3. Specifications

3.1 WH-ADC0912K6E5 WH-UXZ09KE5

Item			Unit	Outdoor Unit		
Performance Test Condition				EN14511 / EN14825		
Cooling Capacity			Condition (Ambient/Water)	A35W7		
			kW	8.80		
			BTU/h	30000		
Cooling EER			W/W	3.11		
Heating Capacity			Condition (Ambient/Water)	A7W35	A2W35	
			kW	9.00	9.00	
			BTU/h	30700	30700	
Heating COP			W/W	5.03	3.69	
Heating ErP	Low Temperature Application (W35)			Warmer	Average	Colder
	Application		Climate			
	Pdesign		kW	9.0	9.0	11.0
	Tbivalent / TOL		°C	2 / 2	-10 / -10	-15 / -22
	SCOP / ns		(W/W) / %	6.47 / 256	4.96 / 195	4.31 / 169
	Annual Consumption		kWh	1859	3747	6289
	Class			A+++	A+++	A++
	Medium Temperature Application (W55)			Warmer	Average	Colder
	Application		Climate			
	Pdesign		kW	9.0	9.0	11.0
	Tbivalent / TOL		°C	2 / 2	-10 / -10	-15 / -22
	SCOP / ns		(W/W) / %	4.34 / 171	3.57 / 140	3.26 / 127
	Annual Consumption		kWh	2772	5208	8327
	Class			A+++	A++	A++
	DHW			Warmer	Average	Colder
	Application		Climate			
	COP / nwh		(W/W) / %	3.30 / 132	2.80 / 112	2.20 / 88
	AEC		kWh	760	890	1130
Noise Level			Condition (Ambient/Water)	A35W7	A7W35	A2W35
			dB (A)	Cooling: 49	Heating: 51	Heating: 51
			Power Level dB (A)	Cooling: 67	Heating: 68 Heating: 65	Heating: 68 Heating: 65
Air Flow			m^3/min (ft^3/min)	Cooling: 85.3 (3010) Heating: 64.9 (2290)		
Refrigeration Control Device				Expansion Valve		
Refrigeration Oil			cm^3	FW50S (1300)		
Refrigerant (R32)			kg (oz)	1.60 (56.5)		
F-GAS	GWP			675		
	CO^2eq (ton) (Precharged / Maximum)			1.080 / 1.485		
Dimension	Height		mm (inch)	1340 (52-3/4)		
	Width		mm (inch)	900 (35-7/16)		
	Depth		mm (inch)	320 (12-19/32)		
Net Weight			kg (lbs)	88 (194)		
Pipe Diameter	Liquid		mm (inch)	6.35 (1/4)		
	Gas		mm (inch)	12.7 (1/2)		

Item		Unit	Outdoor Unit		
Standard Length		m (ft)	7 (23.0)		
Pipe Length Range		m (ft)	3 (9.8) ~ 30 (98.4)		
I/D & O/D Height Difference		m (ft)	20 (65.6)		
Additional Gas Amount		g/m (oz/ft)	30 (0.3)		
Refrigeration Charge Less		m (ft)	10 (32.8)		
Compressor	Type		Hermetic Motor		
	Motor Type		Brushless (6-poles)		
	Rated Output	kW	3.00		
Fan	Type		Propeller Fan		
	Material		PP		
	Motor Type		DC (8-poles)		
	Input Power	W	-		
	Output Power	W	60		
	Fan Speed	rpm	Cooling: 550 (Top), 590 (Bottom) Heating: 440 (Top), 480 (Bottom)		
Heat Exchanger	Fin material		Aluminium (Pre Coat)		
	Fin Type		Corrugated Fin		
	Row × Stage × FPI		2 × 62 × 19		
	Size (W × H × L)	mm	903.7 × 1302.0 × 36.38		
Power Source (Phase, Voltage, Cycle)		ø	Single		
		V	230		
		Hz	50		
Input Power		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		kW	Cooling: 2.83	Heating: 1.79	Heating: 2.44
Maximum Input Power For Heatpump System		kW	6.40		
Power Supply 1 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			1Ø / 29.0 / 6.40k		
Power Supply 2 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			1Ø / 26.0 / 6.00k		
Power Supply 3 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			- / - / -		
Starting Current		A	8.5		
Running Current		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		A	Cooling: 13.2	Heating: 8.5	Heating: 11.4
Maximum Current For Heatpump System		A	29.0		
Power Factor Power factor means total figure of compressor and outdoor fan motor.		%	Cooling: 93 Heating: 92 Heating: 93		
Power Cord	Number of core		-		
	Length	m (ft)	-		
Thermostat			Electronic Control		
Protection Device			Electronic Control		

