

3. Specifications

3.1 WH-SDC0509L3E5 WH-WDG05LE5

Item		Unit	Outdoor Unit		
Performance Test Condition			EN 14511 / EN 14825		
Cooling Capacity	Condition (Ambient/Water)		A35W7		
	kW		5.00		
	BTU/h		17100		
	kcal/h		4300		
Cooling EER	W/W		3.23		
	kcal/hW		2.77		
Heating Capacity	Condition (Ambient/Water)		A7W35	A2W35	
	kW		5.00	5.00	
	BTU/h		17100	17100	
	kcal/h		4300	4300	
Heating COP	W/W		5.05	3.52	
	kcal/hW		4.34	3.03	
Heating ErP	Low Temperature Application (W35)		Warmer	Average	Colder
	Application	Climate			
	Pdesign	kW	5.0	5.0	6.0
	Tbivalent / TOL	°C	2 / 2	-10 / -10	-15 / -22
	SCOP / ns	(W/W) / %	6.00 / 237	5.06 / 200	4.25 / 167
	Annual Consumption	kWh	1113	2040	3483
	Class		A+++	A+++	A++
	Medium Temperature Application (W55)		Warmer	Average	Colder
	Application	Climate			
	Pdesign	kW	5.0	5.0	6.0
	Tbivalent / TOL	°C	2 / 2	-10 / -10	-15 / -22
	SCOP / ns	(W/W) / %	4.27 / 168	3.63 / 142	3.28 / 128
	Annual Consumption	kWh	1565	2849	4516
	Class		A+++	A++	A++
Noise Level	Condition (Ambient/Water)		A35W7	A7W35	A2W35
	dB (A) ***		Cooling: -	Heating: -	Heating: -
	Power Level dB ***		Cooling: 61	Heating: 57	Heating: 57
	dB ****		-	Heating: 52	Heating: 52
Air Flow		m³/min (ft³/min)	Cooling: 55.0 (1942) Heating: 45.0 (1589)		
Refrigeration Control Device			Expansion Valve		
Refrigeration Oil		cm³	PZ68S (1100)		
Refrigerant (R290) Precharge / Maximum		kg (oz)	0.96 (33.9) / (-)		
F-GAS	GWP		3		
	CO²eq (ton) (Precharged / Maximum)		0.003 / (-)		
Dimension	Height	mm (inch)	892 (35-1/8)		
	Width	mm (inch)	500 (19-11/16)		
	Depth	mm (inch)	348 (13-23/32)		
Net Weight		kg (lbs)	33 (73)		

Item		Unit	Outdoor Unit		
Pipe Diameter (Inner)		mm	20		
Standard Length		m (ft)	5.0 / 16.4		
Maximum Pipe Length		m (ft)	30.0 (98.4)		
I/D & O/D Height Difference		m (ft)	10.0 (32.8)		
Water Pipe Connector	Indoor	mm (inch)	1		
	Outdoor	mm (inch)	1		
Compressor	Type		Hermetic Motor Compressor (Rotary)		
	Motor Type		Synchronous Electric Motor (4-poles)		
	Rated Output	kW	1.70		
Fan	Type		Propeller Fan		
	Material		PP		
	Motor Type		DC (8-poles)		
	Input Power	W	1.089 (Heating) / 1.705 (Cooling)		
	Output Power	W	120		
	Fan Speed	rpm	Cooling: 520 Heating: 440		
Heat Exchanger	Fin material		Aluminium (Pre Coat)		
	Fin Type		Corrugated Fin		
	Row × Stage × FPI		2 × 46 × 19		
	Size (W × H × L)	mm	36.38 × 966 × 880.6 : 908.6		
Hot Water Coil	Type		Braze Plate		
	No. of Plates		26		
	Size (W × H × L)	mm	57.8 × 524 × 117		
	Water Flow Rate	l/min (m³/h)	Cooling: 14.3 (0.9) Heating: 14.3 (0.9)		
Power Source (Phase, Voltage, Cycle)		Ø	Single		
		V	230		
		Hz	50		
Input Power		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		kW	Cooling: 1.55	Heating: 0.99	Heating: 1.42
Maximum Input Power For Heatpump System		kW	2.93		
Power Supply 1 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			1Ø / 13.0 / 2.93k		
Power Supply 2 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			1Ø / 13.0 / 3.00k		
Power Supply 3 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			- / - / -		
Starting Current		A	6.9		
Running Current		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		A	Cooling: 6.9	Heating: 4.4	Heating: 6.3
Maximum Current For Heatpump System		A	13.0		
Power Factor Power factor means total figure of compressor and outdoor fan motor.		%	Cooling: 98	Heating: 98	Heating: 98
Power Cord	Number of core		-		
	Length	m (ft)	-		
Thermostat			Electronic Control		
Protection Device			Electronic Control		
Pressure Relief Valve Water Circuit		kPa	Open: 300, Close: 210 and below		

