

**Solstice® Inverter Air-to-Water Heat Pump**

**FEATURES AND BENEFITS**

- Supplies Low Temperature Water for Heating & Chilled Water for Cooling
- Reliable Mitsubishi Inverter Compressor
- Low Ambient Cooling Capabilities
- 42-130°F Delivered Water Temperatures (Controls on Return)
- Available in 3- and 5-ton Models
- Domestic Hot Water Offset
- Monobloc Design (No On-Site Refrigerant Charging)
- Keeps all Refrigerant Outside the Occupied Space
- Freeze Protection
- Low Amp Draw with Ultra Quiet Operation
- Modbus Compatible
- User Friendly Advanced Color Touch Screen Control (24ga shielded 5 wire. Can be remote mounted up to 600ft)
- Precision Temperature Control Platform
- DC Driven Fan Motors
- Eligible for Rebates
- **Industry Leading 10-Year Compressor Warranty & 5-Year Parts Warranty for Certified Contractors**



**SPACE PAK®**

260 North Elm St., Westfield, MA 01085  
(800) 465-8558

7555 Tranmere Drive, Mississauga, ONT. L5S 1L4 Canada  
(905) 670-5888

www.spacepak.com

PROJECT: \_\_\_\_\_ DATE: \_\_\_\_\_

LOCATION: \_\_\_\_\_

CUSTOMER: \_\_\_\_\_

ENGINEER: \_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_

FOR:  Reference  Approval  Construction

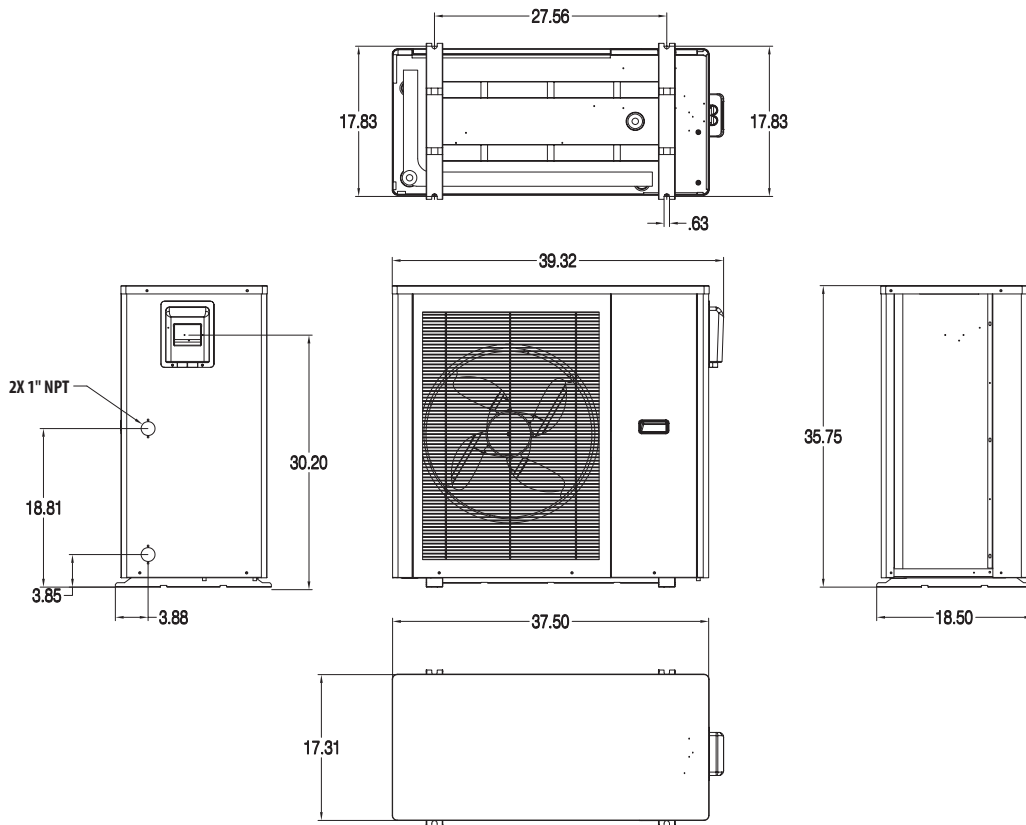
UNIT DESIGNATION: \_\_\_\_\_

SCHEDULE NUMBER: \_\_\_\_\_

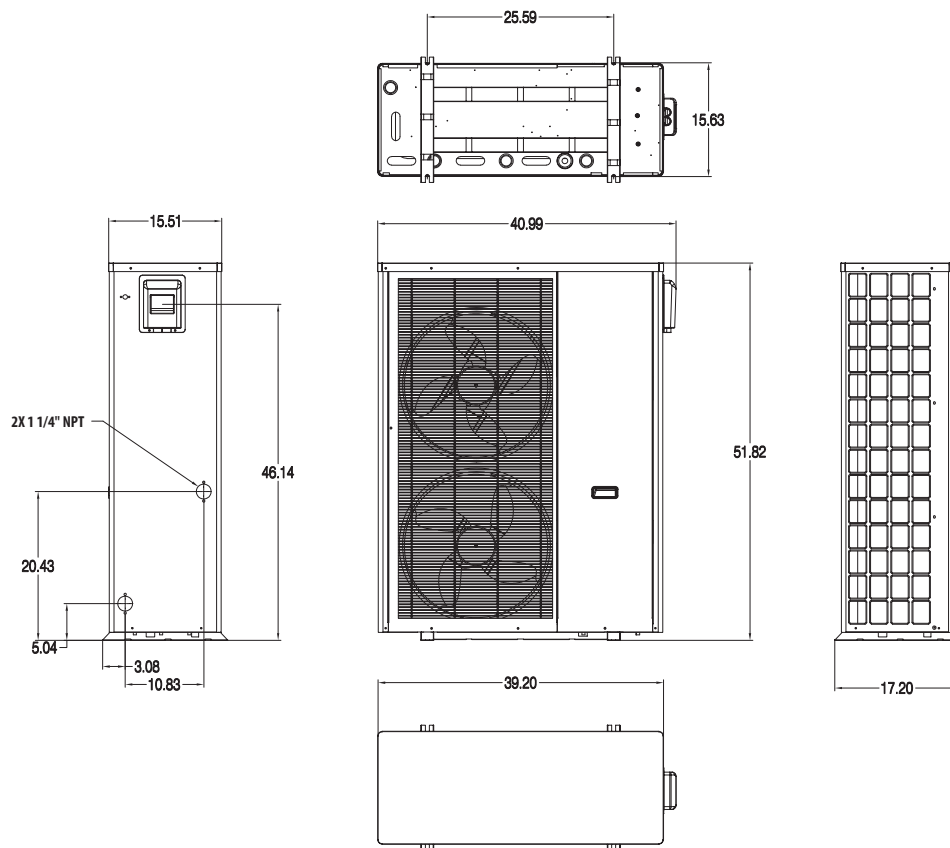
# SUBMITTAL DATA: Heat Pump SIM Series

## SIM DIMENSIONS (INCHES)

SIM-036



SIM-060



# SUBMITTAL DATA: Heat Pump SIM Series

## SIM SPECIFICATIONS

		Units	SIM-036	SIM-060
Cooling	Capacity Range**	BTU/hr	12,704 - 34,423	17,884 - 59,523
