



SunPump 2.3

All-In-One Solar Heat Pump

Model Number	VRHA-	12DC80GT	18DC80GT	24DC80GT	36DC80GT	48DC80GT
Nominal Capacity ^b (Tons)		1 Ton	1.5 Tons	2 Tons	3 Tons	4 Tons
Heating ^b (BTU/hr)		12,000 BTU	18,000 BTU	24,000 BTU	36,000 BTU	48,000 BTU
Heating ^b (kW)		3.5 kW	5 kW	7 kW	10 kW	14 kW
Heating Area ^A @15/12BTU/ft2		~ 800-1000 ft2	~ 1200-1500 ft2	~ 1600-2000 ft2	~ 2400-3000 ft2	~ 3200-4000 ft2
Performance						
Max. water temp.		140 F./60°C.	140 F./60°C.	140 F./60°C.	140 F./60°C.	140 F./60°C.
Heating input power		0.79 kW	1.57 kW	2.12 kW	3.03 kW	4.24 kW
COP ¹ Not including Solar		3.2	3.2	3.3	3.3	3.3
Indoor Noise Level		44 dB(A)	44 dB(A)	48 dB(A)	52 dB(A)	54 dB(A)
Outdoor Noise level		16 dB(A) 40 in from panels				
Mechanical	Refer to local plumbing and building codes for system and installation requirements					
Dimensions (in.)		23.6*25.7*72.0	23.6*25.7*72.0	23.6*25.7*72.0	23.6*25.7*72.0	23.6*25.7* 76.7
Shipping weight		175 lbs	175 lbs	181 lbs	185 lbs	189 lbs
Number of panels		2	3	4	6	8
R410a Charge Weight		41 oz.	49.5 oz.	63.6 oz.	81 oz.	102 oz.
Max. operating pressure		Pressure Test Panels 200 PSIG. Heating 305 PSIG low side / 610 PSIG high side				
Line set charge/max length		16 ft./27 ft.	16 ft./27 ft.	10 ft./33ft.	10 ft./33ft.	10 ft./50 ft.
Add per additional foot		0.22	0.28 oz.	0.30 oz.	0.33 oz.	0.33 oz.
Liquid line OD		1/4 in.	1/4 in	3/8 in	3/8 in	1/2 in
Gas line OD		3/8 in.	1/2 in	5/8 in	5/8 in	3/4 in
Domestic Hot Water Tank		80 Gal./300 L.	80 Gal./300 L.	80 Gal./300 L.	80 Gal./300 L.	80 Gal./300 L.
First Hour Hot Water		68 gal./hr.	74 gal./hr.	80 gal./hr.	92 gal./hr.	104 gal./hr.
Water fittings		3/4” NPT	3/4” NPT	3/4” NPT	3/4” NPT	3/4” NPT
Water Flow Rate at 3 FPS		1.2 GPM	1.8 GPM	2.5 GPM	3.6 GPM	5 GPM
Suggested exp. tank		3 gal.	3 gal.	3 gal.	4 gal.	5 gal.
Heater coil dimension		Immersion: 3/4 in OD x 33 ft long Exposed Tube Wrap-around: 2/ 3/8”x60 ft.				
Electrical	Refer to local electrical and building codes for wiring and installation requirements					
Compressor		DC Inverter 208/230 single phase. 2 wire (L1, L2, G)				
Rated current		4.6 A	6.8 A	9.2 A	13.2 A	18.4 A
Max. current		8 A	11 A	15 A	19 A	26 A
Heat Pump Breaker/voltage		15 A / 240 V	15 A / 240 V	20 A / 240 V	30 A / 240 V	40 A / 240 V
Elec. Backup Heater		6 kW	6 kW	6 kW	6 kW	6 kW
Elect. Backup Max./Breaker		30 A./40 A	30 A./40 A.	30 A./40 A.	30 A./40 A.	30 A./40 A.

- A. Area space heating assumes new construction above code at 12 BTU/ft²; and to Code at 15 BTU/ft².
B. It is the purchaser's responsibility to calculate Heat Loss/Gain, size for 100%, and size for 100% backup.
1. COP Measured at ambient 47 F. and water temperature 131 F.