Item		Unit	Indoor Unit		
Performance Test Condition			EN 14511 / EN 14825		
Operation Range	Outdoor Ambient	°C (min. / max.)	Cooling: 10 / 43 Heating (Circuit): -25 / 35		
	Water Outlet	°C (min. / max.)	Cooling: 5 / 20 Heating (Circuit): 20 / 55 (Below Ambient -20 °C) *3 Heating (Circuit): 20 / 75 (Above Ambient -10 °C) *3		
Internal Pressure Differential		kPa	Cooling: 18.0 Heating: 18.0		
Noise Level		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		dB (A)	Cooling: 28***	Heating: 28***	Heating: 28***
		Power Level dB	Cooling: 41***	Heating: 41***	Heating: 41***
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)	93 (205)		
Water Pipe Diameter	Room	mm (inch)	31 (1-1/4)		
	Shower	mm (inch)	-		
Water Drain Hose Inner Diameter		mm (inch)	15 (9/16)		
Pump	Motor Type		Brushless DC Motor (Sensorless vector control system)		
	No. of Speed		7 (Software Selection)		
	Input Power	W	145		
Flow Sensor	Type		Vortex (Piezoelectric sensor)		
	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 / 85		

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 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 conditions of the EN14825.
- EER and COP classification is at 230V only in accordance with EU directive 2003/32/EC.
- **** 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)

3.2 WH-SDC0509L3E5 WH-WDG07LE5

Item		Unit	Outdoor Unit		
Performance Test Condition			EN 14511 / EN 14825		
Cooling Capacity	Condition (Ambient/Water)		A35W7		
	kW		7.00		
	BTU/h		23900		
	kcal/h		6020		
Cooling EER	W/W		3.03		
	kcal/hW		2.61		
Heating Capacity	Condition (Ambient/Water)		A7W35	A2W35	
	kW		7.00	6.85	
	BTU/h		23900	23400	
	kcal/h		6020	5890	
Heating COP	W/W		4.93	3.43	
	kcal/hW		4.24	2.95	
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	-17 / -22
	SCOP / ns	(W/W) / %	6.31 / 249	4.96 / 195	4.25 / 167
	Annual Consumption	kWh	1483	2916	4060
	Class		A+++	A+++	A++
	Medium Temperature Application (W55)		Warmer	Average	Colder
	Application	Climate			
	Pdesign	kW	6.0	7.0	7.0
	Tbivalent / TOL	°C	2 / 2	-7 / -10	-15 / -22
	SCOP / ns	(W/W) / %	4.52 / 178	3.62 / 142	3.29 / 129
	Annual Consumption	kWh	1775	3991	5241
	Class		A+++	A++	A++
Noise Level	Condition (Ambient/Water)		A35W7	A7W35	A2W35
	dB (A) ***		Cooling: -	Heating: -	Heating: -
	Power Level dB ***		Cooling: 63	Heating: 60	Heating: 60
	dB ****		-	Heating: 53	Heating: 53
Air Flow		m ³ /min (ft ³ /min)	Cooling: 57.0 (2013) Heating: 51.0 (1801)		
Refrigeration Control Device			Expansion Valve		
Refrigeration Oil		cm ³	PZ68S (1100)		
Refrigerant (R290) Precharge / Maximum		kg (oz)	0.96 (33.9) / (-)		
F-GAS	GWP		3		
	CO ₂ eq (ton) (Precharged / Maximum)		0.003 / (-)		
Dimension	Height	mm (inch)	892 (35-1/8)		
	Width	mm (inch)	500 (19-11/16)		
	Depth	mm (inch)	348 (13-23/32)		
Net Weight		kg (lbs)	33 (73)		