	Efficiency Range**	EER	11.74 - 11.26	11.26 - 10.75
	Efficiency***	IPLV	12.2	12.1
	Delivered Water Temp Range	DegF	41-68	
Ambient Temp Range		DegF	50-110	
Heating	Capacity Range*	BTU/hr	13,191 - 38,755	25,413 - 70,666
	Efficiency Range*	COP	5.01 - 4.04	4.67 - 3.69
	Delivered Water Temp Range	DegF	60-130	
	Ambient Temp Range	DegF	5-109	
Electrical	Power	V/Ph/Hz	230/1/60	
	Fan Motor	A (QTY)	0.8	0.8 (x2)
	Maximum Running Current	A	18	21
	Compressor Motor	A	14	25
	Max Fuse/Circuit Breaker/MOPD	A	30	50
	MCA	A	24	35
	SCCR	kA	5	5
Refrigerant	Type		R410A	
	Factory Charge	lbs	5.29	7.06
	Normal Pressure Low Side	PSIG	305	
	Normal Pressure High Side	PSIG	638	
Fan	Quantity		1	2
	Power Input	W	200	
	Type		EC	
	Max Speed	RPM	750	
Sound (@3meters)	Maximum	dBA	54	58
	Rated Flow	GPM	7	13
Hydronic	Max Water Temp (return)	DegF	122	
	Piping Connections	inch	1	1 1/4
	Rated Pressure Drop	PSI (ft W.C.)	6/13.8	10/23
	Type		Rotary	
Compressor	Speed Range	HZ	30-90	
	Quantity		1	
Dimensions	Net Dimensions (L x W x H)	inch	38.6 x 18.3 x 35.4	39 x 13 x 52
	Shipping Dimensions (L x W x H)	inch	40.9 x 19.3 x 36.2	42 x 18 x 53
	Net Weight	lbs.	242.5	326
	Shipping Weight	lbs.	271	368

Test Condition (AHRI 550/590)

- \* Heating:  
Ambient Temperature: (DB/WB): 45°F/43°F  
Supply Water Temperature, 95°F, Return, 86°F
- \*\* Cooling:  
Ambient Temperature, 86°F  
Supply Water Temperature, 50°F, Return, 59°F

\*\*\* IPLV is the recognized measurement for Integrated Part Load Values in accordance with AHRI 550/590.  
Ambient Temp = 95°F, delivered water Temp= 44°F. (2.4 GPM per 12,000 BTU/hr nominal capacity).

