

Solstice® Inverter Series Air-to-Water Heat Pumps

STANDARD FEATURES

- Reliable Mitsubishi Inverter Compressor
- User Friendly Wired Touch Screen Control (24ga shielded 5 wire. Can be remote mounted up to 600ft)
- Mono-Block Design (No On-Site Refrigerant Charging)
- Lo Ambient Cooling and Freeze Protection
- Low Amp Draw w/Ultra Quiet Operation



| Model | Units | SIM-036 | SIM-060 |
|--|-------|--------------------|--------------|
| Max Heating Capacity* (90hz) | BTU/h | 38,755 | 70,666 |
| Min Heating Capacity* (30hz) | BTU/h | 13,191 | 25,413 |
| Max Cooling Capacity** (90hz) | BTU/h | 34,423 | 59,523 |
| Min Cooling Capacity** (30hz) | BTU/h | 12,704 | 17,884 |
| Heating COP* | | Up to 5.01 | Up to 4.67 |
| Cooling EER** | | Up to 12.97 | Up to 11.60 |
| Maximum Running Current | A | 18 | 21 |
| Compressor Rating Load | A | 9.7 | 19 |
| Locked Rotor Current | A | 35 | 50 |
| Fan Motor Rating Current | A | 0.8 | 2x0.8 |
| Minimum Circuit Ampacity | A | 20 | 26 |
| Max Fuse/Circuit Breaker/Overload Device | A | 30 | 40 |
| Power Supply | | 230/1ph/60hz | 230/1ph/60hz |
| Compressor Quantity | | 1 | 1 |
| Compressor Type | | Rotary | Rotary |
| Fan Quantity | | 1 | 2 |
| Fan Power Input | W | 200 | 200x2 |
| Max Fan Speed | RPM | 750 | 750 |
| Sound Power Level | dB(A) | 54 | 58 |
| Water Pressure Drop at rated flow | PSI | 6 | 10 |
| Water Connection | inch | 1 | 1 1/4 |
| Rated Water Flow | GPM | 7 | 13 |
| Unit Net Dimensions (L/W/H) | inch | 38.6 x 18.3 x 35.4 | 39 x 13 x 52 |
| Unit Shipping Dimensions (L/W/H) | inch | 40.9 x 19.3 x 36.2 | 42 x 18 x 53 |
| Net Weight | lb. | 242.5 | 326 |
| Shipping Weight | lb. | 271 | 368 |

Test Condition (AHRI 550/590)

**Cooling :

Ambient Temperature, DB: 95°F

Entering/Return Water Temperature: 59°F

*Heating:

Ambient Temperature:(DB/WB): 45°F/43°F

Entering/Return Water Temperature: 86°F



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PROJECT: _____ DATE: _____

LOCATION: _____

CUSTOMER: _____

ENGINEER: _____

SUBMITTED BY: _____

FOR: Reference Approval Construction

UNIT DESIGNATION: _____

SCHEDULE NUMBER: _____

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 | - | |