Item		Unit	Outdoor Unit		
Pipe Diameter (Inner)		mm	25		
Standard Length		m (ft)	5.0 / 16.4		
Maximum Pipe Length		m (ft)	30.0 (98.4)		
I/D & O/D Height Difference		m (ft)	10.0 (32.8)		
Water Pipe Connector	Indoor	mm (inch)	1		
	Outdoor	mm (inch)	1		
Compressor	Type		Hermetic Motor Compressor (Rotary)		
	Motor Type		Synchronous Electric Motor (4-poles)		
	Rated Output	kW	1.70		
Fan	Type		Propeller Fan		
	Material		PP		
	Motor Type		DC (8-poles)		
	Input Power	W	1,562 (Heating) / 2,541 (Cooling)		
	Output Power	W	120		
	Fan Speed	rpm	820		
Heat Exchanger	Fin material		Aluminium (Pre Coat)		
	Fin Type		Corrugated Fin		
	Row × Stage × FPI		2 × 36 × 19		
	Size (W × H × L)	mm	36.38 × 966 × 880.6 : 908.6		
Hot Water Coil	Type		Braze Plate		
	No. of Plates		26		
	Size (W × H × L)	mm	57.8 × 524 × 117		
	Water Flow Rate	l/min (m ³ /h)	Cooling: 20.1 (1.2) Heating: 20.1 (1.2)		
Power Source (Phase, Voltage, Cycle)		Ø	Single		
		V	230		
		Hz	50		
Input Power		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		kW	Cooling: 2.31	Heating: 1.42	Heating: 2.00
Maximum Input Power For Heatpump System		kW	3.56		
Power Supply 1 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			1Ø / 15.8 / 3.56k		
Power Supply 2 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			1Ø / 13.0 / 3.00k		
Power Supply 3 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			- / - / -		
Starting Current		A	10.2		
Running Current		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		A	Cooling: 10.2	Heating: 6.3	Heating: 8.9
Maximum Current For Heatpump System		A	15.8		
Power Factor Power factor means total figure of compressor and outdoor fan motor.		%	Cooling: 98	Heating: 98	Heating: 98
Power Cord	Number of core		-		
	Length	m (ft)	-		
Thermostat			Electronic Control		
Protection Device			Electronic Control		
Pressure Relief Valve Water Circuit		kPa	Open: 300, Close: 210 and below		

Item		Unit	Indoor Unit		
Performance Test Condition			EN 14511 / EN 14825		
Operation Range	Outdoor Ambient	°C (min. / max.)	Cooling: 10 / 43 Heating (Circuit): -25 / 35		
	Water Outlet	°C (min. / max.)	Cooling: 5 / 20 Heating (Circuit): 20 / 55 (Below Ambient -20 °C) *3 Heating (Circuit): 20 / 75 (Above Ambient -10 °C) *3		
Internal Pressure Differential		kPa	Cooling: 25.0 Heating: 25.0		
Noise Level		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		dB (A)	Cooling: 28***	Heating: 28***	Heating: 28***
		Power Level dB	Cooling: 41***	Heating: 41***	Heating: 41***
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)	93 (205)		
Water Pipe Diameter	Room	mm (inch)	31 (1-1/4)		
	Shower	mm (inch)	-		
Water Drain Hose Inner Diameter		mm (inch)	15 (9/16)		
Pump	Motor Type		Brushless DC Motor (Sensorless vector control system)		
	No. of Speed		7 (Software Selection)		
	Input Power	W	145		
Flow Sensor	Type		Vortex (Piezoelectric sensor)		
	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 / 85		

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 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 conditions of the EN14825.
- EER and COP classification is at 230V only in accordance with EU directive 2003/32/EC.
- **** 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)

3.3 WH-SDC0509L3E5 WH-WDG09LE5

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		2.82		
	kcal/hW		2.42		
Heating Capacity	Condition (Ambient/Water)		A7W35	A2W35	
	kW		9.00	7.00	
	BTU/h		30700	23900	
	kcal/h		7740	6020	
Heating COP	W/W		4.55	3.41	
	kcal/hW		3.91	2.94	
Heating ErP	Low Temperature Application (W35)		Warmer	Average	Colder
	Application	Climate			
	Pdesign	kW	7.0	8.0	9.0
	Tbivalent / TOL	°C	2 / 2	-10 / -10	-15 / -22
	SCOP / ns	(W/W) / %	6.44 / 255	4.84 / 190	4.31 / 170
	Annual Consumption	kWh	1453	3417	5142
	Class		A+++	A+++	A++
	Medium Temperature Application (W55)		Warmer	Average	Colder
	Application	Climate			
	Pdesign	kW	7.0	8.0	8.0
	Tbivalent / TOL	°C	2 / 2	-7 / -10	-15 / -22
	SCOP / ns	(W/W) / %	4.50 / 177	3.67 / 144	3.33 / 130
	Annual Consumption	kWh	2080	4499	5915
	Class		A+++	A++	A++
Noise Level	Condition (Ambient/Water)		A35W7	A7W35	A2W35
	dB (A) ***		Cooling: -	Heating: -	Heating: -
	Power Level dB ***		Cooling: 63	Heating: 63	Heating: 63
	dB ****		-	Heating: 54	Heating: 54
Air Flow		m³/min (ft³/min)	Cooling: 61.0 (2154) Heating: 74.0 (2613)		
Refrigeration Control Device			Expansion Valve		
Refrigeration Oil		cm³	PZ68S (1100)		
Refrigerant (R290) Precharge / Maximum		kg (oz)	1.00 (35.3) / (-)		
F-GAS	GWP		3		
	CO²eq (ton) (Precharged / Maximum)		0.003 / (-)		
Dimension	Height	mm (inch)	892 (35-1/8)		
	Width	mm (inch)	500 (19-11/16)		
	Depth	mm (inch)	348 (13-23/32)		
Net Weight		kg (lbs)	33 (73)		

