

**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
- 41-130°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
- Outdoor Coils Have Been Tested in Accordance with GB/T 2432.17 Salt Spray Test
- 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: \_\_\_\_\_

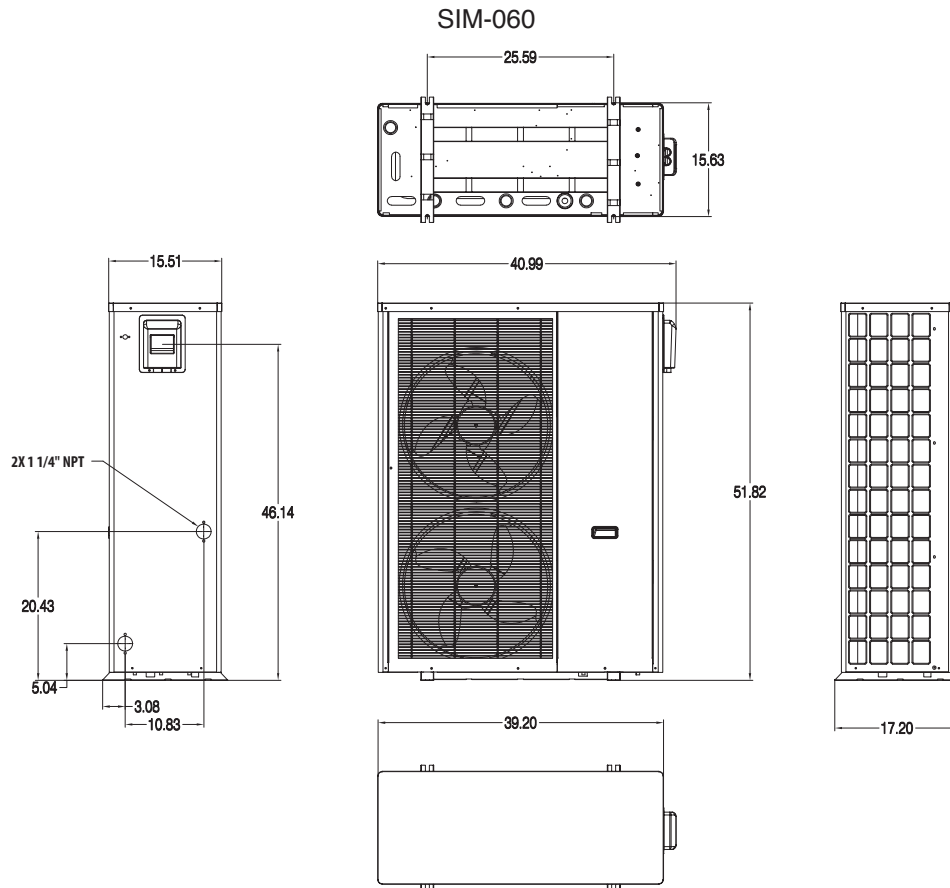
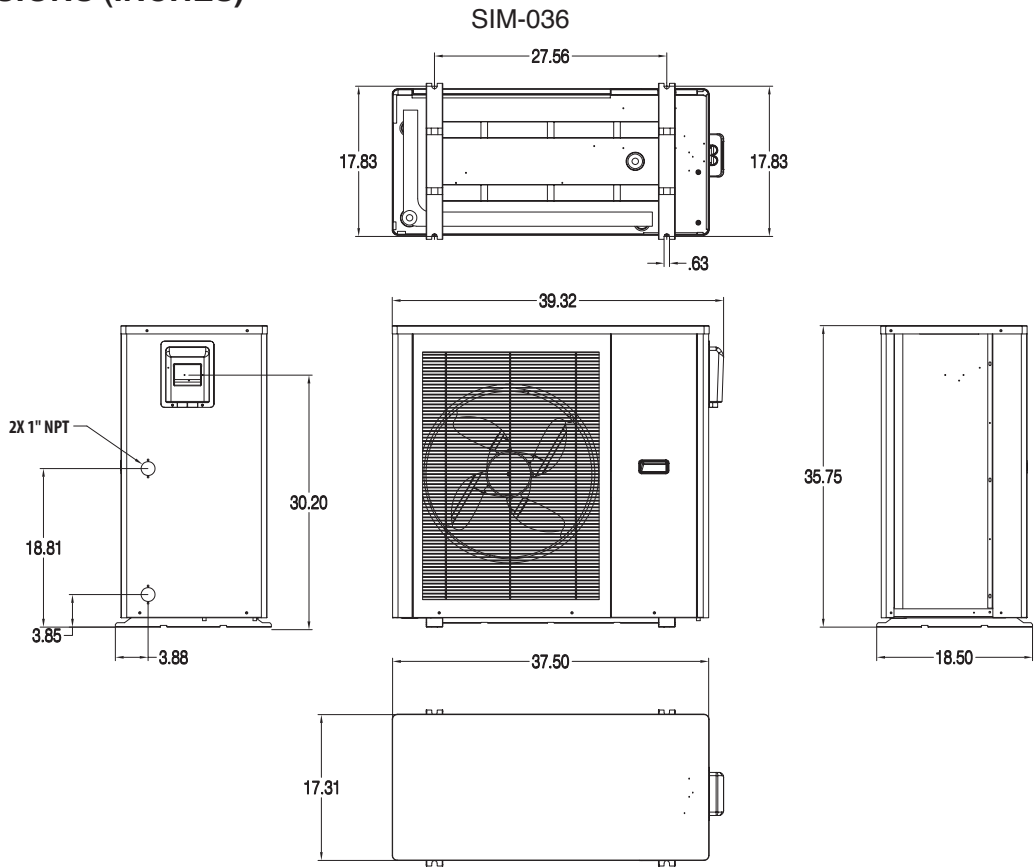
FOR:  Reference  Approval  Construction

