

# GreenSource CDI series

## Model SM Rev A/B

### Residential Geothermal Heat Pump

Engineering  
Submittal  
Sheet



# BOSCH

#### Overview and Certifications



#### Standard Features and Field Installed Accessories

##### Standard Features

- ▶ **White Pre-Painted Sheet Metal Cabinets**
  - Appliance White for a Clean - Durable Look
  - Door Handles - for Easy Removal for Service
  - LCD Display - for Easy View of Unit Operation
- ▶ **High Efficiency**
  - Up to 4.7 COP @ PL GLHP
  - Up to 4.3 COP @ FL GLHP
  - Up to 30.0 EER @ PL GLHP
  - Up to 21.0 EER @ FL GLHP
- ▶ **Electronically Commutated Motors**
  - Constant CFM Variable Speed High Efficiency ECM
- ▶ **Closed Cell (Fiber Free) Insulation**
  - Improved Indoor Air Quality
  - Floating Base Pan

##### ▶ Reliability - Durability - Serviceability

- Evaporator Coil - Tin-plated copper tubing hair pins with high-tech polymer coated aluminum fins (DuoGuard™)\*
- Alert Communicating Electronic Circuit Board

##### ▶ Electronic Circuit Board

- Low Pressure Switch Protection
- High Pressure Switch Protection
- Alarm Output
- Condensate overflow protection
- Anti-Short Cycling
- Low Pressure Bypass at Start Up
- Random Start of Unit
- Brown Out Protection
- Evaporator Freeze Protection
- Water Coil/Coaxial Coil/Condenser Freeze Protection
- Connections for a communicating thermostat and unit external status LCD for easy view of unit operation

\* Available only for Vertical models. For Horizontal models, tin-plated copper tubing only is available.



## Standard Features and Field Installed Accessories continued..

### ► **Standard Warranty**

- 10 Year All Parts Limited Warranty
- 10 Year Labor Limited Warranty

### ► **Domestic Hot Water Heat Recovery Package (Desuperheater):**

- Utilizes the compressor's superheated discharge gas to preheat domestic hot water, reducing the amount of electricity or fossil fuels otherwise used for hot water.

### ► **Cupro-nickel Coils:**

- Cupro-Nickel coils are recommended for applications where the water is of lower quality. Only coils are cupro-nickel. All fittings and straight lengths of pipe will be copper.

## Field Installed Accessories

### ► **Thermostats:**

- Bosch thermostats are fully customized to meet your individual needs. Bosch offers communicating thermostats that can display alert messages without having to go to the unit.
- Passive dehumidification can be achieved via ECM fan controls paired with optional Bosch thermostat with humidity control

### ► **Internally Mounted Electric Heat Kits:**

- A field installed option for back up heat. Available in 5, 10, 15, or 20 kW depending on the size of the geothermal heat pump.

### ► **Stainless Steel Hose Kits:**

- Available in various lengths and diameters depending on the need for your application.

### ► **SmartStart Assist Kit:**

- An option which provides a means of reducing inrush currents at compressor startup. Light flickering is eliminated, and a smooth start is achieved.

### ► **Horizontal Discharge Air Conversion Kit:**

- The horizontal conversion kit allows end blow to straight through conversion of discharge air, as the straight through configuration for horizontal is no longer available.

### ► **Pump/Valve Relay Kit:**

- This relay is used to energize a supply pump or solenoid valve when there is a call for compressor operation. This relay can be used to switch either high or low voltage power.