Item		Unit	Outdoor Unit		
Pipe Diameter (Inner)		mm	25		
Standard Length		m (ft)	5.0 / 16.4		
Maximum Pipe Length		m (ft)	30.0 (98.4)		
I/D & O/D Height Difference		m (ft)	10.0 (32.8)		
Water Pipe Connector	Indoor	mm (inch)	1		
	Outdoor	mm (inch)	1		
Compressor	Type		Hermetic Motor Compressor (Rotary)		
	Motor Type		Synchronous Electric Motor (4-poles)		
	Rated Output	kW	1.70		
Fan	Type		Propeller Fan		
	Material		PP		
	Motor Type		DC (8-poles)		
	Input Power	W	2.178 (Heating) / 3.201 (Cooling)		
	Output Power	W	120		
	Fan Speed	rpm	Cooling: 570 Heating: 560		
Heat Exchanger	Fin material		Aluminium (Pre Coat)		
	Fin Type		Corrugated Fin		
	Row × Stage × FPI		2 × 46 × 19		
	Size (W × H × L)	mm	36.38 × 966 × 880.6 : 908.6		
Hot Water Coil	Type		Braze Plate		
	No. of Plates		26		
	Size (W × H × L)	mm	57.8 × 524 × 117		
	Water Flow Rate	l/min (m³/h)	Cooling: 23.5 (1.4) Heating: 25.8 (1.5)		
Power Source (Phase, Voltage, Cycle)		Ø	Single		
		V	230		
		Hz	50		
Input Power		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		kW	Cooling: 2.91	Heating: 1.98	Heating: 2.05
Maximum Input Power For Heatpump System		kW	3.56		
Power Supply 1 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			1Ø / 15.8 / 3.56k		
Power Supply 2 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			1Ø / 13.0 / 3.00k		
Power Supply 3 : Phase (Ø) / Max. Current (A) / Max. Input Power (W)			- / - / -		
Starting Current		A	12.9		
Running Current		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		A	Cooling: 12.9	Heating: 8.8	Heating: 9.1
Maximum Current For Heatpump System		A	15.8		
Power Factor Power factor means total figure of compressor and outdoor fan motor.		%	Cooling: 98	Heating: 98	Heating: 98
Power Cord	Number of core		-		
	Length	m (ft)	-		
Thermostat			Electronic Control		
Protection Device			Electronic Control		
Pressure Relief Valve Water Circuit		kPa	Open: 300, Close: 210 and below		

Item		Unit	Indoor Unit		
Performance Test Condition			EN 14511 / EN 14825		
Operation Range	Outdoor Ambient	°C (min. / max.)	Cooling: 10 / 43 Heating (Circuit): -25 / 35		
	Water Outlet	°C (min. / max.)	Cooling: 5 / 20 Heating (Circuit): 20 / 55 (Below Ambient -20 °C) *3 Heating (Circuit): 20 / 75 (Above Ambient -10 °C) *3		
Internal Pressure Differential		kPa	Cooling: 25.0 Heating: 25.0		
Noise Level		Condition (Ambient/Water)	A35W7	A7W35	A2W35
		dB (A)	Cooling: 28***	Heating: 28***	Heating: 28***
		Power Level dB	Cooling: 41***	Heating: 41***	Heating: 41***
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)	93 (205)		
Water Pipe Diameter	Room	mm (inch)	31 (1-1/4)		
	Shower	mm (inch)	-		
Water Drain Hose Inner Diameter		mm (inch)	15 (9/16)		
Pump	Motor Type		Brushless DC Motor (Sensorless vector control system)		
	No. of Speed		7 (Software Selection)		
	Input Power	W	145		
Flow Sensor	Type		Vortex (Piezoelectric sensor)		
	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 / 85		

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 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 conditions of the EN14825.
- EER and COP classification is at 230V only in accordance with EU directive 2003/32/EC.
- **** 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)