SIM Air-to-Water Heat Pumps modulate capacity based upon inlet water temperature. Temperatures shown above are the temperature of the water returning from the system to the heat pump. Leaving water temperature will vary according to load. Refer to the following performance charts to see the expected.

# SUBMITTAL DATA: Heat Pump SIM Series

## PERFORMANCE

### SIM-036 HEATING

Ambient Temp.	Compressor Frequency	86°F Return Water Temperature							
		30	40	50	60	70	80	90	
45°F DB, 43°F WB	Heating Capacity	13,191	17,406	21,621	25,833	30,140	34,447	38,755	BTU/hr
	COP	5.01	4.93	4.88	4.84	4.46	4.21	4.04	
36°F DB, 34°F WB	Heating Capacity	11,062	14,836	18,611	22,386	26,086	29,785	33,488	BTU/hr
	COP	4.01	3.87	3.79	3.74	3.64	3.57	3.52	
19°F DB, 18°F WB	Heating Capacity	10,539	12,621	14,700	16,782	19,536	22,294	25,048	BTU/hr
	COP	2.97	2.91	2.88	2.85	2.81	2.78	2.75	
5°F DB, 3°F WB	Heating Capacity	8,256	9,829	11,406	12,980	15,007	17,038	19,065	BTU/hr
	COP	2.18	2.25	2.31	2.35	2.29	2.25	2.22	

Ambient Temp.	Compressor Frequency	104°F Return Water Temperature							
		30	40	50	60	70	80	90	
45°F DB, 43°F WB	Heating Capacity	12,116	16,014	20,086	24,154	28,222	32,294	36,366	BTU/hr
	COP	3.70	3.54	3.47	3.43	3.31	3.22	3.16	
36°F DB, 34°F WB	Heating Capacity	9,215	13,065	16,915	20,765	24,427	28,089	31,751	BTU/hr
	COP	3.20	3.06	2.98	2.94	2.88	2.84	2.81	
19°F DB, 18°F WB	Heating Capacity	7,345	10,200	13,300	15,345	18,219	21,089	23,963	BTU/hr
	COP	2.50	2.37	2.29	2.23	2.18	2.15	2.13	
5°F DB, 3°F WB	Heating Capacity	4,150	6,703	9,256	11,809	14,362	16,915	19,468	BTU/hr
	COP	1.78	1.82	1.84	1.85	1.88	1.91	1.93	