### ► **Externally Mounted Duct Heater Kits**

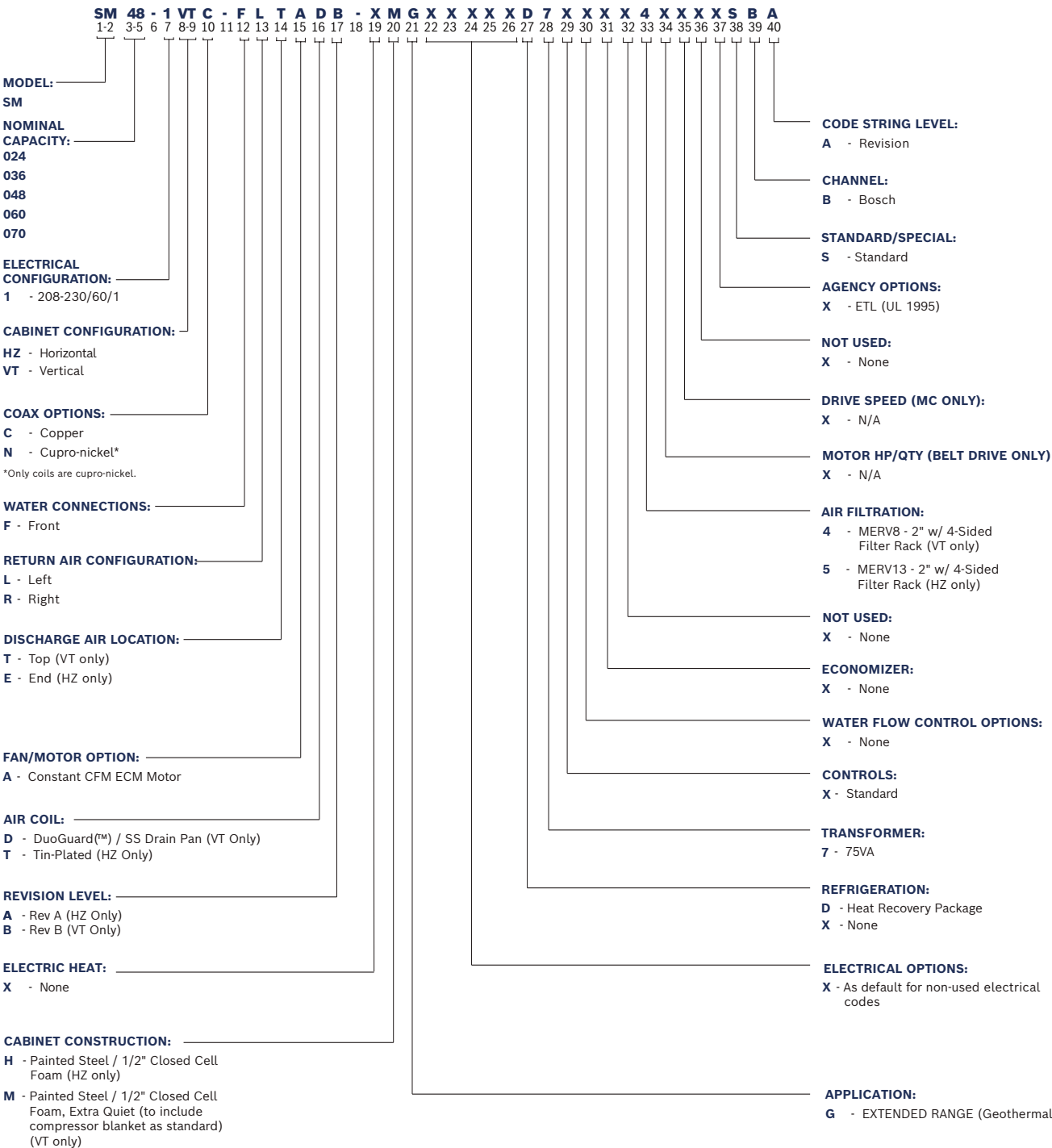
### ► **Flow Center Kits**

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



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## Model Nomenclature



# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



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| Physical Data   |                 |                    |                    |                    |                    |                    |
|---|-----------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Description   | Unit            | Value              |                    |                    |                    |                    |
|   |                 | SM024              | SM036              | SM048              | SM060              | SM070              |
| Compressor Type (Qty 1)                                   | —               | Scroll             | Scroll             | Scroll             | Scroll             | Scroll             |
| Refrigeration Charge VT                                   | Oz.             | 45                 | 73                 | 75                 | 98                 | 94                 |
| Refrigeration Charge HZ only                              | Oz.             | 58                 | 85                 | 77                 | 100                | 114                |
| Max Water Working Pressure                                | PSIG/kPa        | 450/3100           | 450/3100           | 450/3100           | 450/3100           | 450/3100           |
| Max Water Working Pressure w/ Swivel fittings             | PSIG/kPa        | 125/861            | 125/861            | 125/861            | 125/861            | 125/861            |
| Fan Motor and Blower                                      |                 |                    |                    |                    |                    |                    |
| Fan Motor Type/Speeds                                     | —               | ECM Const Air Flow | ECM Const Air Flow | ECM Const Air Flow | ECM Const Air Flow | ECM Const Air Flow |
| Fan Motor (HP)  | HP              | 0.33               | 0.75               | 0.75               | 1.00               | 1.00               |
| Blower Wheel Size VT                                      | Inch (Dia. x W) | 9 X 7              | 11 X 11            | 11 X 11            | 11 X 11            | 11 X 11            |
| Blower Wheel Size HZ only                                 | Inch (Dia. x W) | 10 X 8             | 11 X 9             | 11 X 9             | 11 X 11            | 11 X 11            |
| Water Connection Size                                     |                 |                    |                    |                    |                    |                    |
| FPT VT (Factory brazed non-swivel type)                   | Inch            | 3/4                | 1.0                | 1.0                | 1.0                | 1.0                |