Item		Unit	Indoor Unit		
Performance Test Condition			EN14511 / EN14825		
Operation Range	Outdoor Ambient	°C (min. / max.)	Cooling: 10 / 43 Heating: -28 / 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: 30.0 Heating: 32.0		
Noise Level		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		dB (A)	Cooling: 33	Heating: 33	Heating: 33
		Power Level dB (A)	Cooling: 46	Heating: 46	Heating: 46
Dimension	Depth	mm (inch)	602 (23-45/64)		
	Width	mm (inch)	599 (23-37/64)		
	Height	mm (inch)	1642 (64-41/64)		
Net Weight		kg (lbs)	101 (223)		
Refrigerant Pipe Diameter	Liquid	mm (inch)	6.35 (1/4)		
	Gas	mm (inch)	12.7 (1/2)		
Water Pipe Diameter	Room	mm (inch)	31.75 (1-1/4)		
	Shower	mm (inch)	19.05 (3/4)		
Water Drain Hose Inner Diameter		mm (inch)	12.00 (17/36)		
Pump	Motor Type		DC Motor		
	No. of Speed		7 (Software Selection)		
	Input Power	W	145		
Hot Water Coil	Type		Brazed Plate		
	No. of Plates		36		
	Size (W x H x L)	mm	68.3 × 333 × 121		
	Water Flow Rate	l/min (m^3/h)	Cooling: 25.2 (1.5) Heating: 25.8 (1.5)		
Pressure Relief Valve Water Circuit		kPa	Open: 300, Close: 266 and below		
Flow Sensor	Type		Piezoelectric sensor		
	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	3.0		
Capacity of Integrated Electric Heater / OLP TEMP		kW / °C	6.00 / 80		
Tank Volume (Spec / Nett)		L	200 / 185		
Max. Tank Water Set Temperature		°C	65		
Tank Coil Surface		m^2	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
DHW Tank	Total Corrosion ion (Chloride + Sulphate + Nitric)	mg/L	< 150
	Conductivity @ Water Tank Water Temperature < 60ºC	µS/cm	< 1250
	Conductivity @ Water Tank Water Temperature < 65ºC	µS/cm	< 1200
	Saturation Index (LSI) @ 20ºC		> -4.0 / < 0.4
	PH		6.5 - 8.5

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.
- It is recommended to follow DHW tank water quality limit for Panasonic Air to Water All in One according to Drinking Water Directive 98/83 EC
- In case it is necessary to indicate the air flow volume in (l/s), the value in (m^3/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.
- Flowrate indicated are based on nominal capacity adjustment of leaving water temperature (LWT) 35°C and ΔT=5°C.
- The sound pressure 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 full load conditions. (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.
- EER and COP classification is at 230V only in occordance with EU directive 2003/32/EC.

3.2 WH-ADC0912K6E5 WH-UXZ12KE5

Item			Unit	Outdoor Unit		
Performance Test Condition				EN14511 / EN14825		
Cooling Capacity			Condition (Ambient/Water)	A35W7		
			kW	10.70		
			BTU/h	36500		
Cooling EER			W/W	2.68		
Heating Capacity			Condition (Ambient/Water)	A7W35	A2W35	
			kW	12.10	12.00	
			BTU/h	41300	41000	
Heating COP			W/W	4.84	3.44	
Heating ErP	Low Temperature Application (W35)			Warmer	Average	Colder
	Application		Climate			
	Pdesign		kW	9.0	9.0	11.0
	Tbivalent / TOL		°C	2 / 2	-10 / -10	-15 / -22
	SCOP / ns		(W/W) / %	6.47 / 256	4.96 / 195	4.31 / 169
	Annual Consumption		kWh	1859	3747	6289
	Class			A+++	A+++	A++
	Medium Temperature Application (W55)			Warmer	Average	Colder
	Application		Climate			
	Pdesign		kW	9.0	9.0	11.0
	Tbivalent / TOL		°C	2 / 2	-10 / -10	-15 / -22
	SCOP / ns		(W/W) / %	4.34 / 171	3.57 / 140	3.26 / 127
	Annual Consumption		kWh	2772	5208	8327
	Class			A+++	A++	A++
	DHW			Warmer	Average	Colder
	Application		Climate			
	COP / nwh		(W/W) / %	3.30 / 132	2.80 / 112	2.20 / 88
	AEC		kWh	760	890	1130
Noise Level			Condition (Ambient/Water)	A35W7	A7W35	A2W35
			dB (A)	Cooling: 50	Heating: 52	Heating: 52
			Power Level dB (A)	Cooling: 68	Heating: 69 Heating: 65	Heating: 69 Heating: 65
Air Flow			m^3/min (ft^3/min)	Cooling: 94.6 (3340) Heating: 76.0 (2680)		
Refrigeration Control Device				Expansion Valve		
Refrigeration Oil			cm^3	FW50S (1300)		
Refrigerant (R32)			kg (oz)	1.60 (56.5)		
F-GAS	GWP			675		
	CO_2eq (ton) (Precharged / Maximum)			1.080 / 1.485		
Dimension	Height		mm (inch)	1340 (52-3/4)		
	Width		mm (inch)	900 (35-7/16)		
	Depth		mm (inch)	320 (12-19/32)		
Net Weight			kg (lbs)	88 (194)		
Pipe Diameter	Liquid		mm (inch)	6.35 (1/4)		
	Gas		mm (inch)	12.7 (1/2)		