Ambient Temp.	Compressor Frequency	122°F Return Water Temperature							
		30	40	50	60	70	80	90	
45°F DB, 43°F WB	Heating Capacity	18,150	19,256	20,362	21,471	26,004	30,536	-	BTU/hr
	COP	2.80	2.69	2.60	2.52	2.35	2.24	-	
36°F DB, 34°F WB	Heating Capacity	12,058	14,270	16,485	18,696	22,471	27,007	-	BTU/hr
	COP	2.50	2.33	2.21	2.13	2.14	2.20	-	
19°F DB, 18°F WB	Heating Capacity	8,240	11,320	13,481	14,529	17,444	20,362	-	BTU/hr
	COP	1.45	1.57	1.68	1.79	1.79	1.79	-	
5°F DB, 3°F WB	Heating Capacity	3,413	5,782	8,154	10,522	13,345	16,167	-	BTU/hr
	COP	1.13	1.27	1.34	1.38	1.44	1.48	-	

### SIM-036 COOLING

Ambient Temp.	Compressor Frequency	45°F Return Water Temperature							
		30	40	50	60	70	80	90	
86°F DB	Cooling Capacity	8,128	10,757	16,904	20,285	23,768	26,603	30,837	BTU/hr
	EER	9.90	10.14	10.24	10.00	9.62	9.42	9.22	
95°F DB	Cooling Capacity	8,025	10,689	16,836	20,217	23,666	27,149	30,735	BTU/hr
	EER	9.42	9.80	10.07	9.73	9.39	9.18	9.04	
104°F DB	Cooling Capacity	7,991	10,655	16,768	20,114	23,564	27,115	30,394	BTU/hr
	EER	9.18	9.52	9.93	9.56	9.28	9.04	8.81	
113°F DB	Cooling Capacity	7,957	10,587	16,665	20,046	23,495	27,047	-	BTU/hr
	EER	8.94	9.28	9.69	9.42	9.18	8.87	-	

Ambient Temp.	Compressor Frequency	59°F Return Water Temperature							
		30	40	50	60	70	80	90	
86°F DB	Cooling Capacity	12,704	16,631	21,002	24,486	28,413	31,350	34,423	BTU/hr
	EER	11.74	12.32	12.97	12.56	11.67	11.40	11.26	
95°F DB	Cooling Capacity	12,465	16,563	20,661	24,281	28,242	31,520	34,594	BTU/hr
	EER	11.23	11.98	12.42	11.84	11.06	10.89	10.65	
104°F DB	Cooling Capacity	12,157	16,085	20,251	23,359	27,935	30,394	34,082	BTU/hr
	EER	10.31	10.72	11.64	10.85	9.83	9.66	9.42	
113°F DB	Cooling Capacity	11,440	15,538	19,636	22,368	25,613	-	-	BTU/hr
	EER	9.39	10.03	10.44	9.80	8.77	-	-	

# SUBMITTAL DATA: Heat Pump SIM Series

## PERFORMANCE

### SIM-060 HEATING

Ambient Temp.	Compressor Frequency	86°F Return Water Temperature							
		30	40	50	60	70	80	90	
45°F DB, 43°F WB	Heating Capacity	25,413	33,560	41,703	49,847	56,789	63,728	70,666	BTU/hr
	COP	4.67	4.58	4.53	4.49	4.12	3.87	3.69	
36°F DB, 34°F WB	Heating Capacity	18,928	26,847	34,765	42,680	47,895	53,110	58,321	BTU/hr
	COP	3.95	3.80	3.72	3.67	3.32	3.08	2.91	
19°F DB, 18°F WB	Heating Capacity	15,309	21,275	27,239	32,348	37,912	43,475	49,099	BTU/hr
	COP	3.10	2.96	2.87	2.80	2.65	2.55	2.47	
5°F DB, 3°F WB	Heating Capacity	11,690	15,703	19,713	23,727	28,557	33,389	38,219	BTU/hr
	COP	2.08	2.08	2.07	2.07	2.05	2.01	1.96	

