCOP/ns	(W/W)/%	5.75 / 227	4.90 / 193	4.18 / 164	
	Annual Consumption	kWh	1627	2949	4132	
	Class		A+++	A+++	A++	
	Medium Temperature Application (W55)		Warmer	Average	Colder	
	Application	Climate				
	Pdesign	kW	6.0	7.0	6.0	
	Tbivalent/TOL	°C	2 / 2	-7 / -10	-15 / -22	
	SCOP/ns	(W/W)/%	4.07 / 160	3.32 / 130	2.98 / 116	
	Annual Consumption	kWh	1971	4354	4967	
	Class		A+++	A++	A+	
	DHW		Warmer	Average	Colder	
	Application	Climate				
	COP/nwh	(W/W)/%	3.50 / 140	3.00 / 120	2.47 / 99	
	AEC	kWh	714	833	1013	
	Noise Level	Condition (Ambient/Water)		A35W7	A7W35	A2W35
		dB (A)		Cooling: 51***	Heating: 51***	—
Power Level dB			Cooling: 69***	Heating: 69*** Heating: 59****	—	
Air Flow	m ³ /min (ft ³ /min)		Cooling: 55.0 (1942) Heating: 53.4 (1885)			
Refrigeration Control Device			Expansion Valve			
Refrigeration Oil	cm ³		FW50S (900)			
Refrigerant	kg (oz)		R32, 1.27 (44.8) (Pre-charged) R32, 2.27 (80.1) (Maximum)			
F-GAS	GWP		675			
	CO ₂ eq (ton) (Precharged/Maximum)		0.857 / 1.532			
Dimension	Height	mm (inch)	795 (31-5/16)			
	Width	mm (inch)	875 (34-15/32)			
	Depth	mm (inch)	320 (12-5/8)			
Net Weight	kg (lbs)		61 (135)			

Item		Unit	Outdoor Unit		
Pipe Diameter	Liquid	mm (inch)	6.35 (1/4)		
	Gas	mm (inch)	15.88 (5/8)		
Standard Length		m (ft)	7 (23.0)		
Pipe Length Range		m (ft)	3 (9.8) ~ 50 (164.0)		
I/D & O/D Height Difference		m (ft)	30 (98.4)		
Additional Gas Amount		g/m (oz/ft)	25 (0.3)		
Refrigeration Charge Less		m (ft)	10 (32.8)		
Compressor	Type		Hermetic Motor		
	Motor Type		Brushless (4-poles)		
	Rated Output	kW	1.70		
Fan	Type		Propeller Fan		
	Material		PP		
	Motor Type		DC (8-poles)		
	Input Power	W	—		
	Output Power	W	60		
	Fan Speed	rpm	Cooling: 700 Heating: 680		
Heat Exchanger	Fin material		Aluminium (Pre Coat)		
	Fin Type		Corrugated Fin		
	Row × Stage × FPI		2 × 30 × 19		
	Size (W × H × L)	mm	38.1 × 762.0 × 865.8 : 895.8		
Power Source (Phase, Voltage, Cycle)		∅	Single		
		V	230		
		Hz	50		
Input Power		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		kW	Cooling: 3.02	Heating: 2.01	Heating: 2.06
Maximum Input Power For Heatpump System		kW	3.47		
Power Supply 1 : Phase (∅) / Max. Current (A) / Max. Input Power (W)			1∅ / 15.9 / 3.47k		
Power Supply 2 : Phase (∅) / Max. Current (A) / Max. Input Power (W)			1∅ / 13.0 / 3.00k		
Power Supply 3 : Phase (∅) / Max. Current (A) / Max. Input Power (W)			— / — / —		
Starting Current		A	9.2		
Running Current		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		A	Cooling: 13.4	Heating: 9.2	Heating: 9.4
Maximum Current For Heatpump System		A	15.9		
Power Factor Power factor means total figure of compressor and outdoor fan motor.		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		%	Cooling: 98	Heating: 95	Heating: 95
Power Cord	Number of core		-		
	Length	m (ft)	-		
Thermostat			Electronic Control		
Protection Device			Electronic Control		

Item		Unit	Indoor Unit		
Performance Test Condition				EN 14511	
				EN 14825	
Operation Range	Outdoor Ambient	°C (min./max.)	Cooling: 10 / 43 Heating: -20 / 35		
	Water Outlet	°C (min./max.)	Cooling: 5 / 20 Heating (Tank): - / 65* Heating (Circuit): 20 / 55 (Below Ambient -15 °C) ** Heating (Circuit): 20 / 60 (Above Ambient -10 °C) **		
Internal Pressure Differential		kPa	Cooling: 22.0 Heating: 26.0		
Noise Level		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		dB (A)	Cooling: 28***	Heating: 28***	—
		Power Level dB	Cooling: 41***	Heating: 41***	—
Dimension	Depth	mm (inch)	717 (28-7/32)		
	Width	mm (inch)	598 (23-17/32)		
	Height	mm (inch)	1800 (70-27/32)		
Net Weight		kg (lbs)	122 (269)		
Refrigerant Pipe Diameter	Liquid	mm (inch)	6.35 (1/4)		
	Gas	mm (inch)	15.88 (5/8)		
Water Pipe Diameter	Room	mm (inch)	31 (1-1/4)		
	Shower	mm (inch)	19 (3/4)		
Water Drain Hose Inner Diameter		mm (inch)	12.00 (17/36)		
Pump	Motor Type		DC Motor		
	Input Power	W	42		
Hot Water Coil	Type		Brazed Plate		
	No. of Plates		36		
	Size (W x H x L)	mm	68 × 333 × 121		
	Water Flow Rate	l/min (m³/h)	Cooling: 23.5 (1.4) Heating: 25.8 (1.5)		
Pressure Relief Valve Water Circuit		kPa	Open: 300, Close: 210 and below		
Flow Switch	Type		V VX20 [Electronic pulse]		
	Measuring range	l/min	5 ~ 60		
Pressure Release Valve		kPa	Open: 800, Close: 640 and below		
Protection Device		A	Earth Leakage Circuit Breaker (30 ~ 40)		
Expansion Vessel	Volume	l	10		
	MWP	bar	3		
Capacity of Integrated Electric Heater / OLP TEMP		kW / °C	3.00 / 80		
Tank Volume (Spec / Nett)		L	200 / 185		
Max. Tank Water Set Temperature		°C	65		
Tank Coil Surface		m²	1.8		
Maximum Working Pressure	Heat/Cool	Bar	3.0		
	Tank Circuit	Bar	8.0		
Operating Pressure	Tank Unit	Bar	3.5		
	Expansion Relief Valve	Bar	8.0		
Expansion Vessel Pre-charge Pressure (DHW Circuit)		Bar	3.5		
Pressure Reducing Valve Set Pressure (DHW Circuit)		Bar	3.5		

Item		Unit	Indoor Unit
Pressure Vessel	Material		En-1.4521
	Volume	L	185
	Design Pressure	Bar	10
Heat Exchanger	Material		EN-1.4521
	Diameter	mm	22
	Thickness	mm	0.8
	Surface Area	m ²	1.8
	Total Length	m	25

Note:

- Cooling capacities are based on outdoor air temperature of 35°C Dry Bulb with controlled indoor water inlet temperature of 12°C and water outlet temperature of 7°C.
- 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 indoor water inlet temperature of 30°C and water outlet temperature of 35°C.
- Specifications are subjected to change without prior notice for further improvement.
- * Above 55°C, only possible with backup heater operation.
- ** Between outdoor ambient -10 °C and -15 °C, the water outlet temperature gradually decreases from 60 °C to 55 °C.
- *** The sound pressure and sound power level is measured with distance 1.0m from the unit and height at 1.5m. (Test carry out for cooling at ambient 35°C DB and Water Out 7°C, heating at ambient 7°C DB / 6°C WB and water out 55°C)
- **** The sound power level is measured with accordance to EN12102 under conditions of the EN14825.

1.2 WH-ADC0309J3E5AN WH-UD09JE5-1

Item		Unit	Outdoor Unit			
Performance Test Condition			EN 14511			
			EN 14825			
Cooling Capacity	Condition (Ambient/Water)		A35W7			
	kW		8.20			
	BTU/h		28000			
	kcal/h		7050			
Cooling EER	W/W		2.72			
	kcal/hW		2.33			
Heating Capacity	Condition (Ambient/Water)		A7W35	A2W35		
	kW		9.00	7.00		
	BTU/h		30700	23900		
	kcal/h		7740	6020		
Heating COP	W/W		4.48	3.40		
	kcal/hW		3.85	2.92		
Heating Erp	Low Temperature Application (W35)		Warmer	Average	Colder	
	Application	Climate				
	Pdesign	kW	7.0	7.0	7.0	
	Tbivalent/TOL	°C	2 / 2	-10 / -10	-15 / -22	
	SCOP/ns	(W/W)/%	5.75 / 227	4.90 / 193	4.18 / 164	
	Annual Consumption	kWh	1627	2949	4132	
	Class		A+++	A+++	A++	
	Medium Temperature Application (W55)		Warmer	Average	Colder	
	Application	Climate				
	Pdesign	kW	6.0	7.0	6.0	
	Tbivalent/TOL	°C	2 / 2	-7 / -10	-15 / -22	
	SCOP/ns	(W/W)/%	4.07 / 160	3.32 / 130	2.98 / 116	
	Annual Consumption	kWh	1971	4354	4967	
	Class		A+++	A++	A+	
	DHW		Warmer	Average	Colder	
	Application	Climate				
	COP/nwh	(W/W)/%	3.50 / 140	3.00 / 120	2.47 / 99	
	AEC	kWh	714	833	1013	
	Noise Level	Condition (Ambient/Water)		A35W7	A7W35	A2W35
		dB (A)		Cooling: 51***	Heating: 51***	—
Power Level dB			Cooling: 69***	Heating: 69*** Heating: 59****	—	
Air Flow	m ³ /min (ft ³ /min)		Cooling: 55.0 (1942) Heating: 53.4 (1885)			
Refrigeration Control Device			Expansion Valve			
Refrigeration Oil	cm ³		FW50S (900)			
Refrigerant	kg (oz)		R32, 1.27 (44.8) (Pre-charged) R32, 2.27 (80.1) (Maximum)			
F-GAS	GWP		675			
	CO ₂ eq (ton) (Precharged/Maximum)		0.857 / 1.532			
Dimension	Height	mm (inch)	795 (31-5/16)			
	Width	mm (inch)	875 (34-15/32)			
	Depth	mm (inch)	320 (12-5/8)			
Net Weight	kg (lbs)		61 (135)			

Item		Unit	Outdoor Unit		
Pipe Diameter	Liquid	mm (inch)	6.35 (1/4)		
	Gas	mm (inch)	15.88 (5/8)		
Standard Length		m (ft)	7 (23.0)		
Pipe Length Range		m (ft)	3 (9.8) ~ 50 (164.0)		
I/D & O/D Height Difference		m (ft)	30 (98.4)		
Additional Gas Amount		g/m (oz/ft)	25 (0.3)		
Refrigeration Charge Less		m (ft)	10 (32.8)		
Compressor	Type		Hermetic Motor		
	Motor Type		Brushless (4-poles)		
	Rated Output	kW	1.70		
Fan	Type		Propeller Fan		
	Material		PP		
	Motor Type		DC (8-poles)		
	Input Power	W	—		
	Output Power	W	60		
	Fan Speed	rpm	Cooling: 700 Heating: 680		
Heat Exchanger	Fin material		Aluminium (Pre Coat)		
	Fin Type		Corrugated Fin		
	Row × Stage × FPI		2 × 30 × 19		
	Size (W × H × L)	mm	38.1 × 762.0 × 865.8 : 895.8		
Power Source (Phase, Voltage, Cycle)		∅	Single		
		V	230		
		Hz	50		
Input Power		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		kW	Cooling: 3.02	Heating: 2.01	Heating: 2.06
Maximum Input Power For Heatpump System		kW	3.47		
Power Supply 1 : Phase (∅) / Max. Current (A) / Max. Input Power (W)			1∅ / 15.9 / 3.47k		
Power Supply 2 : Phase (∅) / Max. Current (A) / Max. Input Power (W)			1∅ / 13.0 / 3.00k		
Power Supply 3 : Phase (∅) / Max. Current (A) / Max. Input Power (W)			— / — / —		
Starting Current		A	9.2		
Running Current		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		A	Cooling: 13.4	Heating: 9.2	Heating: 9.4
Maximum Current For Heatpump System		A	15.9		
Power Factor Power factor means total figure of compressor and outdoor fan motor.		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		%	Cooling: 98	Heating: 95	Heating: 95
Power Cord	Number of core		-		
	Length	m (ft)	-		
Thermostat			Electronic Control		
Protection Device			Electronic Control		