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

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

# SUBMITTAL DATA: Heat Pump SIM

## SIM DIMENSIONS (INCHES)



# SUBMITTAL DATA: Heat Pump SIM

## SIM SPECIFICATIONS

|                  |                                  | Units         | SIM-036                      | SIM-060                       |
|------------------|----------------------------------|---------------|------------------------------|-------------------------------|
| Cooling          | Capacity Range                   | BTU/hr (kW)   | 12,704 - 34,423 (4-10)       | 17,884 - 59,523 (5-17)        |
|                  | Efficiency Range                 | EER           | 11.26-11.74                  | 10.75-11.26                   |
|                  | Efficiency                       | IPLV          | 12.2                         | 12.1                          |
|                  | Water Temperature Setpoint       | °F (°C)       | 46-68 (8-20)                 |                               |
|                  | Ambient Temp Range               | °F (°C)       | 5-110 (-15-43)               |                               |
| Heating          | Capacity Range                   | BTU/hr (kW)   | 13,191 - 38,755 (4-11)       | 25,413 - 70,666 (7-21)        |
|                  | Efficiency Range                 | COP           | 4.04-5.01                    | 3.69-4.67                     |
|                  | Water Temperature Setpoint       | °F (°C)       | 86-130 (30-55)               |                               |
|                  | Ambient Temp Range               | °F (°C)       | 5-109 (-15-43)               |                               |
| CEC Data         | Cooling Capacity*                | BTU/hr (kW)   | 34,120 (10)                  | 49,490 (15)                   |
|                  | Cooling Efficiency*              | EER           | 10                           | 8.8                           |
|                  | Heating Capacity**               | BTU/hr (kW)   | 39,240 (12)                  | 56,315 (17)                   |
|                  | Heating Efficiency**             | COP           | 3                            |                               |
|                  | Heating Capacity***              | BTU/hr (kW)   | 21,236 (6)                   | 48,260 (14)                   |
|                  | Heating Efficiency***            | COP           | 1.9                          |                               |
| Electrical       | Power                            | V/Ph/Hz       | 230/1/60                     |                               |
|                  | Fan Motor                        | A             | 0.8                          | 0.8 (x2)                      |
|                  | Compressor Motor                 | A             | 14                           | 25                            |
|                  | MCA                              | A             | 24                           | 35                            |
|                  | MOPD                             | A             | 30                           | 50                            |
|                  | SCCR                             | kA            | 5                            |                               |
| Refrigerant      | Type                             |               | R410A                        |                               |
|                  | Factory Charge                   | lbs. (kg)     | 5.29 (2.4)                   | 7.06 (3.2)                    |
| 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                   | °F (°C)       | 131 (55)                     |                               |
|                  | Piping Connections               | inch (cm)     | 1 (2.5)                      | 1.25 (3.2)                    |
|                  | Rated Pressure Drop @ Rated Flow | PSI (ft W.C.) | 6 (13.8)                     | 10 (23)                       |
|                  | Type                             |               | Rotary Inverter              |                               |
| Compressor       | Speed Range                      | Hz            | 30-90                        |                               |
|                  | Brand                            |               | Mitsubishi                   |                               |
|                  | Quantity                         |               | 1                            |                               |
|                  | Net Dimensions (L x W x H)       | inch (cm)     | 39 x 18 x 35 (98 x 47 x 90)  | 39 x 13 x 52 (99 x 33 x 132)  |
| Dimensions       | Shipping Dimensions (L x W x H)  | inch (cm)     | 41 x 19 x 36 (104 x 49 x 92) | 42 x 18 x 53 (107 x 46 x 135) |
|                  | Net Weight                       | lbs. (kg)     | 243 (110)                    | 326 (148)                     |
|                  | Shipping Weight                  | lbs. (kg)     | 271 (123)                    | 368 (167)                     |