Ambient Temp.	Compressor Frequency	104°F Return Water Temperature							
		30	40	50	60	70	80	90	
45°F DB, 43°F WB	Heating Capacity	21,973	30,116	38,263	46,407	52,830	59,250	65,673	BTU/hr
	COP	3.65	3.53	3.47	3.43	3.24	3.11	3.01	
36°F DB, 34°F WB	Heating Capacity	17,748	25,666	33,584	41,502	46,898	52,297	57,693	BTU/hr
	COP	2.95	3.01	3.05	3.07	2.88	2.74	2.64	
19°F DB, 18°F WB	Heating Capacity	14,891	20,799	26,707	32,144	37,222	44,161	47,376	BTU/hr
	COP	2.50	2.40	2.33	2.28	2.18	2.21	2.06	
5°F DB, 3°F WB	Heating Capacity	12,034	15,932	19,830	23,731	26,727	29,724	32,720	BTU/hr
	COP	2.00	1.87	1.80	1.75	1.64	1.56	1.50	

Ambient Temp.	Compressor Frequency	122°F Return Water Temperature							
		30	40	50	60	70	80	90	
45°F DB, 43°F WB	Heating Capacity	18,150	26,294	34,441	42,584	48,004	53,427	-	BTU/hr
	COP	2.80	2.67	2.61	2.57	2.50	2.45	-	
36°F DB, 34°F WB	Heating Capacity	12,058	19,748	27,437	35,130	45,045	50,465	-	BTU/hr
	COP	2.50	2.28	2.20	2.15	2.17	2.20	-	
19°F DB, 18°F WB	Heating Capacity	9,782	15,519	21,256	24,389	28,017	31,642	35,270	BTU/hr
	COP	1.45	1.47	1.48	1.49	1.55	1.59	1.63	
5°F DB, 3°F WB	Heating Capacity	7,505	11,290	15,075	18,860	22,942	27,021	31,099	BTU/hr
	COP	1.13	1.13	1.13	1.13	1.19	1.24	1.28	

### SIM-060 COOLING

Ambient Temp.	Compressor Frequency	45°F Return Water Temperature							
		30	40	50	60	70	80	90	
86°F DB	Cooling Capacity	14,915	26,724	32,389	34,915	41,366	45,973	49,591	BTU/hr
	EER	9.83	9.93	10.07	10.04	9.78	9.39	9.04	
95°F DB	Cooling Capacity	14,847	26,621	32,321	34,813	41,297	45,905	49,489	BTU/hr
	EER	9.28	9.69	9.90	9.94	9.52	8.98	8.84	
104°F DB	Cooling Capacity	14,744	26,485	32,185	34,642	41,161	45,734	49,318	BTU/hr
	EER	9.04	9.49	9.73	9.39	9.04	8.77	8.63	
113°F DB	Cooling Capacity	14,676	26,280	32,082	34,574	40,990	45,598	-	BTU/hr
	EER	8.57	9.15	9.49	8.98	8.84	8.23	-	

Ambient Temp.	Compressor Frequency	59°F Return Water Temperature							
		30	40	50	60	70	80	90	
86°F DB	Cooling Capacity	17,884	31,741	38,874	41,912	49,625	55,154	59,523	BTU/hr
	EER	11.26	11.54	11.60	11.47	11.33	11.16	10.75	
95°F DB	Cooling Capacity	17,816	31,946	38,772	41,297	49,557	55,086	58,021	BTU/hr
	EER	10.89	11.26	11.30	11.19	10.75	10.34	10.07	
104°F DB	Cooling Capacity	17,679	31,775	38,635	41,570	49,386	54,881	57,338	BTU/hr
	EER	10.00	10.12	10.35	10.30	9.97	9.73	9.52	
113°F DB	Cooling Capacity	17,611	28,123	37,202	41,502	49,181	54,710	-	BTU/hr
	EER	8.91	9.39	9.73	9.39	9.15	8.87	-	