Item		Unit	Indoor Unit		
Performance Test Condition				EN 14511	
				EN 14825	
Operation Range	Outdoor Ambient	°C (min./max.)	Cooling: 10 / 43 Heating: -20 / 35		
	Water Outlet	°C (min./max.)	Cooling: 5 / 20 Heating (Tank): - / 65*, Heating (Circuit): 20 / 55 (Below Ambient -15 °C) ** Heating (Circuit): 20 / 60 (Above Ambient -10 °C) **		
Internal Pressure Differential		kPa	Cooling: 22.0 Heating: 26.0		
Noise Level		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		dB (A)	Cooling: 28***	Heating: 28***	—
		Power Level dB	Cooling: 41***	Heating: 41***	—
Dimension	Depth	mm (inch)	717 (28-7/32)		
	Width	mm (inch)	598 (23-17/32)		
	Height	mm (inch)	1800 (70-27/32)		
Net Weight		kg (lbs)	122 (269)		
Refrigerant Pipe Diameter	Liquid	mm (inch)	6.35 (1/4)		
	Gas	mm (inch)	15.88 (5/8)		
Water Pipe Diameter	Room	mm (inch)	31 (1-1/4)		
	Shower	mm (inch)	19 (3/4)		
Water Drain Hose Inner Diameter		mm (inch)	12.00 (17/36)		
Pump	Motor Type		DC Motor		
	Input Power	W	42		
Hot Water Coil	Type		Brazed Plate		
	No. of Plates		36		
	Size (W x H x L)	mm	68 × 333 × 121		
	Water Flow Rate	l/min (m³/h)	Cooling: 23.5 (1.4) Heating: 25.8 (1.5)		
Pressure Relief Valve Water Circuit		kPa	Open: 300, Close: 210 and below		
Flow Switch	Type		VWX20 [Electronic pulse]		
	Measuring range	l/min	5 ~ 60		
Pressure Release Valve		kPa	Open: 800, Close: 640 and below		
Protection Device		A	Earth Leakage Circuit Breaker (30 ~ 40)		
Expansion Vessel	Volume	l	10		
	MWP	bar	3		
Capacity of Integrated Electric Heater / OLP TEMP		kW / °C	3.00 / 80		
Tank Volume (Spec / Nett)		L	200 / 185		
Max. Tank Water Set Temperature		°C	65		
Tank Coil Surface		m²	1.8		
Maximum Working Pressure	Heat/Cool	Bar	3.0		
	Tank Circuit	Bar	8.0		
Operating Pressure	Tank Unit	Bar	3.5		
	Expansion Relief Valve	Bar	8.0		
Expansion Vessel Pre-charge Pressure (DHW Circuit)		Bar	3.5		
Pressure Reducing Valve Set Pressure (DHW Circuit)		Bar	3.5		

Item		Unit	Indoor Unit
Pressure Vessel	Material		En-1.4521
	Volume	L	185
	Design Pressure	Bar	10
Heat Exchanger	Material		EN-1.4521
	Diameter	mm	22
	Thickness	mm	0.8
	Surface Area	m ²	1.8
	Total Length	m	25

Note:

- Cooling capacities are based on outdoor air temperature of 35°C Dry Bulb with controlled indoor water inlet temperature of 12°C and water outlet temperature of 7°C.
- 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 indoor water inlet temperature of 30°C and water outlet temperature of 35°C.
- Specifications are subjected to change without prior notice for further improvement.
- * Above 55°C, only possible with backup heater operation.
- ** Between outdoor ambient -10 °C and -15 °C, the water outlet temperature gradually decreases from 60 °C to 55 °C.
- *** The sound pressure and sound power level is measured with distance 1.0m from the unit and height at 1.5m. (Test carry out for cooling at ambient 35°C DB and Water Out 7°C, heating at ambient 7°C DB / 6°C WB and water out 55°C)
- **** The sound power level is measured with accordance to EN12102 under conditions of the EN14825.

1.3 WH-ADC0309J3E5B WH-UD09JE5-1

Item		Unit	Outdoor Unit			
Performance Test Condition			EN 14511			
			EN 14825			
Cooling Capacity	Condition (Ambient/Water)		A35W7			
	kW		8.20			
	BTU/h		28000			
	kcal/h		7050			
Cooling EER	W/W		2.72			
	kcal/hW		2.33			
Heating Capacity	Condition (Ambient/Water)		A7W35	A2W35		
	kW		9.00	7.00		
	BTU/h		30700	23900		
	kcal/h		7740	6020		
Heating COP	W/W		4.48	3.40		
	kcal/hW		3.85	2.92		
Heating Erp	Low Temperature Application (W35)		Warmer	Average	Colder	
	Application	Climate				
	Pdesign	kW	7.0	7.0	7.0	
	Tbivalent/TOL	°C	2 / 2	-10 / -10	-15 / -22	
	SCOP/ns	(W/W)/%	5.75 / 227	4.90 / 193	4.18 / 164	
	Annual Consumption	kWh	1627	2949	4132	
	Class		A+++	A+++	A++	
	Medium Temperature Application (W55)		Warmer	Average	Colder	
	Application	Climate				
	Pdesign	kW	6.0	7.0	6.0	
	Tbivalent/TOL	°C	2 / 2	-7 / -10	-15 / -22	
	SCOP/ns	(W/W)/%	4.07 / 160	3.32 / 130	2.98 / 116	
	Annual Consumption	kWh	1971	4354	4967	
	Class		A+++	A++	A+	
	DHW		Warmer	Average	Colder	
	Application	Climate				
	COP/nwh	(W/W)/%	3.50 / 140	3.00 / 120	2.47 / 99	
	AEC	kWh	714	833	1013	
	Noise Level	Condition (Ambient/Water)		A35W7	A7W35	A2W35
		dB (A) ***		Cooling: 51	Heating: 51	—
Power Level dB ***			Cooling: 69	Heating: 69	—	
dB ****			—	Heating: 59	—	
Air Flow	m ³ /min (ft ³ /min)		Cooling: 55.0 (1942) Heating: 53.4 (1885)			
Refrigeration Control Device			Expansion Valve			
Refrigeration Oil	cm ³		FW50S (900)			
Refrigerant	kg (oz)		R32, 1.27 (44.8) (Pre-charged) R32, 2.27 (80.1) (Maximum)			
F-GAS	GWP		675			
	CO ₂ eq (ton) (Precharged/Maximum)		0.857 / 1.532			
Dimension	Height	mm (inch)	795 (31-5/16)			
	Width	mm (inch)	875 (34-15/32)			
	Depth	mm (inch)	320 (12-5/8)			

Item		Unit	Outdoor Unit		
Net Weight		kg (lbs)	61 (135)		
Pipe Diameter	Liquid	mm (inch)	6.35 (1/4)		
	Gas	mm (inch)	15.88 (5/8)		
Standard Length		m (ft)	7 (23.0)		
Pipe Length Range		m (ft)	3 (9.8) ~ 50 (164.0)		
I/D & O/D Height Difference		m (ft)	30 (98.4)		
Additional Gas Amount		g/m (oz/ft)	25 (0.3)		
Refrigeration Charge Less		m (ft)	10 (32.8)		
Compressor	Type		Hermetic Motor		
	Motor Type		Brushless (4-poles)		
	Rated Output	kW	1.70		
Fan	Type		Propeller Fan		
	Material		PP		
	Motor Type		DC (8-poles)		
	Input Power	W	—		
	Output Power	W	60		
	Fan Speed	rpm	Cooling: 700 Heating: 680		
Heat Exchanger	Fin material		Aluminium (Pre Coat)		
	Fin Type		Corrugated Fin		
	Row × Stage × FPI		2 × 30 × 19		
	Size (W × H × L)	mm	38.1 × 762.0 × 865.8 : 895.8		
Power Source (Phase, Voltage, Cycle)		∅	Single		
		V	230		
		Hz	50		
Input Power		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		kW	Cooling: 3.02	Heating: 2.01	Heating: 2.06
Maximum Input Power For Heatpump System		kW	3.47		
Power Supply 1 : Phase (∅) / Max. Current (A) / Max. Input Power (W)			1∅ / 15.9 / 3.47k		
Power Supply 2 : Phase (∅) / Max. Current (A) / Max. Input Power (W)			1∅ / 13.0 / 3.00k		
Power Supply 3 : Phase (∅) / Max. Current (A) / Max. Input Power (W)			— / — / —		
Starting Current		A	9.2		
Running Current		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		A	Cooling: 13.4	Heating: 9.2	Heating: 9.4
Maximum Current For Heatpump System		A	15.9		
Power Factor Power factor means total figure of compressor and outdoor fan motor.		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		%	Cooling: 98	Heating: 95	Heating: 95
Power Cord	Number of core		-		
	Length	m (ft)	-		
Thermostat			Electronic Control		
Protection Device			Electronic Control		

Item		Unit	Indoor Unit		
Performance Test Condition		EN 14511			
		EN 14825			
Operation Range	Outdoor Ambient	°C (min./max.)	Cooling: 10 / 43 Heating: -20 / 35		
	Water Outlet	°C (min./max.)	Cooling: 5 / 20 Heating (Tank): - / 65*, Heating (Circuit): 20 / 55 (Below Ambient -15 °C) ** Heating (Circuit): 20 / 60 (Above Ambient -10 °C) **		
Internal Pressure Differential		kPa	Cooling: 29.0 Heating: 33.0		
Noise Level		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		dB (A) ***	Cooling: 28	Heating: 28	—
		Power Level dB ***	Cooling: 41	Heating: 41	—
		dB	—	—	—
Dimension	Depth	mm (inch)	717 (28-7/32)		
	Width	mm (inch)	598 (23-17/32)		
	Height	mm (inch)	1800 (70-27/32)		
Net Weight		kg (lbs)	130 (287)		
Refrigerant Pipe Diameter	Liquid	mm (inch)	6.35 (1/4)		
	Gas	mm (inch)	15.88 (5/8)		
Water Pipe Diameter	Room	mm (inch)	31 (1-1/4)		
	Shower	mm (inch)	19 (3/4)		
Water Drain Hose Inner Diameter		mm (inch)	12.00 (17/36)		
Pump	Motor Type		DC Motor		
	Input Power	W	52		
Hot Water Coil	Type		Brazed Plate		
	No. of Plates		36		
	Size (W x H x L)	mm	68 × 333 × 121		
	Water Flow Rate	l/min (m³/h)	Cooling: 23.5 (1.4) Heating: 25.8 (1.5)		
Pressure Relief Valve Water Circuit		kPa	Open: 300, Close: 210 and below		
Flow Switch	Type		V VX20 (Electronic Pulse)		
	Measuring Range	l/min	5 ~ 60		
Pressure Release Valve		kPa	Open: 800, Close: 640 and below		
Protection Device		A	Earth Leakage Circuit Breaker (30 ~ 40)		
Expansion Vessel	Volume	l	10		
	MWP	bar	3		
Capacity of Integrated Electric Heater / OLP TEMP		kW / °C	3.00 / 80		
Tank Volume (Spec / Nett)		L	200 / 185		
Max. Tank Water Set Temperature		°C	65		
Tank Coil Surface		m²	1.8		
Maximum Working Pressure	Heat/Cool	Bar	3.0		
	Tank Circuit	Bar	8.0		
Operating Pressure	Tank Unit	Bar	3.5		
	Expansion Relief Valve	Bar	8.0		
Expansion Vessel Pre-charge Pressure (DHW Circuit)		Bar	3.5		
Pressure Reducing Valve Set Pressure (DHW Circuit)		Bar	3.5		

Item		Unit	Indoor Unit
Pressure Vessel	Material		En-1.4521
	Volume	L	185
	Design Pressure	Bar	10
Heat Exchanger	Material		EN-1.4521
	Diameter	mm	22
	Thickness	mm	0.8
	Surface Area	m ²	1.8
	Total Length	m	25

Note:

- In case it is necessary to indicate the air flow volume in (l/s), the value in (m³/min.) shall be multiplied by 16.7 and rounded down the decimal point.
- If the EUROVENT Certified models can be operated under the “extra-low” temperature condition, -7°C DB and -8°C WB temperature with rated voltage 230V shall be used.
- Capacity is measured at outdoor temperature 7°C DB and 6°C WB with controlled water inlet 30°C and water outlet 35°C (EN 14511-2)
- Flowrate indicated are based on nominal capacity adjustment of leaving water temperature (LWT) 35°C and $\Delta T=5^{\circ}C$.
- EER and COP classification is at 230V only in accordance with EU directive 2003/32/EC.
- * Above 55°C, only possible with backup heater operation.
- ** Between outdoor ambient -10 °C and -15 °C, the water outlet temperature gradually decreases from 60 °C to 55 °C.
- *** The sound pressure and sound power level is measured with distance 1.0m from the unit and height at 1.5m. (Test carry out for cooling at ambient 35°C DB and Water Out 7°C, heating at ambient 7°C DB / 6°C WB and water out 55°C)
- **** The sound power level is measured with accordance to EN12102 under conditions of the EN14825.