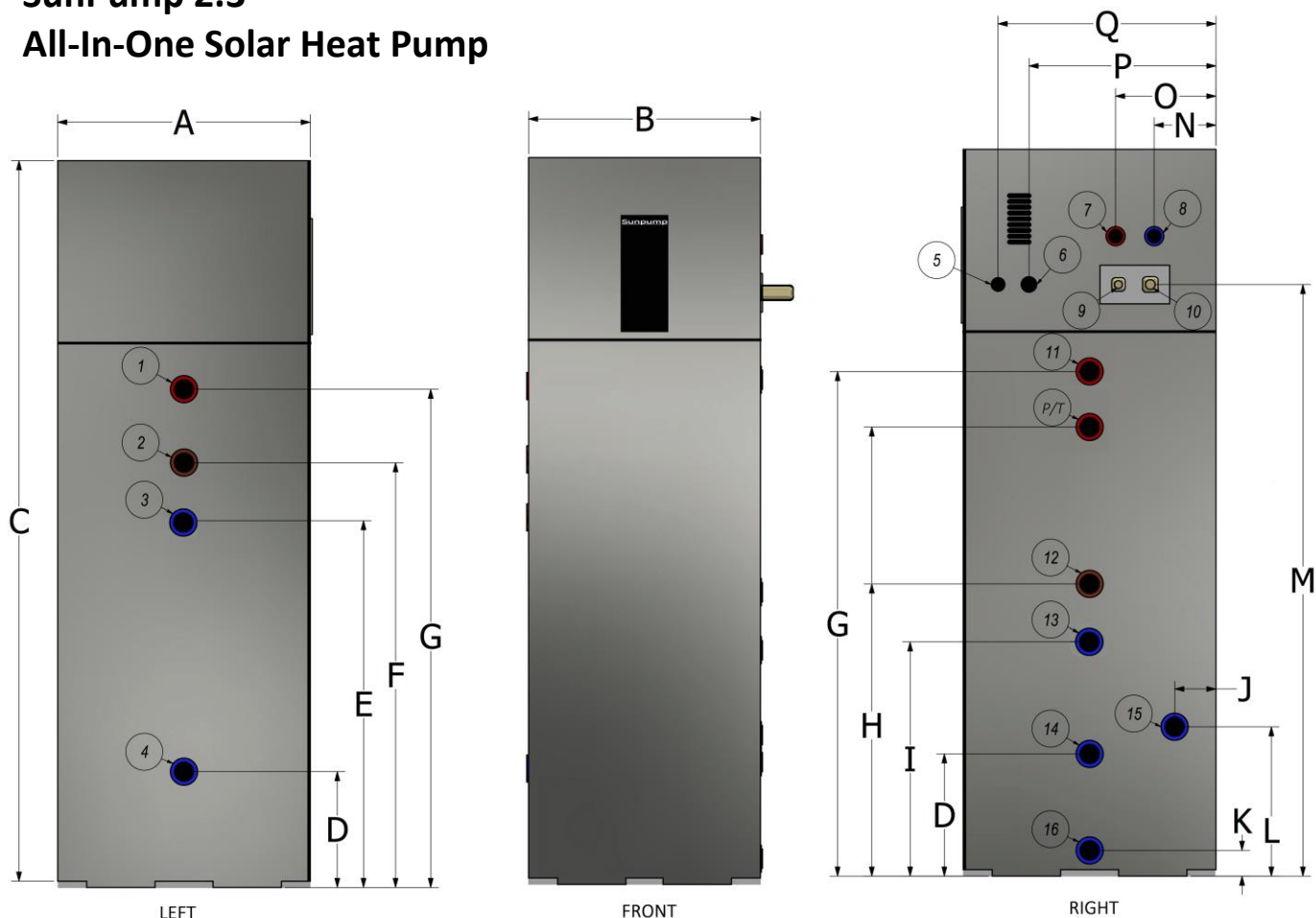


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System Components

1	Hot water outlet (optional)	9	Liquid service valve
2	Space heating hot outlet (optional)	10	Gas service valve
3	Space heating cool inlet (optional)	11	Hot water outlet
4	Cold water inlet (optional)	12	Space heating hot outlet
5	Heat Pump Power cable access	13	Space heating cool inlet
6	6 kW Electric Element Power cable access	14	Cold water inlet
7	Low pressure gauge - panels	15	Heat Pump Condensate Drain outlet
8	High pressure gauge – hot water tank	16	Tank Drain outlet

System Dimensions

Model #	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
12-36DC80GT (in.)	25.7	23.6	72.0	13.8	32.3	38.2	44.7	31.1	25.2	2.8	1.3	15.4	57.6	7.0	9.6	19.2	22.0
48DC80GT (in.)	25.7	23.6	76.7	13.8	32.3	38.2	44.7	31.1	25.2	2.8	1.3	15.4	57.6	7.0	9.6	19.2	22.0

Notes: Plumbing parts examples: 30" square drip tray, heat traps, vacuum relief valve, expansion tank, seismic straps on back side, air eliminator, P/T ports.