CEC is California Energy Commission. Data is tested in accordance with AHRI 550/590

\*= 44F LWT 54F EWT @10 GPM & 95F DB Ambient

\*\*= 120F LWT 107F EWT @10 GPM & 47F DB Ambient

\*\*\*= 120F LWT 110F EWT @10 GPM & 17F DB Ambient

# SUBMITTAL DATA: Heat Pump SIM

## 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   | -  |        |

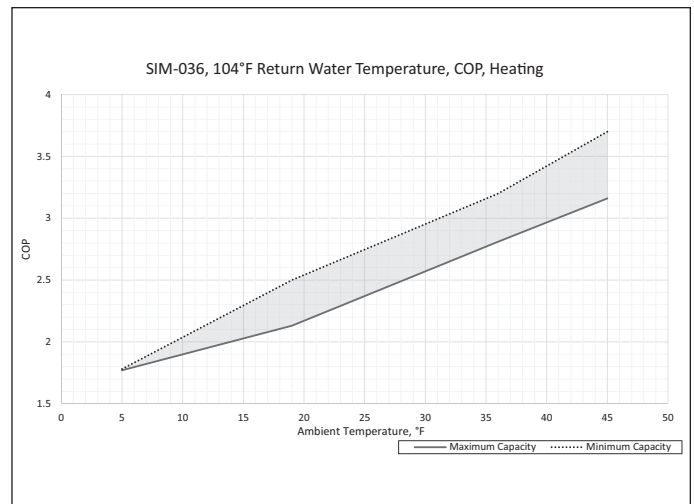
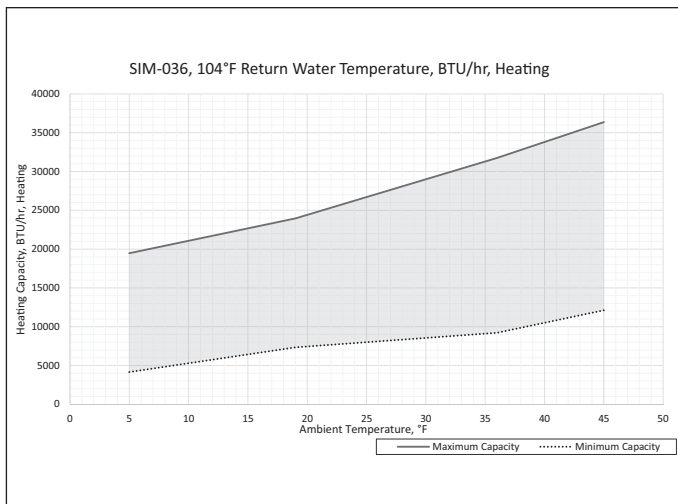
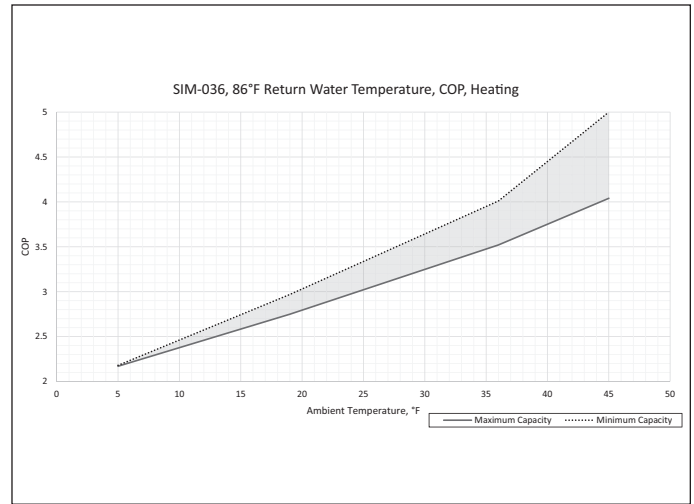
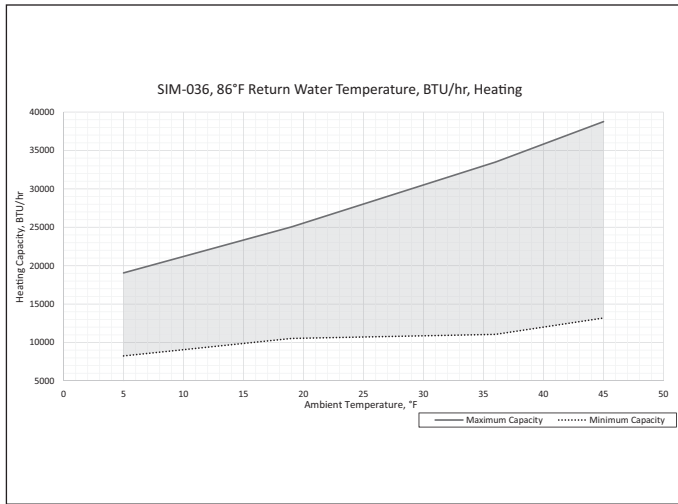
### SIM-036 COOLING

| 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

## SIM-036 HEATING PERFORMANCE (all data based on pure water)



For more performance data, please scan QR code

# SUBMITTAL DATA: Heat Pump SIM

## PERFORMANCE

### SIM-060 HEATING

| Ambient Temp.       |                  | Compressor Frequency | 86°F Return Water Temperature |        |        |        |        |        |        |        |
|---------------------|------------------|----------------------|-------------------------------|--------|--------|--------|--------|--------|--------|--------|
|                     |                  |                      | 30                            | 40     | 50     | 60     | 70     | 80     | 90     |        |
| 45°F DB,<br>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,<br>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,<br>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,<br>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,<br>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,<br>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,<br>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,<br>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,<br>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,<br>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,<br>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,<br>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   |        |