1.4 WH-ADC0309J3E5UK WH-UD09JE5-1

Item		Unit	Outdoor Unit			
Performance Test Condition			EN 14511			
			EN 14825			
Cooling Capacity	Condition (Ambient/Water)		A35W7			
	kW		8.20			
	BTU/h		28000			
	kcal/h		7050			
Cooling EER	W/W		2.72			
	kcal/hW		2.33			
Heating Capacity	Condition (Ambient/Water)		A7W35	A2W35		
	kW		9.00	7.00		
	BTU/h		30700	23900		
	kcal/h		7740	6020		
Heating COP	W/W		4.48	3.40		
	kcal/hW		3.85	2.92		
Heating Erp	Low Temperature Application (W35)		Warmer	Average	Colder	
	Application	Climate				
	Pdesign	kW	7.0	7.0	7.0	
	Tbivalent/TOL	°C	2 / 2	-10 / -10	-15 / -22	
	SCOP/ns	(W/W)/%	5.75 / 227	4.90 / 193	4.18 / 164	
	Annual Consumption	kWh	1627	2949	4132	
	Class		A+++	A+++	A++	
	Medium Temperature Application (W55)		Warmer	Average	Colder	
	Application	Climate				
	Pdesign	kW	6.0	7.0	6.0	
	Tbivalent/TOL	°C	2 / 2	-7 / -10	-15 / -22	
	SCOP/ns	(W/W)/%	4.07 / 160	3.32 / 130	2.98 / 116	
	Annual Consumption	kWh	1971	4354	4967	
	Class		A+++	A++	A+	
	DHW		Warmer	Average	Colder	
	Application	Climate				
	COP/nwh	(W/W)/%	3.50 / 140	3.00 / 120	2.47 / 99	
	AEC	kWh	714	833	1013	
	Noise Level	Condition (Ambient/Water)		A35W7	A7W35	A2W35
		dB (A)		Cooling: 51***	Heating: 51***	—
Power Level dB			Cooling: 69***	Heating: 69*** Heating: 59****	—	
Air Flow	m ³ /min (ft ³ /min)		Cooling: 55.0 (1942) Heating: 53.4 (1885)			
Refrigeration Control Device			Expansion Valve			
Refrigeration Oil	cm ³		FW50S (900)			
Refrigerant	kg (oz)		R32, 1.27 (44.8) (Pre-charged) R32, 2.27 (80.1) (Maximum)			
F-GAS	GWP		675			
	CO ₂ eq (ton) (Precharged/Maximum)		0.857 / 1.532			
Dimension	Height	mm (inch)	795 (31-5/16)			
	Width	mm (inch)	875 (34-15/32)			
	Depth	mm (inch)	320 (12-5/8)			
Net Weight	kg (lbs)		61 (135)			

Item		Unit	Outdoor Unit		
Pipe Diameter	Liquid	mm (inch)	6.35 (1/4)		
	Gas	mm (inch)	15.88 (5/8)		
Standard Length		m (ft)	7 (23.0)		
Pipe Length Range		m (ft)	3 (9.8) ~ 50 (164.0)		
I/D & O/D Height Difference		m (ft)	30 (98.4)		
Additional Gas Amount		g/m (oz/ft)	25 (0.3)		
Refrigeration Charge Less		m (ft)	10 (32.8)		
Compressor	Type		Hermetic Motor		
	Motor Type		Brushless (4-poles)		
	Rated Output	kW	1.70		
Fan	Type		Propeller Fan		
	Material		PP		
	Motor Type		DC (8-poles)		
	Input Power	W	—		
	Output Power	W	60		
	Fan Speed	rpm	Cooling: 700 Heating: 680		
Heat Exchanger	Fin material		Aluminium (Pre Coat)		
	Fin Type		Corrugated Fin		
	Row × Stage × FPI		2 × 30 × 19		
	Size (W × H × L)	mm	38.1 × 762.0 × 865.8 : 895.8		
Power Source (Phase, Voltage, Cycle)		∅	Single		
		V	230		
		Hz	50		
Input Power		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		kW	Cooling: 3.02	Heating: 2.01	Heating: 2.06
Maximum Input Power For Heatpump System		kW	3.47		
Power Supply 1 : Phase (∅) / Max. Current (A) / Max. Input Power (W)			1∅ / 15.9 / 3.47k		
Power Supply 2 : Phase (∅) / Max. Current (A) / Max. Input Power (W)			1∅ / 13.0 / 3.00k		
Power Supply 3 : Phase (∅) / Max. Current (A) / Max. Input Power (W)			— / — / —		
Starting Current		A	9.2		
Running Current		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		A	Cooling: 13.4	Heating: 9.2	Heating: 9.4
Maximum Current For Heatpump System		A	15.9		
Power Factor Power factor means total figure of compressor and outdoor fan motor.		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		%	Cooling: 98	Heating: 95	Heating: 95
Power Cord	Number of core		-		
	Length	m (ft)	-		
Thermostat			Electronic Control		
Protection Device			Electronic Control		

Item		Unit	Indoor Unit		
Performance Test Condition				EN 14511	
				EN 14825	
Operation Range	Outdoor Ambient	°C (min./max.)	Cooling: 10 / 43 Heating: -20 / 35		
	Water Outlet	°C (min./max.)	Cooling: 5 / 20 Heating (Tank): - / 65* Heating (Circuit): 20 / 55 (Below Ambient -15 °C) ** Heating (Circuit): 20 / 60 (Above Ambient -10 °C) **		
Internal Pressure Differential		kPa	Cooling: 22.0 Heating: 26.0		
Noise Level		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		dB (A)	Cooling: 28***	Heating: 28***	—
		Power Level dB	Cooling: 41***	Heating: 41***	—
Dimension	Depth	mm (inch)	717 (28-7/32)		
	Width	mm (inch)	598 (23-17/32)		
	Height	mm (inch)	1800 (70-27/32)		
Net Weight		kg (lbs)	122 (269)		
Refrigerant Pipe Diameter	Liquid	mm (inch)	6.35 (1/4)		
	Gas	mm (inch)	15.88 (5/8)		
Water Pipe Diameter	Room	mm (inch)	31 (1-1/4)		
	Shower	mm (inch)	19 (3/4)		
Water Drain Hose Inner Diameter		mm (inch)	15.00 (19/32)		
Pump	Motor Type		DC Motor		
	Input Power	W	42		
Hot Water Coil	Type		Brazed Plate		
	No. of Plates		36		
	Size (W x H x L)	mm	68 × 333 × 121		
	Water Flow Rate	l/min (m³/h)	Cooling: 23.5 (1.4) Heating: 25.8 (1.5)		
Pressure Relief Valve Water Circuit		kPa	Open: 300, Close: 210 and below		
Flow Switch	Type		VWX20 [Electronic pulse]		
	Measuring range	l/min	5 ~ 60		
Pressure Release Valve		kPa	Open: 1000±200, Close: 700 and below		
Protection Device		A	Earth Leakage Circuit Breaker (30 ~ 40)		
Expansion Vessel	Volume	l	10		
	MWP	bar	3		
Capacity of Integrated Electric Heater / OLP TEMP		kW / °C	3.00 / 80		
Tank Volume (Spec / Nett)		L	200 / 185		
Max. Tank Water Set Temperature		°C	65		
Tank Coil Surface		m²	1.8		
Maximum Working Pressure	Heat/Cool	Bar	3.0		
	Tank Circuit	Bar	10.0		
Operating Pressure	Tank Unit	Bar	3.5		
	Expansion Relief Valve	Bar	8.0		
Expansion Vessel Pre-charge Pressure (DHW Circuit)		Bar	3.5		
Pressure Reducing Valve Set Pressure (DHW Circuit)		Bar	3.5		

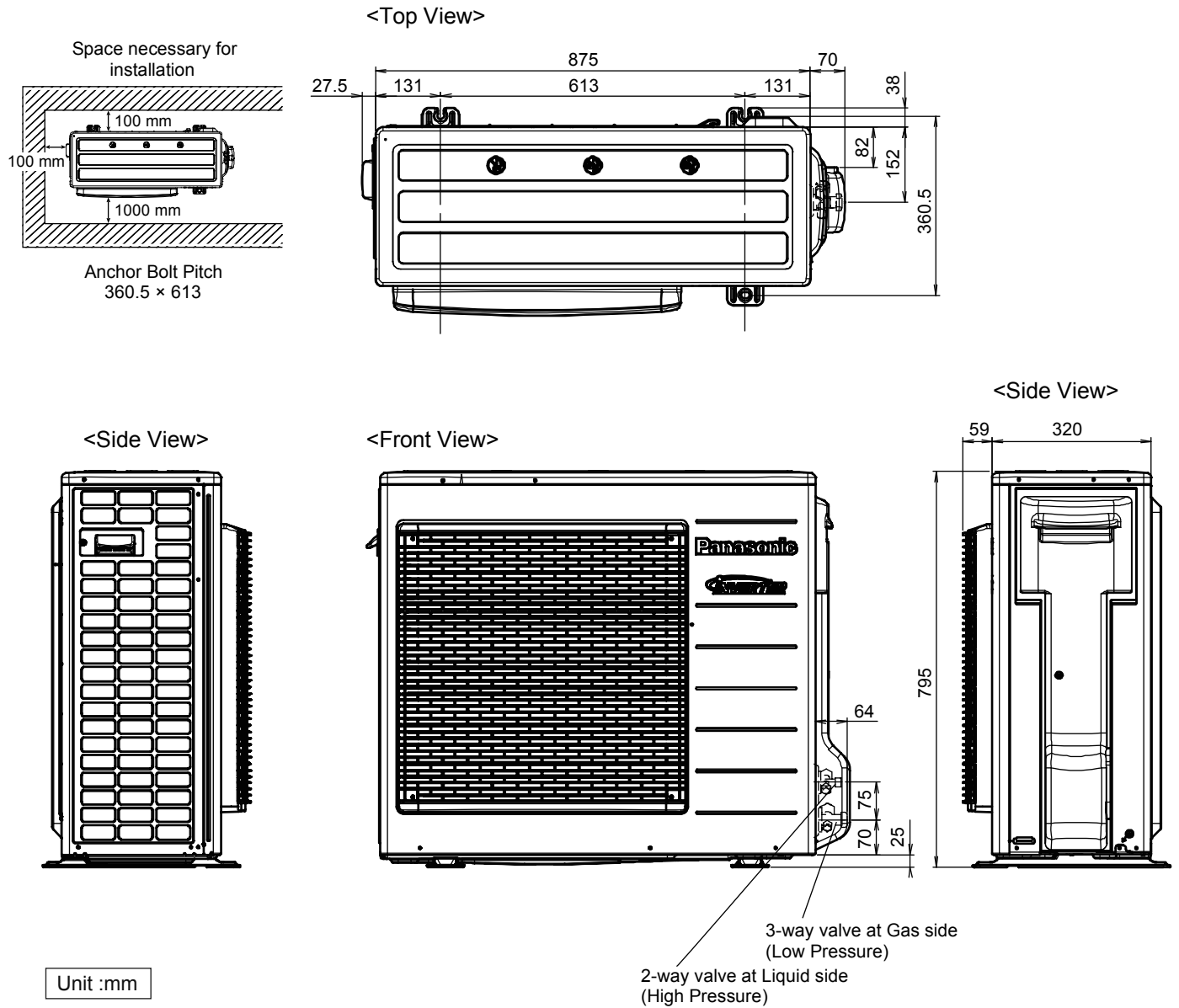
Item		Unit	Indoor Unit
Pressure Vessel	Material		En-1.4521
	Volume	L	185
	Design Pressure	Bar	10
Heat Exchanger	Material		EN-1.4521
	Diameter	mm	22
	Thickness	mm	0.8
	Surface Area	m ²	1.8
	Total Length	m	25

Note:

- Cooling capacities are based on outdoor air temperature of 35°C Dry Bulb with controlled indoor water inlet temperature of 12°C and water outlet temperature of 7°C.
- 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 indoor water inlet temperature of 30°C and water outlet temperature of 35°C.
- Specifications are subjected to change without prior notice for further improvement.
- * Above 55°C, only possible with backup heater operation.
- ** Between outdoor ambient -10 °C and -15 °C, the water outlet temperature gradually decreases from 60 °C to 55 °C.
- *** The sound pressure and sound power level is measured with distance 1.0m from the unit and height at 1.5m. (Test carry out for cooling at ambient 35°C DB and Water Out 7°C, heating at ambient 7°C DB / 6°C WB and water out 55°C)
- **** The sound power level is measured with accordance to EN12102 under conditions of the EN14825.