| FPT HZ only (Factory brazed swivel)                       | Inch            | 1.0                | 1.0                | 1.0                | 1.0                | 1.0                |
| Field installed Swivel fittings (Shipped loose with unit) | Inch            | 1.0                | 1.0                | 1.0                | 1.0                | 1.0                |
| Coaxial Coil Volume VT                                    | Gal             | 0.43               | 0.73               | 0.64               | 1.08               | 1.08               |
| Coaxial Coil Volume HZ only(gal)                          | Gal             | 0.33               | 1.18               | 0.62               | 1.07               | 1.12               |
| Vertical Cabinet  |                 |                    |                    |                    |                    |                    |
| Air Coil Dimensions (H x W)                               | Inch (H x W)    | 24 x 21            | 32x28.3            | 32x28.3            | 36x28.3            | 36x28.3            |
| Air Coil Fin Density                                      | Fins/Inch       | 14                 | 14                 | 14                 | 14                 | 14                 |
| Nominal size of Standard Filter - 2" MERV 8 (L x H)       | Inch (L x H)    | 24 X 24            | 16 X 30 (2)        | 16 X 30 (2)        | 20 X 30 (2)        | 20 X 30 (2)        |
| Weight - Operating (lbs)*                                 | lbs             | 220                | 360                | 340                | 375                | 375                |
| Weight - Shipping (lbs)*                                  | lbs             | 300                | 460                | 450                | 500                | 500                |
| Horizontal Cabinet  |                 |                    |                    |                    |                    |                    |
| Air Coil Dimensions (H x W)                               | Inch (H x W)    | 18 X 31.5          | 20 X 42            | 20 X 42            | 20 X 49            | 20 X 49            |
| Air Coil Fin Density                                      | Fins/Inch       | 14                 | 14                 | 14                 | 14                 | 14                 |
| Nominal size of Standard Filter - 2" MERV13 (L x H)       | Inch (L x H)    | 18 X 18 (2)        | 20 X 24 (2)        | 20 X 24 (2)        | 18 X 20 (3)        | 18 X 20 (3)        |
| Weight - Operating (lbs)*                                 | lbs             | 260                | 375                | 355                | 430                | 460                |
| Weight - Shipping (lbs)*                                  | lbs             | 360                | 495                | 470                | 550                | 580                |

\* This data reflects standard unit weights only. Additional options may cause differences in listed weights.