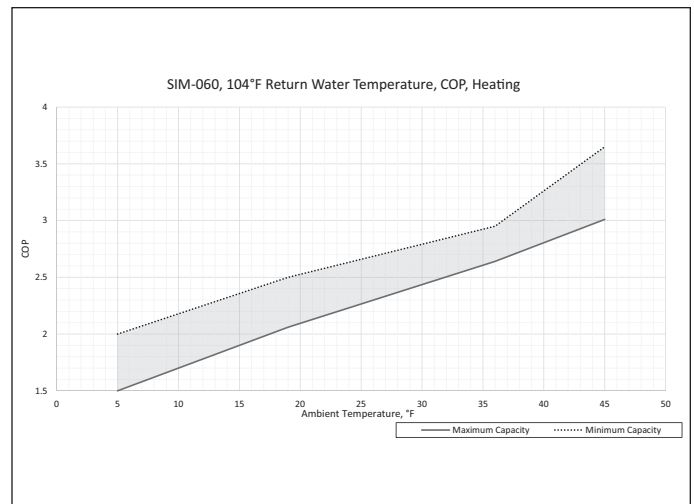
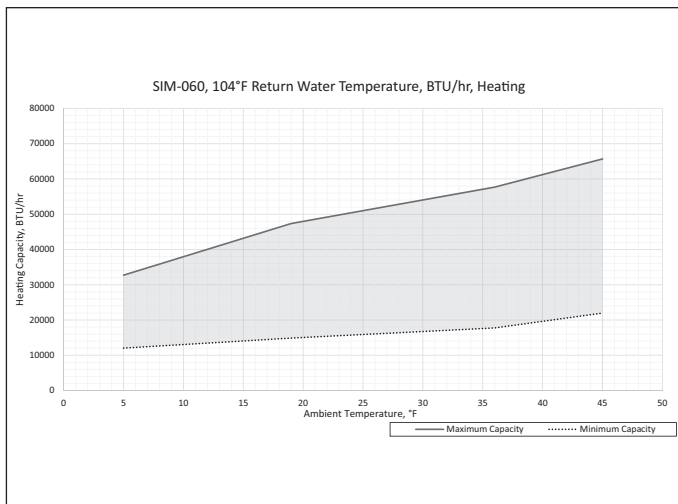
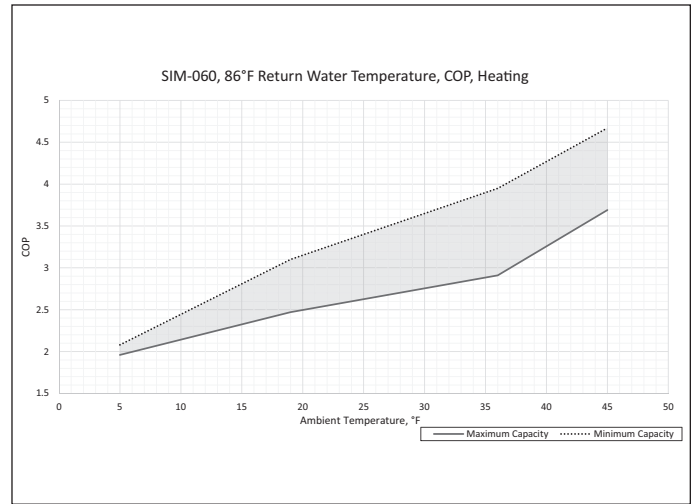
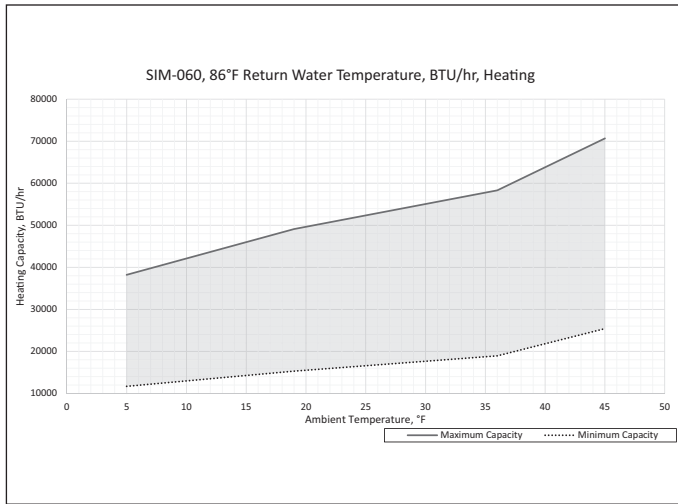
### SIM-060 COOLING

| 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   | -      |        |

# SUBMITTAL DATA: Heat Pump SIM

## SIM-060 HEATING PERFORMANCE (all data based on pure water)



For more performance data, please scan QR code