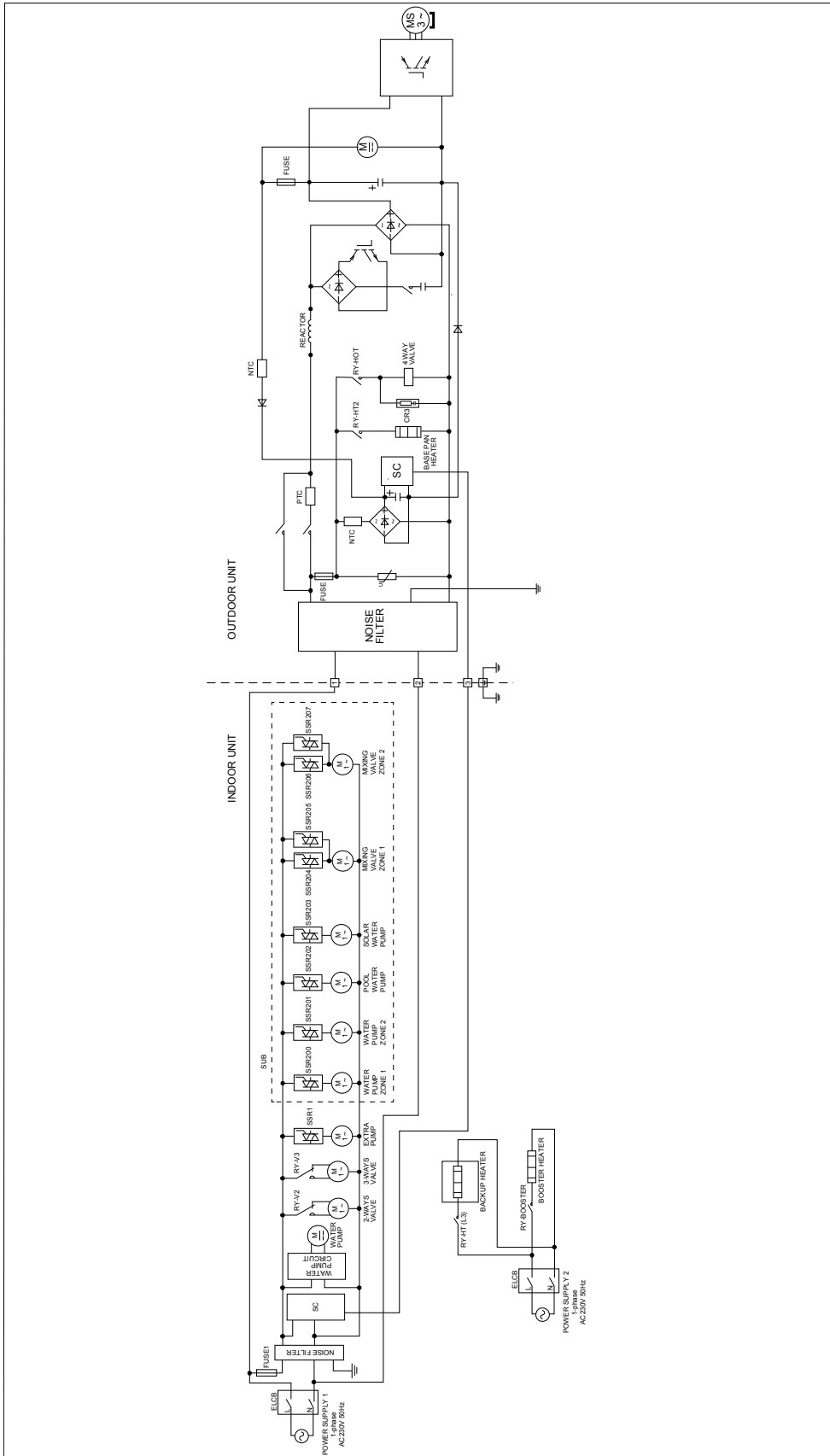
2. Dimensions

2.1 WH-UD09JE5-1



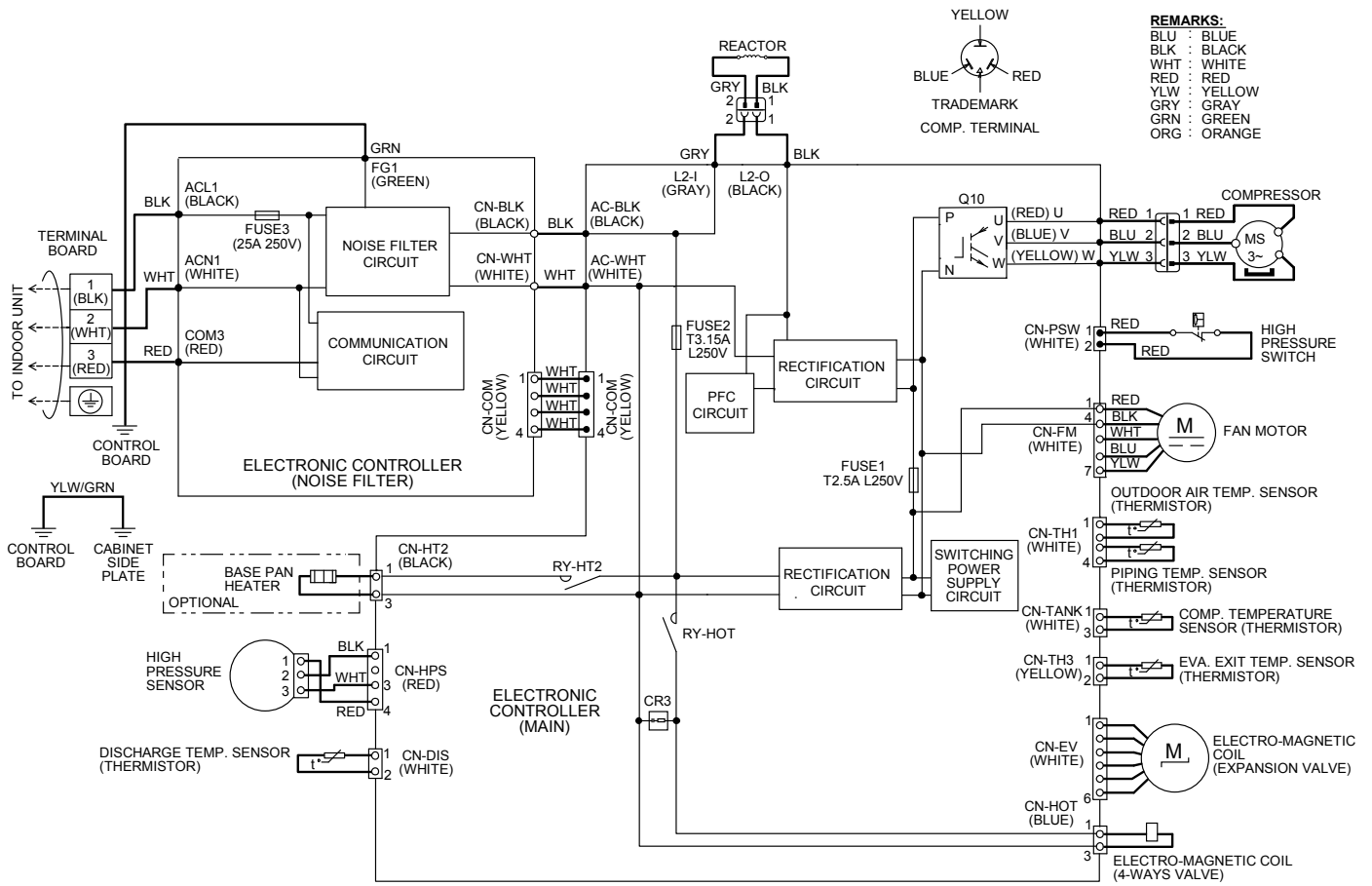
3. Block Diagram

3.1 WH-ADC0309J3E5 WH-UD09JE5-1 WH-ADC0309J3E5AN WH-UD09JE5-1 WH-ADC0309J3E5B WH-UD09JE5-1 WH-ADC0309J3E5UK WH-UD09JE5-1



4. Wiring Connection Diagram

4.1 WH-UD09JE5-1



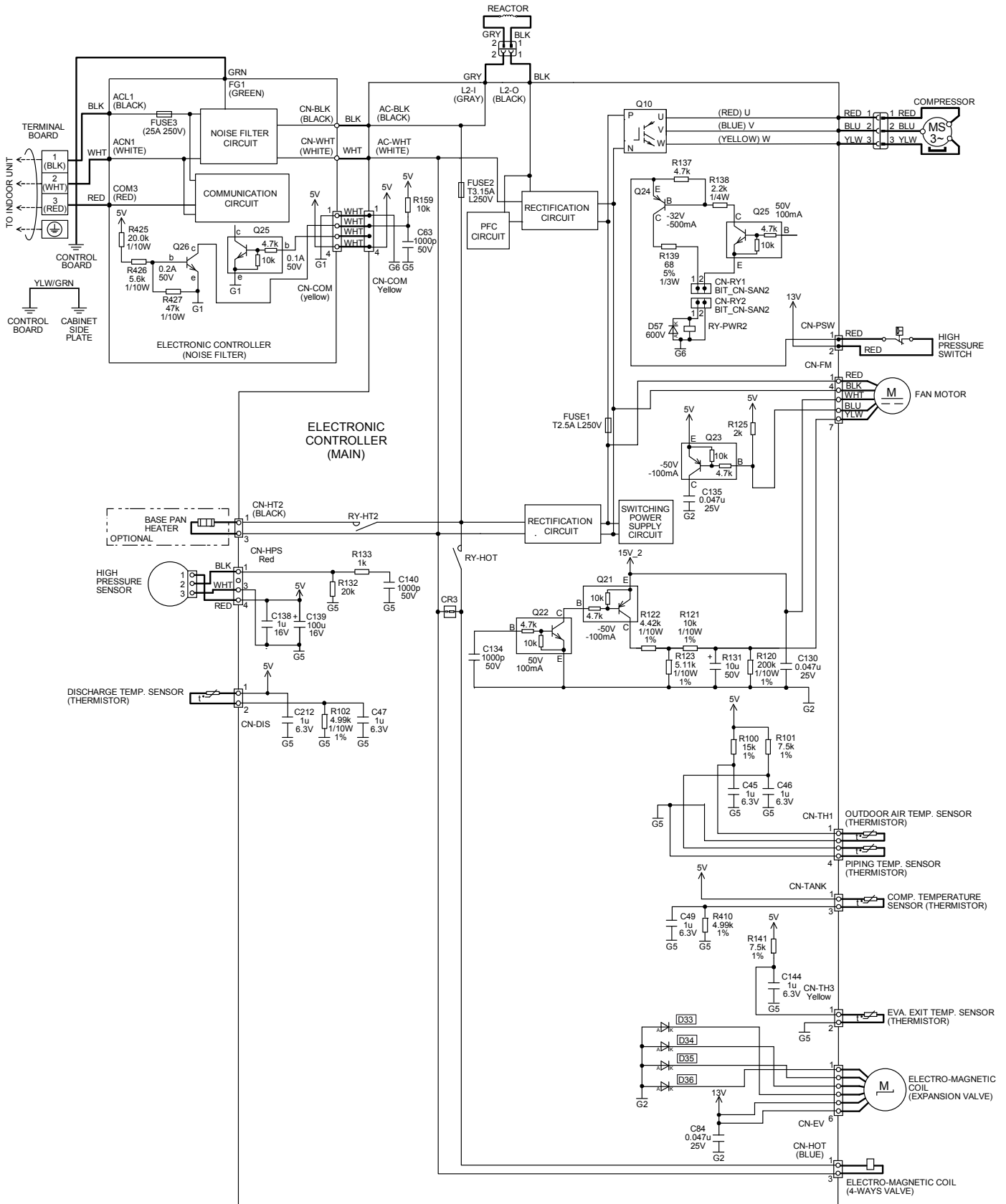
Resistance of Compressor Windings

MODEL	WH-UD09JE5-1
CONNECTION	9KD240XBB21
U - V	0.720 Ω
U - W	0.726 Ω
V - W	0.708 Ω

Note: Resistance at 20°C of ambient temperature.