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



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## ASHRAE/AHRI/ISO 13256-1. English (I-P) Units

| Models | Coax Coil   | Orientation | Fluid Flow Rate | Load | Water Loop Heat Pump |            |                  |      | Ground Water Heat Pump |            |                  |      | Ground Loop Heat Pump                         |            |   |      |
|--------|-------------|-------------|-----------------|------|----------------------|------------|------------------|------|------------------------|------------|------------------|------|---|------------|---|------|
|        |             |             |                 |      | Cooling 86 deg.F     |            | Heating 68 deg.F |      | Cooling 59 deg.F       |            | Heating 50 deg.F |      | Cooling<br>Full Load 77 °F<br>Part Load 68 °F |            | Heating<br>Full Load 32 °F<br>Part Load 41 °F |      |
|        |             |             |                 |      | Capacity<br>Btuh     | EER Btuh/W | Capacity<br>Btuh | COP  | Capacity<br>Btuh       | EER Btuh/W | Capacity<br>Btuh | COP  | Capacity<br>Btuh                              | EER Btuh/W | Capacity<br>Btuh                              | COP  |
| SM024  | Copper/CuNi | VT          | 6               | Full | 26200                | 16.20      | 30300            | 5.60 | 29400                  | 24.85      | 24700            | 4.90 | 26900   | 18.90      | 18700   | 4.10 |
|        | Copper/CuNi | VT          | 6               | Part | 19600                | 18.30      | 22800            | 6.50 | 22400                  | 32.15      | 18200            | 5.30 | 21300   | 29.90      | 15500   | 4.50 |
|        | Copper      | HZ          | 6               | Full | 25500                | 16.60      | 29200            | 5.60 | 29000                  | 25.75      | 23500            | 5.00 | 26600   | 19.90      | 18000   | 3.70 |
|        | Copper      | HZ          | 6               | Part | 18500                | 18.40      | 21200            | 6.20 | 21700                  | 31.85      | 16700            | 5.20 | 21000   | 27.00      | 14400   | 4.10 |
|        | CuNi        | HZ          | 6               | Full | 25500                | 15.65      | 29200            | 5.60 | 29000                  | 24.10      | 23500            | 5.00 | 26600   | 18.30      | 18000   | 3.70 |
|        | CuNi        | HZ          | 6               | Part | 18500                | 17.50      | 21200            | 6.40 | 21700                  | 29.90      | 16700            | 5.20 | 21000   | 25.70      | 14400   | 4.10 |
| SM036  | Copper/CuNi | VT          | 10              | Full | 39300                | 18.60      | 46300            | 6.20 | 44300                  | 27.10      | 36700            | 5.40 | 40200   | 21.00      | 28200   | 4.30 |
|        | Copper/CuNi | VT          | 10              | Part | 28900                | 20.40      | 33100            | 7.20 | 32800                  | 35.10      | 26000            | 5.60 | 31600   | 30.00      | 22000   | 4.70 |
|        | Copper/CuNi | HZ          | 9               | Full | 38100                | 17.45      | 42800            | 5.10 | 43300                  | 26.00      | 35900            | 4.55 | 39900   | 20.20      | 28400   | 3.95 |
|        | Copper/CuNi | HZ          | 9               | Part | 27500                | 19.90      | 31000            | 5.60 | 31300                  | 33.20      | 25200            | 4.65 | 30000   | 26.00      | 22400   | 4.10 |
| SM048  | Copper/CuNi | VT          | 12              | Full | 50500                | 15.95      | 60300            | 5.45 | 56900                  | 24.30      | 49200            | 4.90 | 51800   | 18.60      | 38200   | 4.20 |
|        | Copper/CuNi | VT          | 12              | Part | 37100                | 17.80      | 44200            | 6.20 | 42600                  | 31.50      | 35500            | 5.10 | 40100   | 26.40      | 30600   | 4.40 |
|        | Copper      | HZ          | 12              | Full | 49200                | 16.10      | 56100            | 5.40 | 55300                  | 24.40      | 46300            | 4.80 | 51300   | 18.75      | 36900   | 4.10 |
|        | Copper      | HZ          | 12              | Part | 36700                | 18.30      | 40900            | 6.30 | 42000                  | 31.80      | 33700            | 5.30 | 39900   | 26.85      | 29800   | 4.70 |
|        | CuNi        | HZ          | 12              | Full | 49200                | 15.50      | 56100            | 5.30 | 55300                  | 23.80      | 46300            | 4.80 | 51300   | 18.00      | 36900   | 4.10 |
|        | CuNi        | HZ          | 12              | Part | 36700                | 17.50      | 40900            | 6.10 | 42000                  | 30.80      | 33700            | 5.00 | 39900   | 26.00      | 29800   | 4.50 |
| SM060  | Copper/CuNi | VT          | 15              | Full | 62500                | 15.35      | 78300            | 5.40 | 71600                  | 24.00      | 62400            | 4.70 | 63900   | 18.60      | 48600   | 4.00 |
|        | Copper/CuNi | VT          | 15              | Part | 46400                | 17.70      | 57600            | 6.00 | 53500                  | 30.60      | 45900            | 4.90 | 51100   | 25.20      | 39900   | 4.40 |
|        | Copper/CuNi | HZ          | 15              | Full | 63800                | 15.45      | 73300            | 4.80 | 70200                  | 22.30      | 60300            | 4.35 | 65100   | 17.60      | 45500   | 3.70 |
|        | Copper/CuNi | HZ          | 15              | Part | 47500                | 17.20      | 53600            | 5.65 | 53300                  | 29.30      | 44300            | 4.65 | 51600   | 25.00      | 37200   | 4.10 |
| SM070  | Copper/CuNi | VT          | 18              | Full | 69700                | 14.30      | 88900            | 5.00 | 78900                  | 22.10      | 72600            | 4.40 | 71500   | 17.30      | 56000   | 3.70 |
|        | Copper/CuNi | VT          | 18              | Part | 52900                | 16.40      | 67700            | 5.50 | 61200                  | 26.90      | 53800            | 4.60 | 58100   | 23.30      | 46100   | 4.10 |
|        | Copper/CuNi | HZ          | 18              | Full | 71600                | 14.10      | 84000            | 4.80 | 78700                  | 21.20      | 70000            | 4.35 | 73700   | 16.40      | 55300   | 3.60 |
|        | Copper/CuNi | HZ          | 18              | Part | 55200                | 15.30      | 64900            | 5.20 | 60800                  | 26.40      | 48400            | 4.45 | 60300   | 22.00      | 46900   | 4.00 |