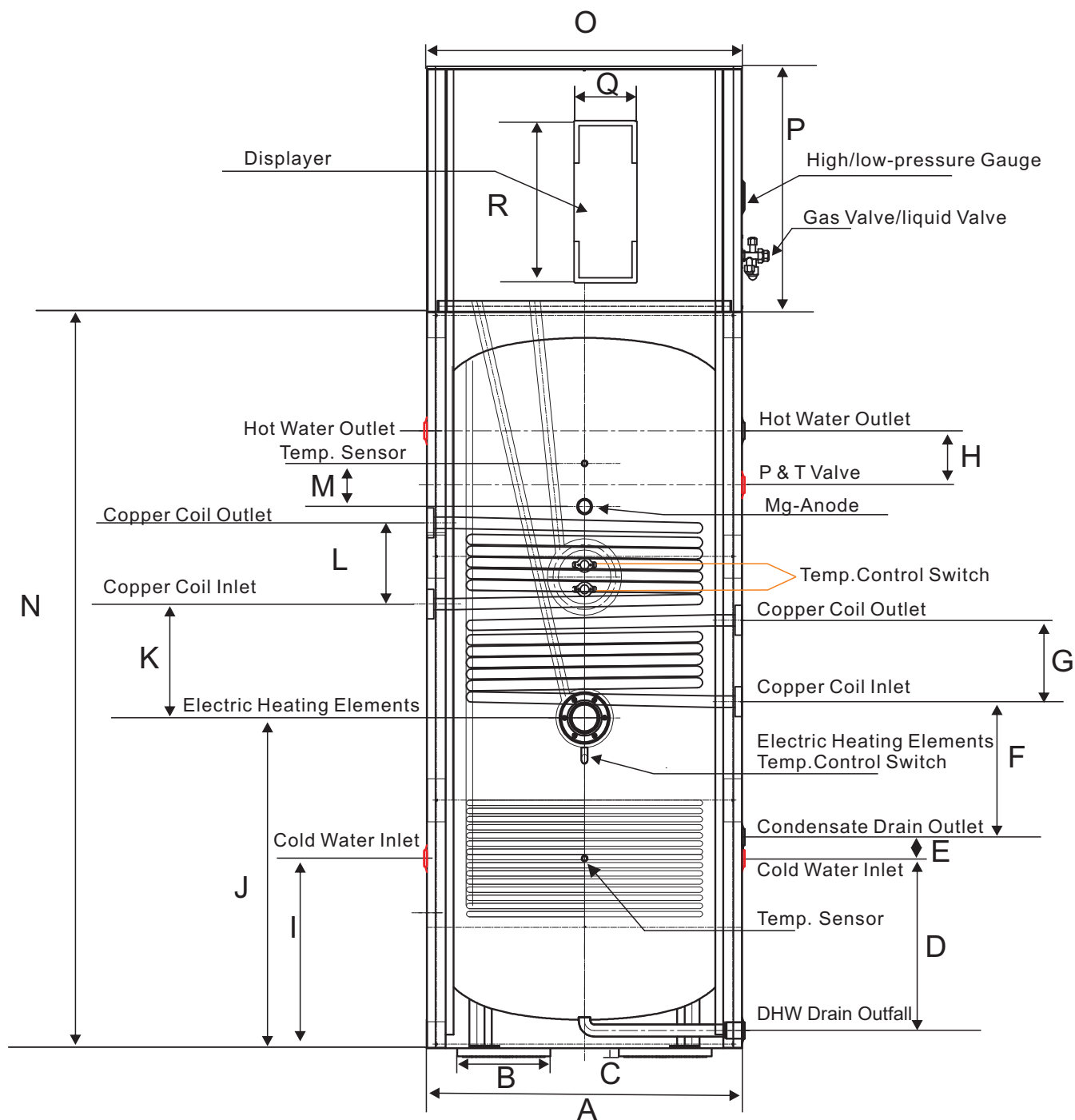
Upper hot water pipes must point down 6" before going up to trap heat. A drain should be to the right side, and electrical disconnect within 6 feet.

Important minimum clearance requirements: left 24", right 24", removable front service panel 36", back 2", top service 24".

Typical pump: Grundfos Alpha 15-55 ECM variable speed, UPS15-58 3spd, or equivalents. Typical Fan coil; Komfort hi or low wall, or Koncealed air convactor.

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Model	Dimensions	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
VRHA-18~36AN1DC/WT	mm	600	177	16.5	318	40	250	150	100	350	610	210	150	80	1360	600	453	120	300
VRHA-48AN1DC/WT	mm	600	177	16.5	318	40	250	150	100	350	610	210	150	80	1360	600	572	120	300

Model	Dimensions	Dimension (W*D*H)	Packing (W*D*H)
VRHA-18~36AN1DC/WT	mm	600x654x1829	682x700x1880
VRHA-48AN1DC/WT	mm	600x654x1948	692x700x2000