5. Electronic Circuit Diagram

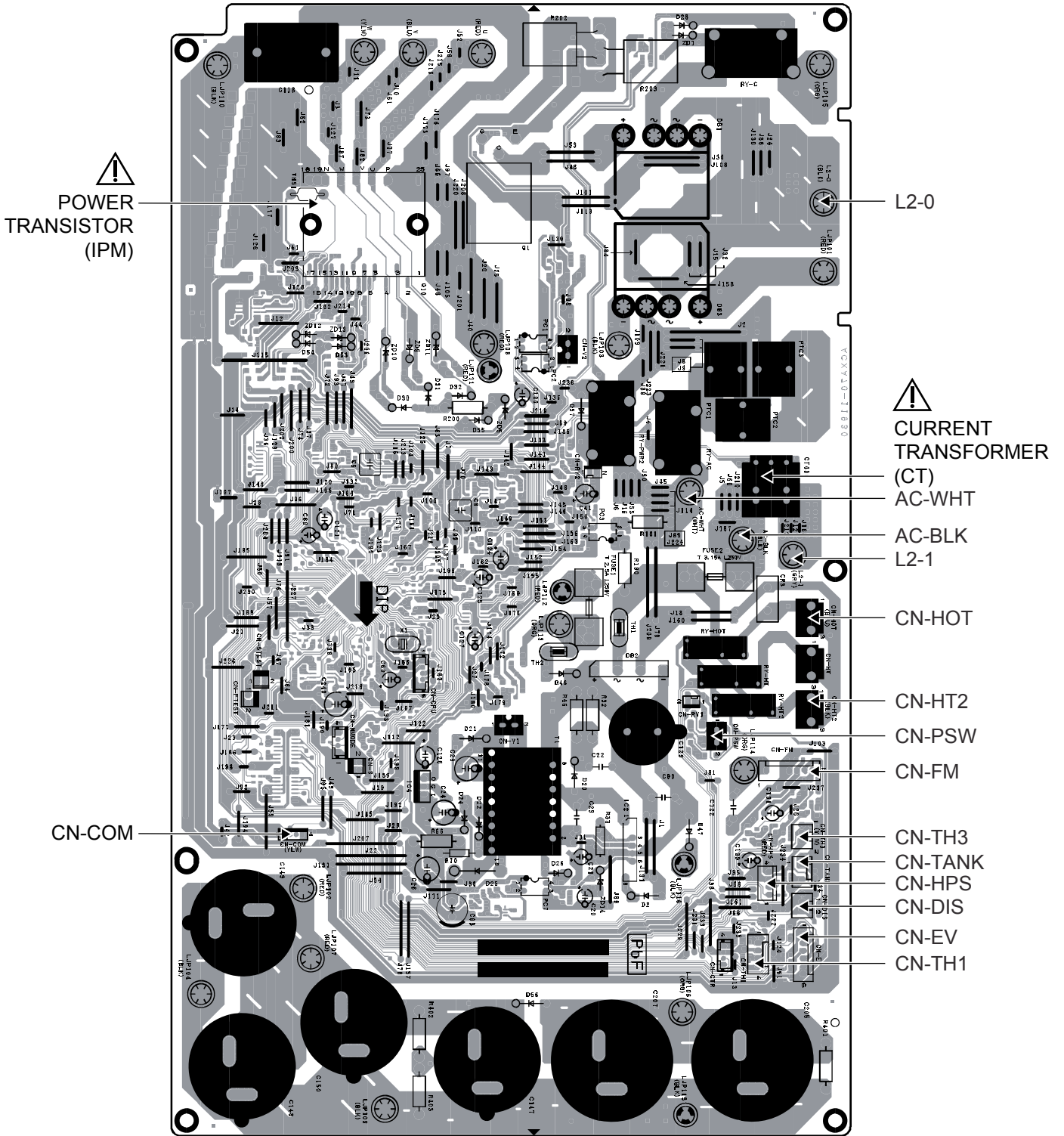
5.1 WH-UD09JE5-1



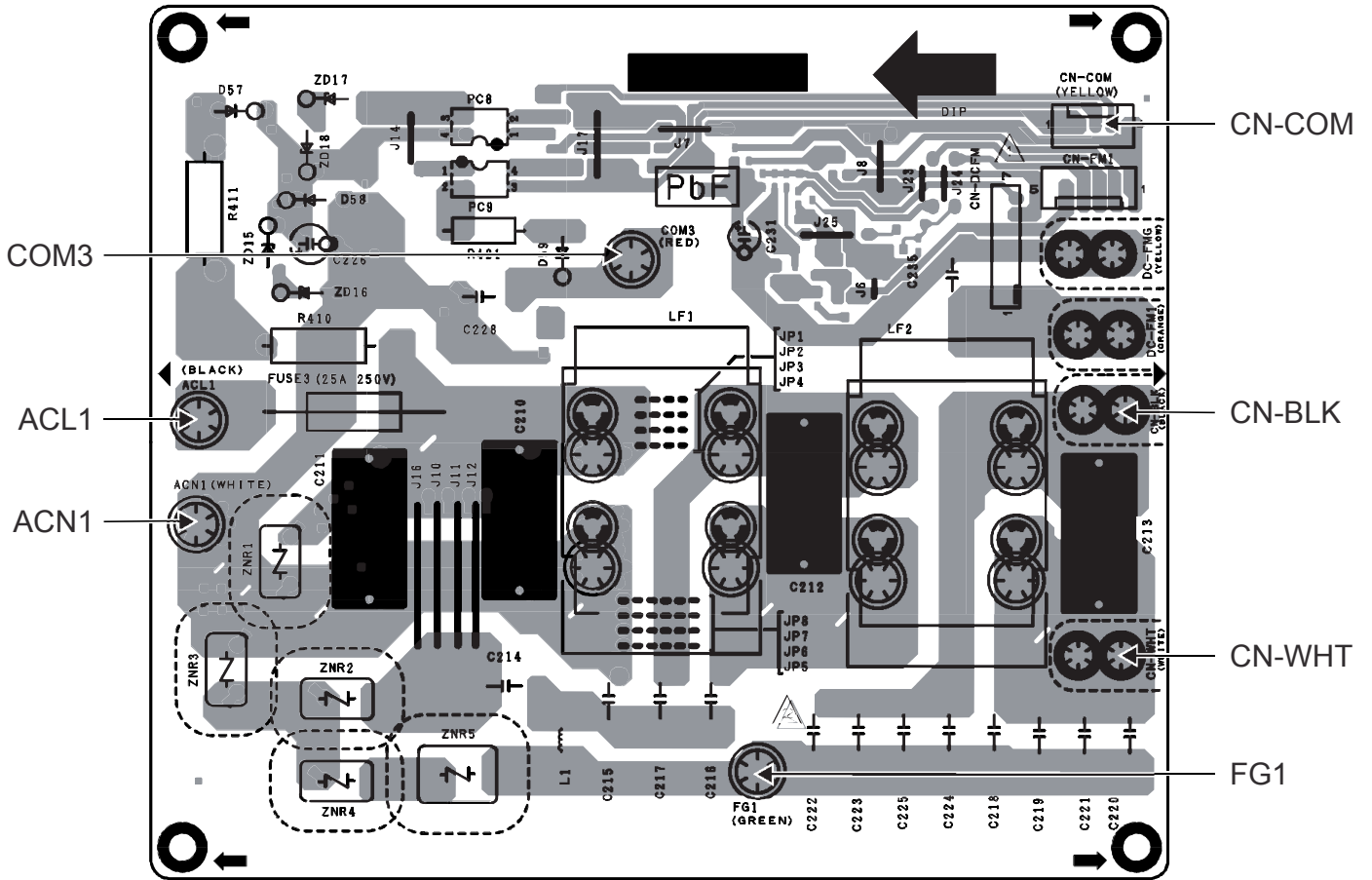
6. Printed Circuit Board

6.1 Outdoor Unit

6.1.1 WH-UD09JE5-1



6.2 Noise Filter Printed Circuit Board



7. Protection Control

7.1 Protection Control for All Operations

7.1.1 Time Delay Safety Control

- 1 The compressor will not start for three minutes after stop of operation.

7.1.2 30 Seconds Forced Operation

- 1 Once the compressor starts operation, it will not stop its operation for 30 seconds.
- 2 However, it can be stopped using control panel at indoor unit.

7.1.3 Total Running Current Control

- 1 When the outdoor running current exceeds X value, the compressor frequency will decrease.
- 2 If the outdoor running current does not exceed X value, the compressor frequency will return to normal operating frequency.
- 3 If the outdoor running current continue to increase till exceed Y value, compressor will stop, and if this occurs 3 times within 20 minutes, system will stop operation and OFF/ON control panel LED will blink (F16 error occurs).

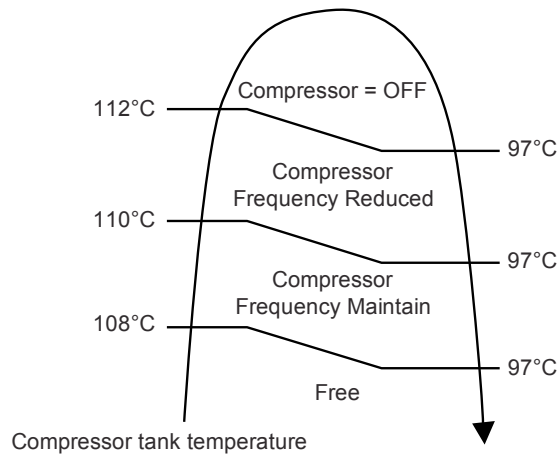
UD09JE5-1		
Operation Mode	X (A)	Y (A)
Heating	15.0	17.0
Cooling	12.2	17.0

A. DC Peak Current Control

- 1 When the current to IPM exceeds set value of, compressor will stop. Compressor will restart after three minutes.
- 2 If the set value exceeds again for more than 30 seconds after the compressor restarts, operation will restart after two minutes.
- 3 If the set value exceeds again for within 30 seconds after the compressor restarts, operation will restart after one minute. If this condition repeats continuously for seven times, system will stop operation and OFF/ON control panel LED will blink (F23 error occurs).

7.1.4 Compressor Overheating Prevention Control

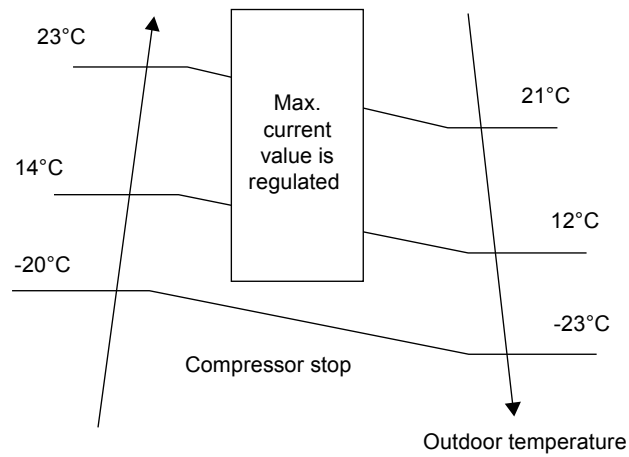
- The compressor operating frequency is regulated in accordance to compressor tank temperature as shown in below figures. When the compressor tank temperature exceeds 112°C, compressor will stop, and if this occurs 4 times within 30 minutes, system will stop operation and OFF/ON control panel LED will blink (F20 error occurs).



7.1.5 High Pressure Sensor Control

- Purpose:
 - To protect the system operation.
- Detection period:
 - After compressor on for 1 minute.
- Detection conditions:
 - When abnormal high voltage detection, 5 V or when open circuit detection 0V for 5 seconds continuously.
- After detection:
 - When abnormality is detected 4 times within 120 minutes, unit stop operation.
 - OFF/ON control panel LED will blink (H64 error occurs).

7.1.6 Outside Temperature Current Control



7.2 Protection Control for Heating Operation

7.2.1 Outdoor Air Temperature Control

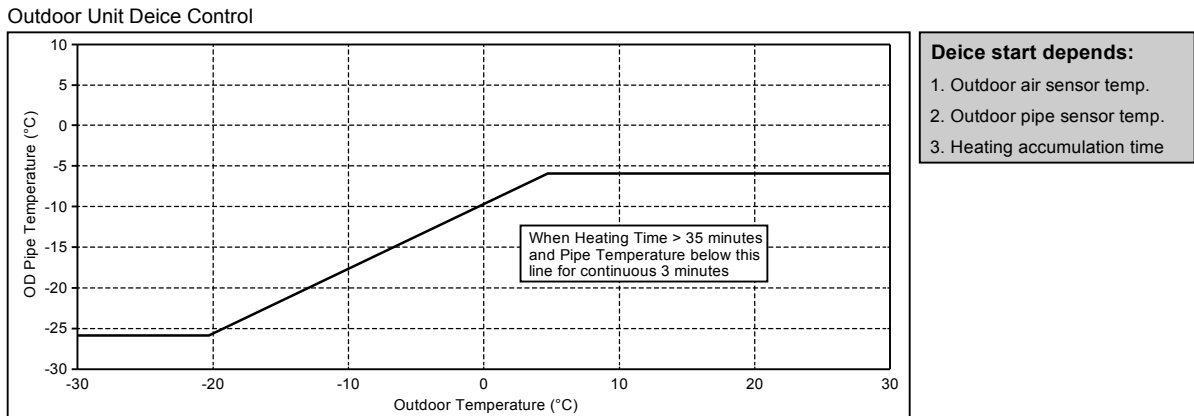
The maximum current value is regulated when the outdoor air temperature rises above 14°C in order to avoid compressor overloading.