## Electrical Data (ECM Blower Motor)

| Models | Voltage Code | Voltage/Phase/Hz | Voltage Min/Max | Compressor |      |       | Total Unit Variable Speed Constant CFM High Efficiency Motor |                  |                 |                |
|--------|--------------|------------------|-----------------|------------|------|-------|--|------------------|-----------------|----------------|
|        |              |                  |                 | QTY        | RLA  | LRA   | FLA  | Min Circuit Amps | MOP Calculation | Max Fuse/ HACR |
| SM024  | 1            | 208-230/1/60     | 197/253         | 1          | 11.7 | 58.3  | 2.8  | 17.4             | 29.0            | 25             |
| SM036  | 1            | 208-230/1/60     | 197/253         | 1          | 15.6 | 83.0  | 6.8  | 26.3             | 41.9            | 40             |
| SM048  | 1            | 208-230/1/60     | 197/253         | 1          | 21.2 | 104.0 | 6.8  | 33.2             | 54.4            | 50             |
| SM060  | 1            | 208-230/1/60     | 197/253         | 1          | 26.9 | 139.9 | 9.1  | 42.7             | 69.6            | 60             |
| SM070  | 1            | 208-230/1/60     | 197/253         | 1          | 29.7 | 179.2 | 9.1  | 46.2             | 75.9            | 70             |



Values shown above do not include electric heat option.



Units with Factory Installed Electric Heat option will have two separate data plates for each electrical circuit.