Item		Unit	Outdoor Unit		
Standard Length		m (ft)	7 (23.0)		
Pipe Length Range		m (ft)	3 (9.8) ~ 30 (98.4)		
I/D & O/D Height Difference		m (ft)	20 (65.6)		
Additional Gas Amount		g/m (oz/ft)	30 (0.3)		
Refrigeration Charge Less		m (ft)	10 (32.8)		
Compressor	Type		Hermetic Motor		
	Motor Type		Brushless (6-poles)		
	Rated Output	kW	3.00		
Fan	Type		Propeller Fan		
	Material		PP		
	Motor Type		DC (8-poles)		
	Input Power	W	-		
	Output Power	W	60		
	Fan Speed	rpm	Cooling: 600 (Top), 640 (Bottom) Heating: 500 (Top), 540 (Bottom)		
Heat Exchanger	Fin material		Aluminium (Pre Coat)		
	Fin Type		Corrugated Fin		
	Row × Stage × FPI		2 × 62 × 19		
	Size (W × H × L)	mm	903.7 × 1302.0 × 36.38		
Power Source (Phase, Voltage, Cycle)		ø	Single		
		V	230		
		Hz	50		
Input Power		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		kW	Cooling: 4.00	Heating: 2.50	Heating: 3.49
Maximum Input Power For Heatpump System		kW	6.40		
Power Supply 1 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			1Ø / 29.0 / 6.40k		
Power Supply 2 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			1Ø / 26.0 / 6.00k		
Power Supply 3 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			- / - / -		
Starting Current		A	11.7		
Running Current		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		A	Cooling: 18.3	Heating: 11.7	Heating: 16.2
Maximum Current For Heatpump System		A	29.0		
Power Factor Power factor means total figure of compressor and outdoor fan motor.		%	Cooling: 95	Heating: 93	Heating: 94
Power Cord	Number of core		-		
	Length	m (ft)	-		
Thermostat			Electronic Control		
Protection Device			Electronic Control		

Item		Unit	Indoor Unit		
Performance Test Condition			EN14511 / EN14825		
Operation Range	Outdoor Ambient	°C (min. / max.)	Cooling: 10 / 43 Heating: -28 / 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: 44.0 Heating: 55.0		
Noise Level		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		dB (A)	Cooling: 33	Heating: 33	Heating: 33
		Power Level dB (A)	Cooling: 46	Heating: 46	Heating: 46
Dimension	Depth	mm (inch)	602 (23-45/64)		
	Width	mm (inch)	599 (23-37/64)		
	Height	mm (inch)	1642 (64-41/64)		
Net Weight		kg (lbs)	101 (223)		
Refrigerant Pipe Diameter	Liquid	mm (inch)	6.35 (1/4)		
	Gas	mm (inch)	12.7 (1/2)		
Water Pipe Diameter	Room	mm (inch)	31.75 (1-1/4)		
	Shower	mm (inch)	19.05 (3/4)		
Water Drain Hose Inner Diameter		mm (inch)	12.00 (17/36)		
Pump	Motor Type		DC Motor		
	No. of Speed		7 (Software Selection)		
	Input Power	W	145		
Hot Water Coil	Type		Brazed Plate		
	No. of Plates		36		
	Size (W x H x L)	mm	68.3 × 333 × 121		
	Water Flow Rate	l/min (m^3/h)	Cooling: 30.7 (1.8) Heating: 34.4 (2.1)		
Pressure Relief Valve Water Circuit		kPa	Open: 300, Close: 266 and below		
Flow Sensor	Type		Piezoelectric sensor		
	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	3.0		
Capacity of Integrated Electric Heater / OLP TEMP		kW / °C	6.00 / 80		
Tank Volume (Spec / Nett)		L	200 / 185		
Max. Tank Water Set Temperature		°C	65		
Tank Coil Surface		m^2	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
DHW Tank	Total Corrosion ion (Chloride + Sulphate + Nitric)	mg/L	< 150
	Conductivity @ Water Tank Water Temperature < 60ºC	µS/cm	< 1250
	Conductivity @ Water Tank Water Temperature < 65ºC	µS/cm	< 1200
	Saturation Index (LSI) @ 20ºC		> -4.0 / < 0.4
	PH		6.5 - 8.5

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.
- It is recommended to follow DHW tank water quality limit for Panasonic Air to Water All in One according to Drinking Water Directive 98/83 EC
- In case it is necessary to indicate the air flow volume in (l/s), the value in (m^3/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.
- Flowrate indicated are based on nominal capacity adjustment of leaving water temperature (LWT) 35°C and ΔT=5°C.
- The sound pressure 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 full load conditions. (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.
- EER and COP classification is at 230V only in occordance with EU directive 2003/32/EC.