7.2.2 Deice Operation

When outdoor pipe temperature and outdoor air temperature is low, deice operation start where outdoor fan motor stop.

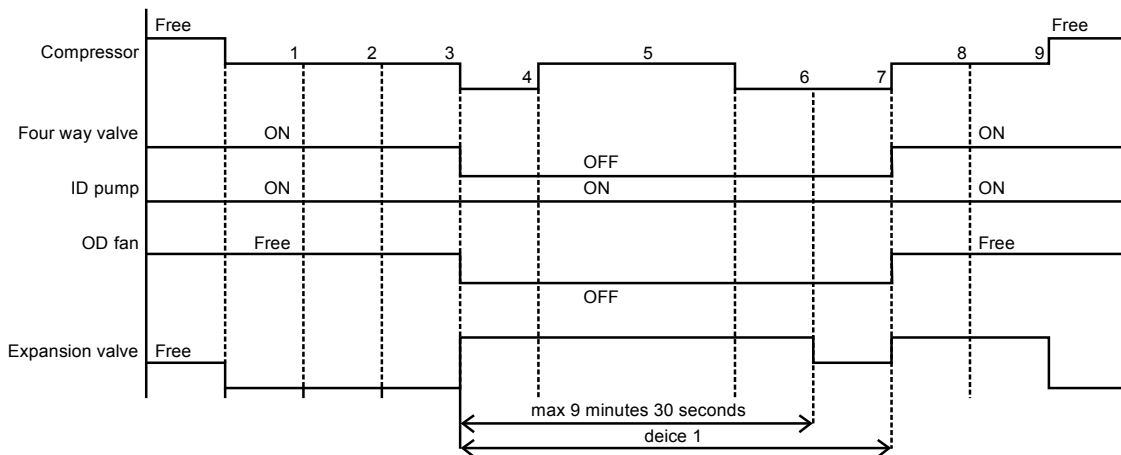
Normally, deice start if pipe sensor temperature fulfil deice condition. If remote controller set to AUTO force defrost setting, unit will start force deice after heat pump operate for 3 hours without deice at below outdoor temperature 5°C.

- Deice judging condition



Deice operation time diagram

- a. Deice mode 1 control:



7.2.3 Force Defrost Operation

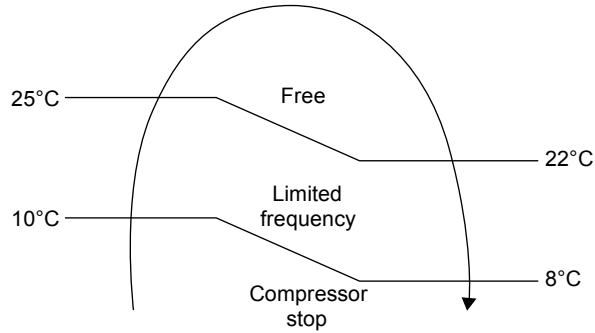
Force defrost can be set through remote control with two selection (Manual OR Auto).

- If Manual defrost set, heat pump only run force defrost at heat mode when force defrost request from quick menu remote control.
- If Auto defrost set, heat pump automatically run force defrost operation after 3 hours heating accumulation time without defrost when ambient below 5°C.

7.3 Protection Control for Cooling Operation

7.3.1 Outdoor Air Temperature Control

- The Compressor operating frequency is regulated in accordance to the outdoor air temperature as shown in the diagram below.
- This control will begin 1 minute after the compressor starts.
- Compressor frequency will adjust base on outdoor air temperature.



7.3.2 Freeze Prevention Control 1

- 1 When indoor heat exchanger temperature is lower than 0°C continuously for 10 seconds, compressor will stop operating.
- 2 Compressor will resume its operation three minutes after the indoor heat exchanger is higher than 1°C.
- 3 Indoor heat exchanger freeze prevention (H99) will memory in error history.

8. Technical Data

8.1 Operation Characteristics

8.1.1 WH-UD09JE5-1

Heating Characteristics at Different Outdoor Air Temperature

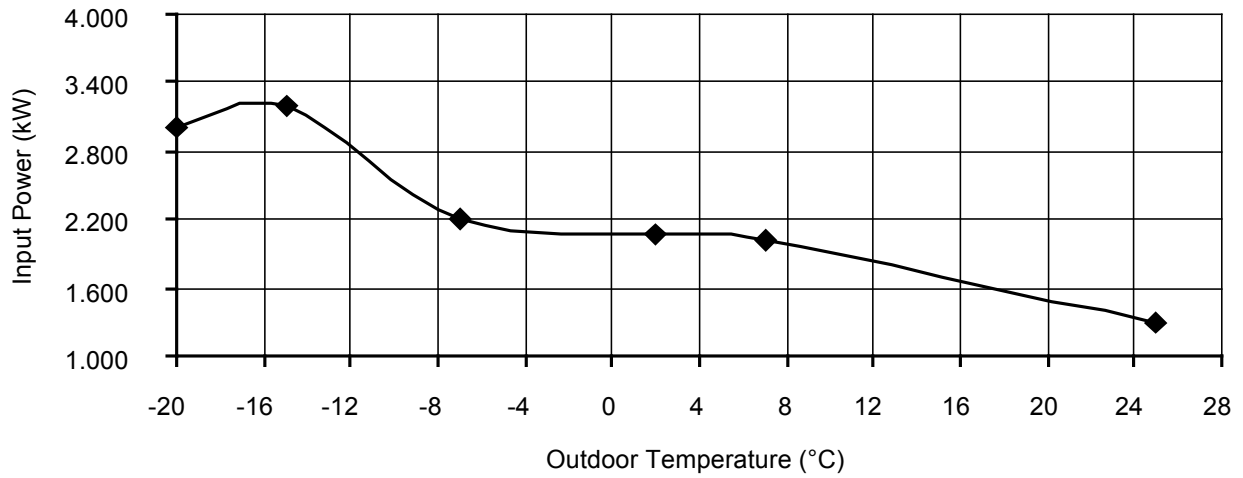
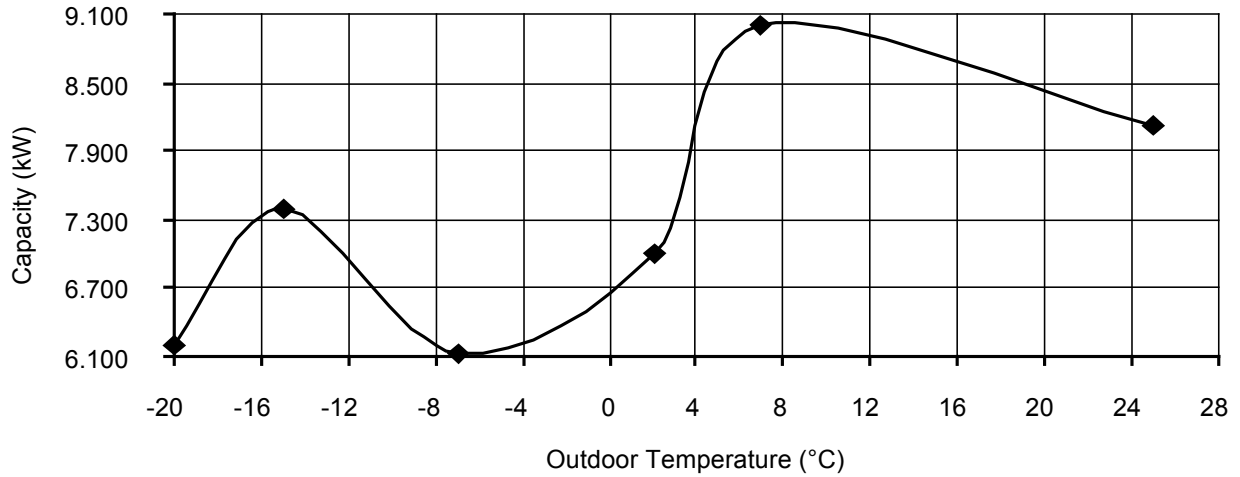
Condition

Outdoor air temperature : 7°C (DBT), 6°C (WBT)

Indoor water inlet temperature : 30°C

Indoor water outlet temperature : 35°C

Piping length : 7 m



Cooling Characteristics at Different Outdoor Air Temperature

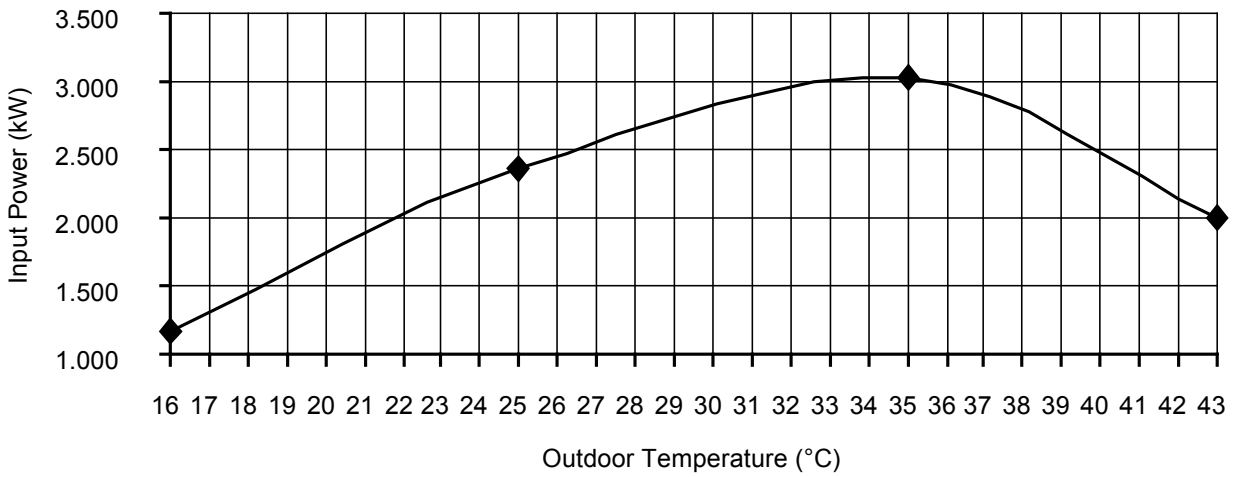
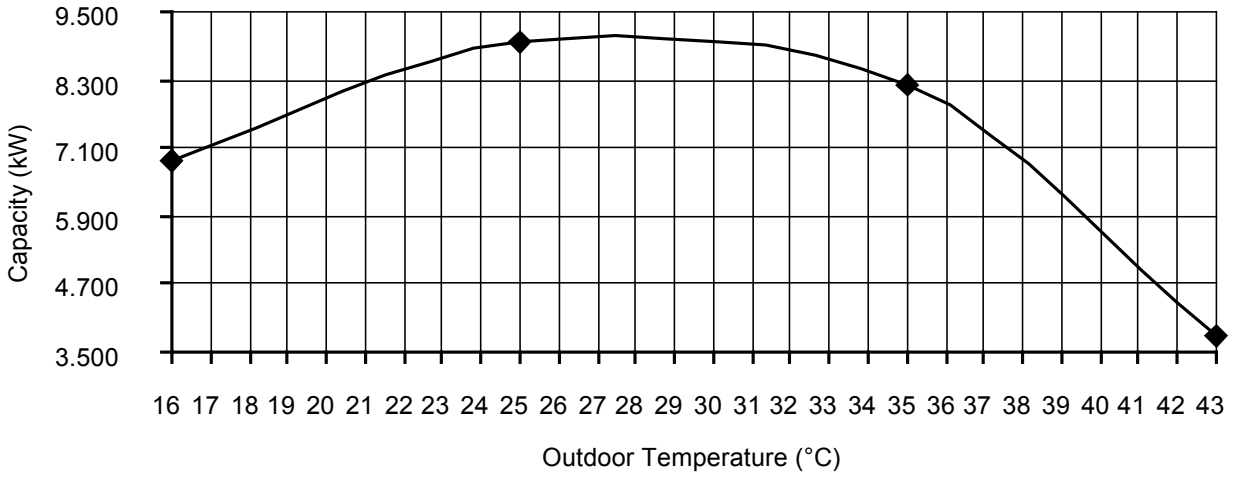
Condition

Outdoor air temperature : 35°C (DBT), -°C (WBT)