**1st Data plate for units with EH field installed kit - compressor power connection**

| Models | Voltage Code | Voltage/Phase/Hz | Voltage Min/Max | Compressor |      |       |                  |                 |                |
|--------|--------------|------------------|-----------------|------------|------|-------|------------------|-----------------|----------------|
|        |              |                  |                 | QTY        | RLA  | LRA   | Min Circuit Amps | MOP Calculation | Max Fuse/ HACR |
| SM024  | 1            | 208-230/1/60     | 197/253         | 1          | 11.7 | 58.3  | 14.6             | 26.2            | 25             |
| SM036  | 1            | 208-230/1/60     | 197/253         | 1          | 15.6 | 83.0  | 19.5             | 35.1            | 35             |
| SM048  | 1            | 208-230/1/60     | 197/253         | 1          | 21.2 | 104.0 | 26.4             | 47.6            | 45             |
| SM060  | 1            | 208-230/1/60     | 197/253         | 1          | 26.9 | 139.9 | 33.6             | 60.5            | 60             |
| SM070  | 1            | 208-230/1/60     | 197/253         | 1          | 29.7 | 179.2 | 37.1             | 66.8            | 60             |

**2nd data plate for units with EH field installed kit - Constant Airflow ECM motor**

| Model | Electric Heater Rated kW | Stage | Heater Watts |       | Heater Amps |      | Motor FLA (A) | Circuit | MCA   |      | MOP  |      |
|-------|--------------------------|-------|--------------|-------|-------------|------|---------------|---------|-------|------|------|------|
|       |                          |       | 240V         | 208V  | 240V        | 208V |               | Fuses   | 240V  | 208V | 240V | 208V |
| SM024 | 4.8                      | 1     | 4800         | 3600  | 20          | 17.3 | 2.8           | -       | 28.5  | 25.1 | 30   | 30   |
|       | 9.6                      | 1     | 9600         | 7200  | 40          | 34.6 | 2.8           | -       | 53.5  | 46.8 | 30   | 50   |
| SM036 | 4.8                      | 1     | 4800         | 3600  | 20          | 17.3 | 6.8           | -       | 33.5  | 30.1 | 35   | 35   |
|       | 9.6                      | 1     | 9600         | 7200  | 40          | 34.6 | 6.8           | -       | 58.5  | 51.8 | 60   | 60   |
|       | 14.4                     | 2     | 14400        | 10800 | 60          | 51.9 | 6.8           | F1/F2   | 83.5  | 73.4 | 90   | 80   |
|       |                          |       |              |       |             |      |               | F3/F4   |       |      |      |      |
| SM048 | 4.8                      | 1     | 4800         | 3600  | 20          | 17.3 | 6.8           | -       | 33.5  | 30.1 | 35   | 35   |
|       | 9.6                      | 1     | 9600         | 7200  | 40          | 34.6 | 6.8           | -       | 58.5  | 51.8 | 60   | 60   |
|       | 14.4                     | 2     | 14400        | 10800 | 60          | 51.9 | 6.8           | F1/F2   | 83.5  | 73.4 | 90   | 80   |
|       |                          |       |              |       |             |      |               | F3/F4   |       |      |      |      |
|       | 19.2                     | 2     | 19200        | 14000 | 80          | 69.2 | 6.8           | F1/F2   | 108.5 | 95.0 | 110  | 100  |
|       |                          |       |              |       |             |      |               | F3/F4   |       |      |      |      |
| SM060 | 4.8                      | 1     | 4800         | 3600  | 20          | 17.3 | 9.1           | -       | 36.4  | 33.0 | 40   | 35   |
|       | 9.6                      | 1     | 9600         | 7200  | 40          | 34.6 | 9.1           | -       | 61.4  | 54.6 | 70   | 60   |
|       | 14.4                     | 2     | 14400        | 10800 | 60          | 51.9 | 9.1           | F1/F2   | 86.4  | 76   | 90   | 80   |
|       |                          |       |              |       |             |      |               | F3/F4   |       |      |      |      |
|       | 19.2                     | 2     | 19200        | 14000 | 80          | 69.2 | 9.1           | F1/F2   | 111.4 | 97.9 | 125  | 100  |
|       |                          |       |              |       |             |      |               | F3/F4   |       |      |      |      |
| SM070 | 4.8                      | 1     | 4800         | 3600  | 20          | 17.3 | 9.1           | -       | 36.4  | 33.0 | 40   | 35   |
|       | 9.6                      | 1     | 9600         | 7200  | 40          | 34.6 | 9.1           | -       | 61.4  | 54.6 | 70   | 60   |
|       | 14.4                     | 2     | 14400        | 10800 | 60          | 51.9 | 9.1           | F1/F2   | 86.4  | 76   | 90   | 80   |
|       |                          |       |              |       |             |      |               | F3/F4   |       |      |      |      |
|       | 19.2                     | 2     | 19200        | 14000 | 80          | 69.2 | 9.1           | F1/F2   | 111.4 | 97.9 | 125  | 100  |
|       |                          |       |              |       |             |      |               | F3/F4   |       |      |      |      |