Indoor water inlet temperature : 12°C

Indoor water outlet temperature : 7°C

Piping length : 7 m



Cooling Characteristics at Different Outdoor Air Temperature

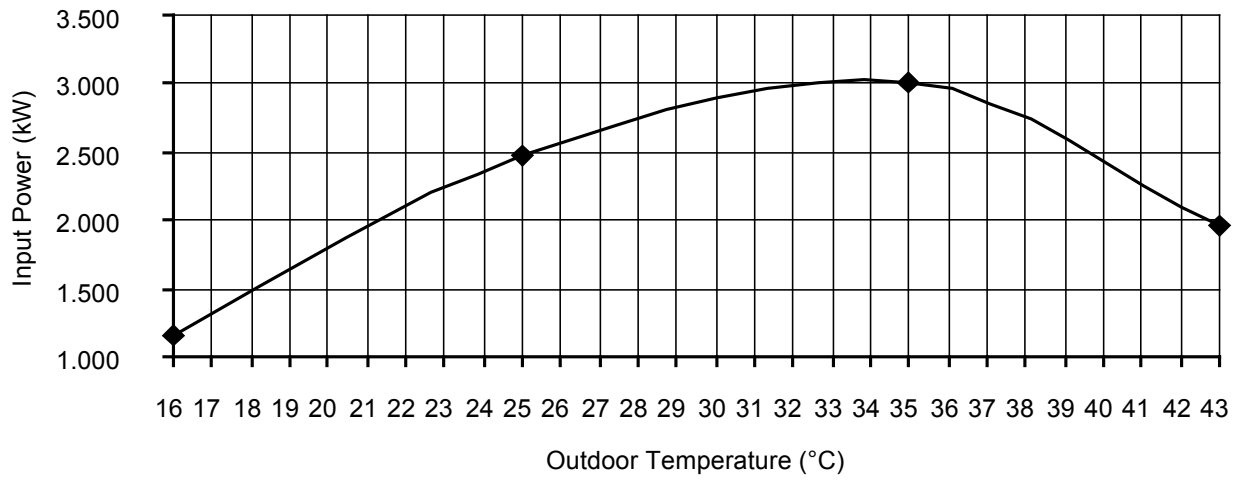
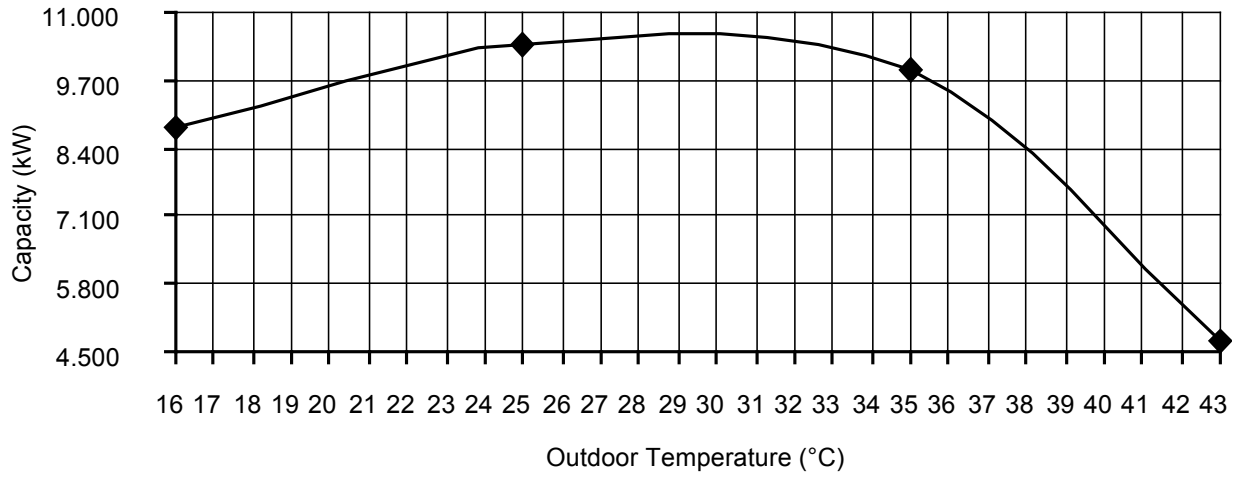
Condition

Outdoor air temperature : 35°C (DBT), -°C (WBT)

Indoor water inlet temperature : 19°C

Indoor water outlet temperature : 14°C

Piping length : 7 m



Cooling Characteristics at Different Outdoor Air Temperature

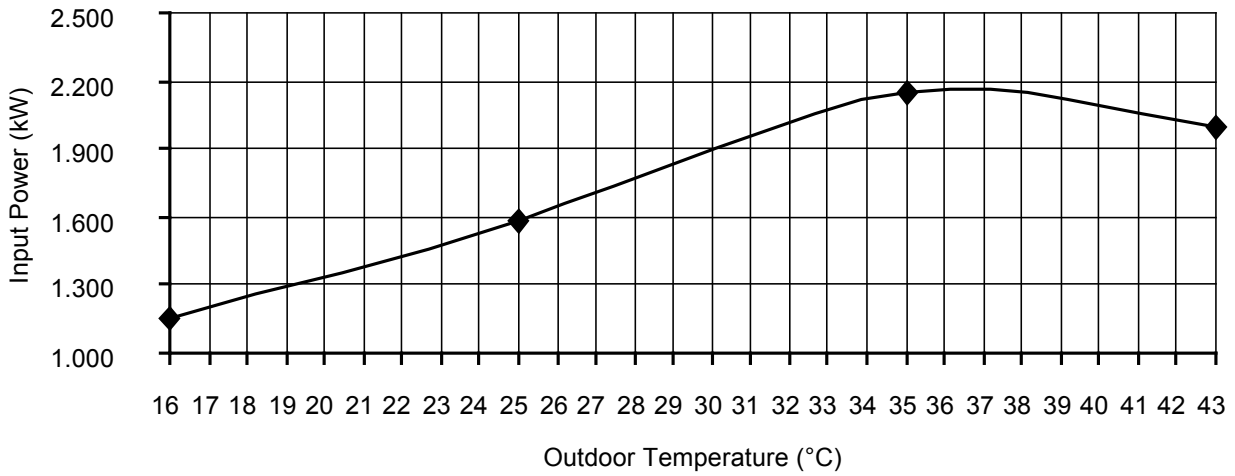
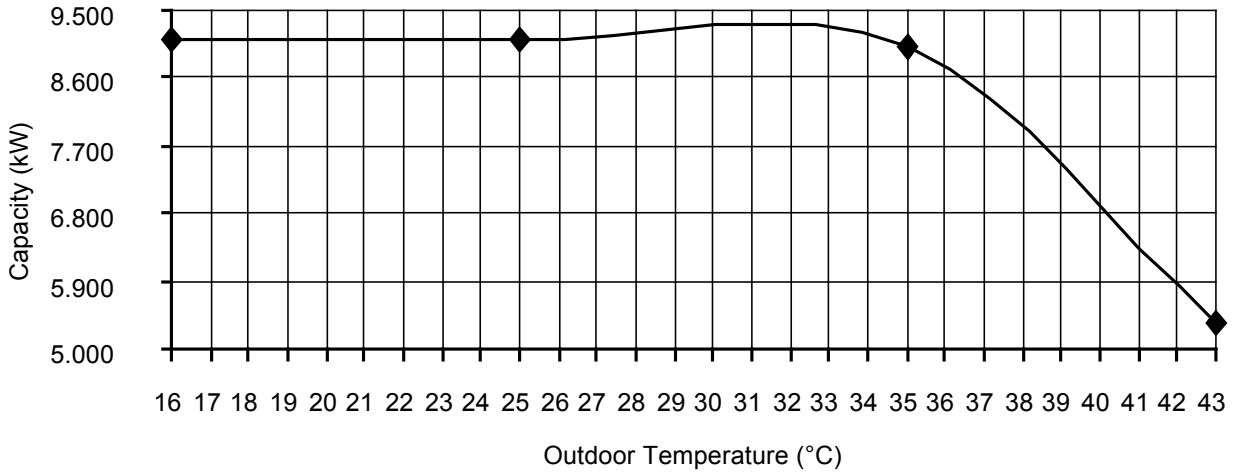
Condition

Outdoor air temperature : 35°C (DBT), -°C (WBT)

Indoor water inlet temperature : 23°C

Indoor water outlet temperature : 18°C

Piping length : 7 m



Heating Characteristics at Different Piping Length

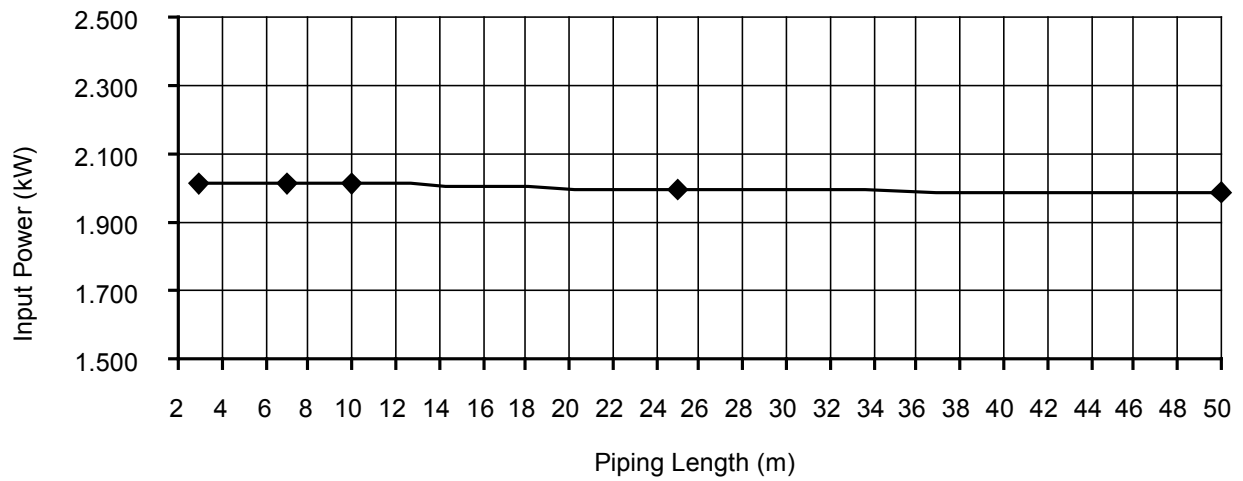
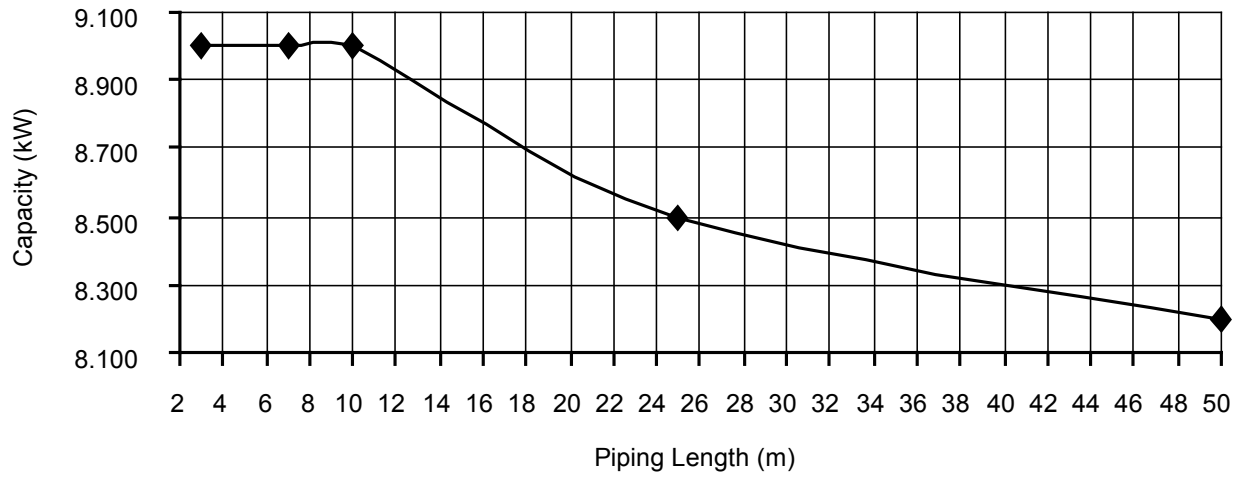
Condition

Outdoor air temperature : 7°C (DBT), 6°C (WBT)

Indoor water inlet temperature : 30°C

Indoor water outlet temperature : 35°C

Piping length : 7 m



Cooling Characteristics at Different Piping Length

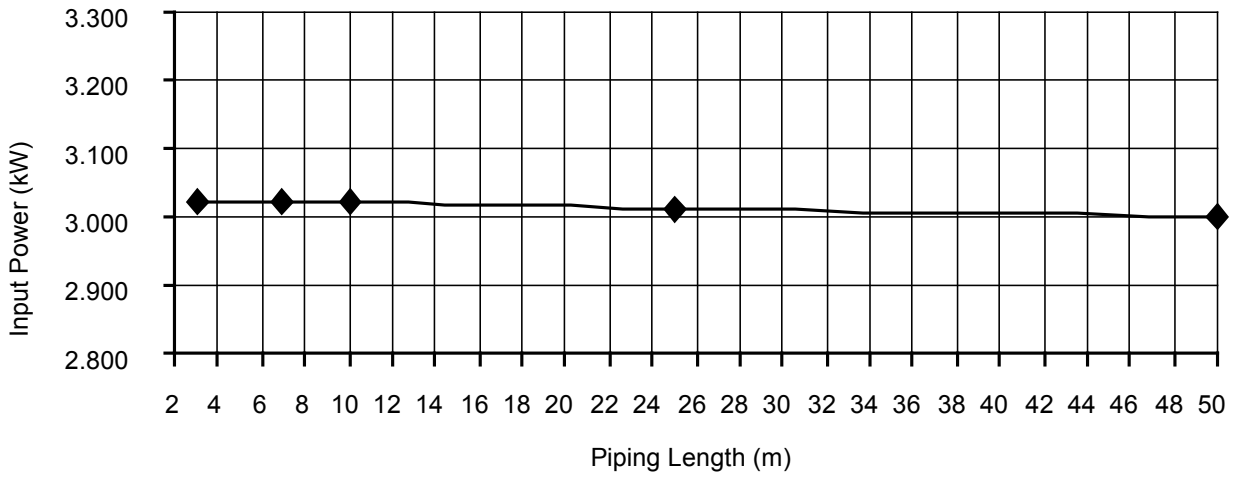
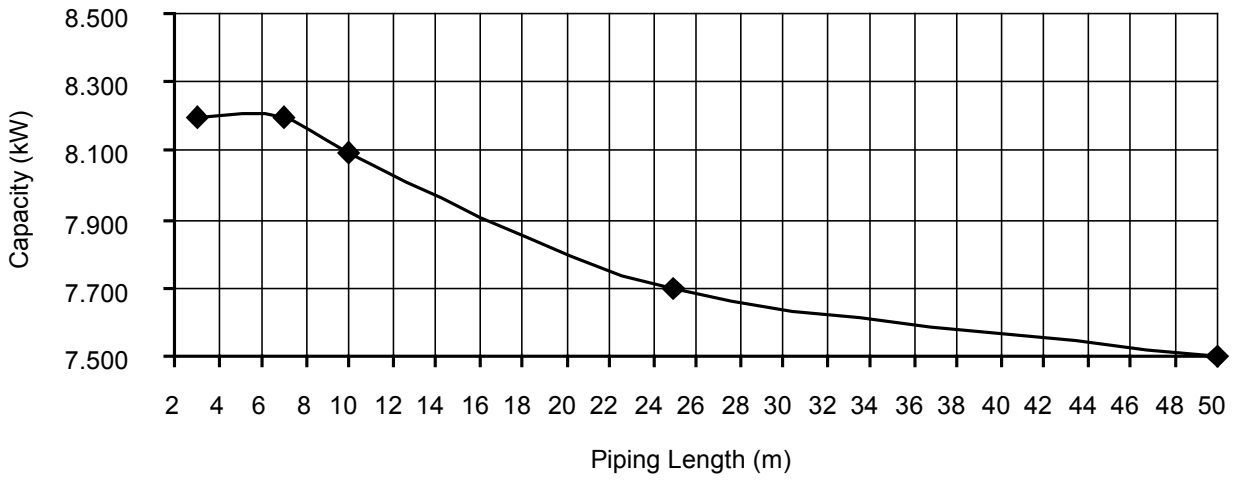
Condition

Outdoor air temperature : 35°C (DBT), -°C (WBT)

Indoor water inlet temperature : 12°C

Indoor water outlet temperature : 7°C

Piping length : 7 m



8.2 Heating Capacity Table

8.2.1 WH-UD09JE5-1

Water Out (°C)	25		35		45		55		60	
Outdoor Air (°C)	Capacity (W)	Input Power (W)	Capacity (W)	Input Power (W)	Capacity (W)	Input Power (W)	Capacity (W)	Input Power (W)	Capacity (W)	Input Power (W)
-20	4950	1930	6200	3000	5280	3090	4230	3330	-	-
-15	7580	2700	7400	3200	6290	3260	5200	3420	-	-
-7	6390	1810	6120	2200	5880	2610	5900	3060	5650	3240
2	6960	1610	7000	2060	6850	2500	6300	2920	7260	3330
7	9440	1550	9000	2010	9000	2610	8950	3220	8620	3470
25	8270	950	8120	1290	8710	1800	7830	1970	6080	1720

8.3 Cooling Capacity Table

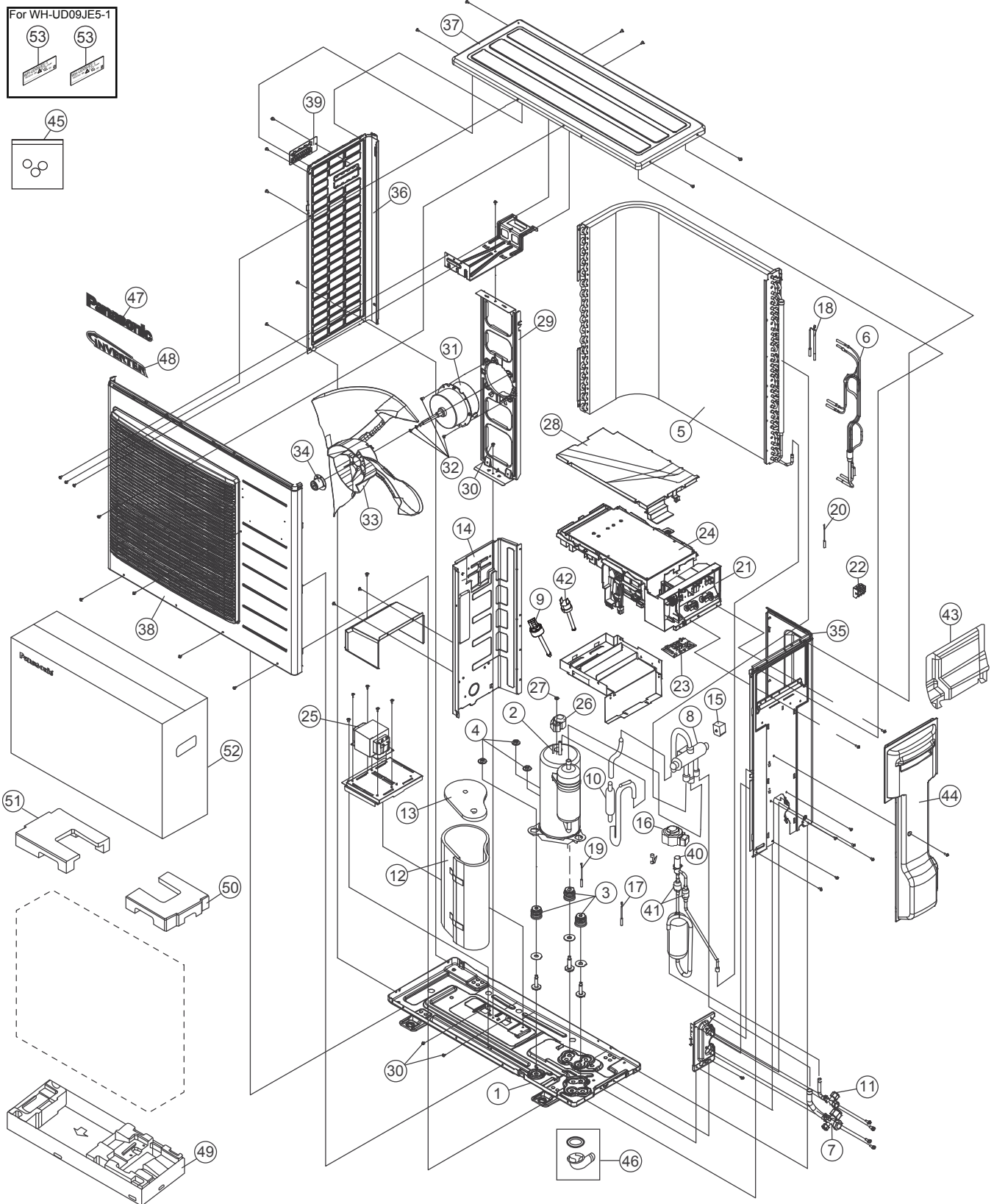
8.3.1 WH-UD09JE5-1

Water Out (°C)	7		14		18	
Outdoor Air (°C)	Capacity (W)	Input Power (W)	Capacity (W)	Input Power (W)	Capacity (W)	Input Power (W)
16	6850	1180	8800	1150	9110	1150
25	9000	2350	10400	2480	9100	1580
35	8200	3020	9900	3020	9000	2150
43	3800	1990	4700	1970	5350	1990

9. Exploded View and Replacement Parts List

9.1 Outdoor Unit

9.1.1 WH-UD09JE5-1



Note:
The above exploded view is for the purpose of parts disassembly and replacement.
The non-numbered parts are not kept as standard service parts.

SAFETY	REF. NO.	DESCRIPTION & NAME	QTY.	WH-UD09JE5-1	REMARK
	1	BASE PAN ASS'Y	1	ACXD52K03140	
	2	COMPRESSOR	1	9KD240XBB21	
	3	BUSHING - COMPRESSOR MOUNT	3	CWH50055	
	4	NUT - COMPRESSOR MOUNT	3	CWH561049	
	5	CONDENSER	1	ACXB32C16550	
	6	TUBE ASSY (CAP. TUBE)	1	ACXT07K08290	
	7	3 - WAYS VALVE (GAS)	1	CWB011363	
	8	4 - WAYS VALVE	1	CWB001026J	
	9	HIGH PRESSURE SENSOR (CN-HPS)	1	CWA501463	
	10	DISCHARGE MUFFLER (4 WAY VALVE)	1	CWB121013	
	11	2 - WAYS VALVE (LIQUID)	1	CWB021464	
	12	SOUND PROOF MATERIAL	1	ACXG30-10090	
	13	SOUND PROOF MATERIAL (COMP TOP)	1	CWG302484	
	14	SOUND PROOF BOARD	1	CWH151197	
	15	V - COIL COMPLETE (4 - WAY VALVE)	1	CWA43C2169J	
	16	V - COIL COMPLETE (EXPANSION VALVE)	1	CWA43C2342	
	17	SENSOR - COMPLETE - COMP TEMP	1	CWA50C2185	
	18	SENSOR - COMPLETE - AIR & PIPE TEMP	1	CWA50C2517	
	19	SENSOR - COMPLETE - DISC TEMP	1	CWA50C2722	
	20	SENSOR - COMPLETE - EVA EXIT TEMP	1	ACXA50C14960	
	21	CONTROL BOARD CASING	1	CWH102360	
	22	TERMINAL BOARD ASS'Y (1, 2, 3)	1	CWA28K1076J	
	23	ELECTRONIC CONTROLLER - NF	1	ACXA73-31180	
	24	ELECTRONIC CONTROLLER (MAIN)	1	ACXA73-C58250R	
	25	REACTOR	1	G0C203J00008	
	26	TERMINAL COVER	1	CWH171039A	
	27	NUT - TERMINAL COVER	1	CWH7080300J	
	28	CONTROL BOARD COVER	1	CWH131333	
	29	FAN MOTOR BRACKET	1	CWD541127	
	30	SCREW - FAN MOTOR BRACKET	3	CWH551217	
	31	FAN MOTOR	1	EHDS80C60AC	
	32	SCREW - FAN MOTOR MOUNT	4	CWH551323	
	33	PROPELLER FAN ASSY	1	CWH00K1006	
	34	NUT - PROPELLER FAN	1	CWH561092	
	35	CABINET SIDE PLATE	1	CWE041799A	
	36	CABINET SIDE PLATE	1	CWE041585A	
	37	CABINET TOP PLATE	1	CWE031083A	
	38	CABINET FRONT PLATE ASSY	1	CWE06K1063	
	39	HANDLE	1	CWE161010	
	40	EXPANSION VALVE	1	CWB051029	
	41	STRAINER	2	CWB111063	

SAFETY	REF. NO.	DESCRIPTION & NAME	QTY.	WH-UD09JE5-1	REMARK
	42	HIGH PRESSURE SWITCH	1	CWA101013	
	43	PLATE - CONTROL BOARD COVER	1	CWH131332	
	44	CONTROL BOARD COVER - COMPLETE	1	CWH13C1185	
	45	ACCESSORY - COMPLETE	1	ACXH82C09830	
	46	ACCESSORY CO. (DRAIN ELBOW)	1	CWG87C900	
	47	PANASONIC BADGE	1	CWE373439	
	48	INVERTER BADGE	1	CWE373441	
	49	BASE BOARD - COMPLETE	1	CWG62C1081	
	50	SHOCK ABSORBER (TOP RIGHT)	1	CWG712879	
	51	SHOCK ABSORBER (TOP LEFT)	1	CWG712880	
	52	C.C. CASE	1	ACXG50-48440	
	53	MODEL LABEL	2	ACXF85-30370	

Note:

- All parts are supplied from PAPAMY, Malaysia (Vendor Code: 00029488).
- "O" marked parts are recommended to be kept in stock.