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps

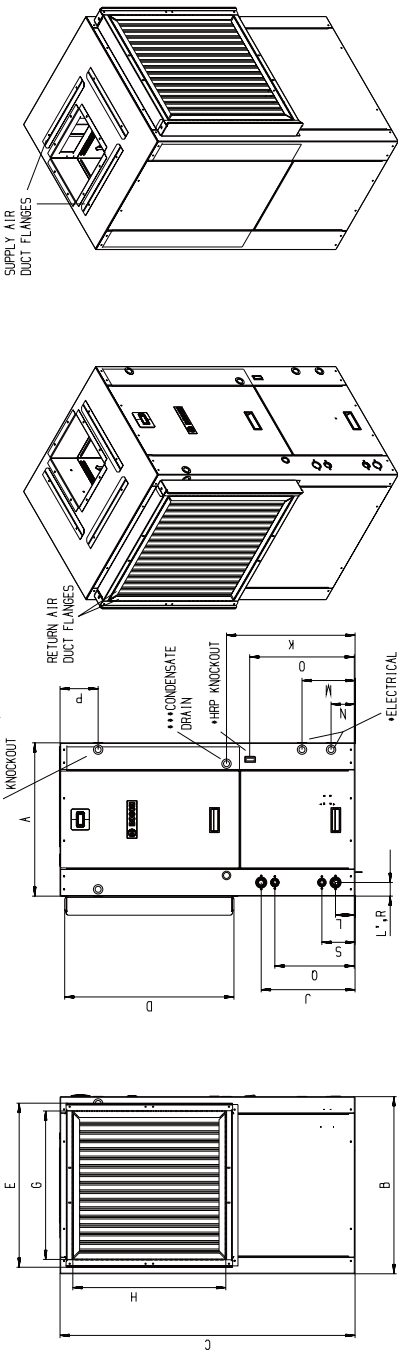


**BOSCH**

## SM-VT Dimensions and Connections

| MODEL    | A     | B     | C      | D      | E     | F     | G                     | H                      | J                    | K              | L              | L'                  | M            | N            | O               | P               | HPR CONNECTIONS |                 |                 |     |     | SUPPLY AIR DUCT OPENING |      |     |      |      | WATER CONNECTIONS |             |            |  |  | FILTER SIZE (Qty/Unit) |
|----------|-------|-------|--------|--------|-------|-------|-----------------------|------------------------|----------------------|----------------|----------------|---------------------|--------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----|-----|-------------------------|------|-----|------|------|-------------------|-------------|------------|--|--|------------------------|
|          | WIDTH | DEPTH | HEIGHT | HEIGHT | WIDTH | DEPTH | RETURN AIR DUCT WIDTH | RETURN AIR DUCT HEIGHT | WATER DRAIN OUT PORT | WATER INLET IN | WATER INLET IN | ELECTRICAL KNOCKOUT | HPR KNOCKOUT | HPR KNOCKOUT | HEATER KNOCKOUT | HPR CONNECTIONS | HPR CONNECTIONS | HPR CONNECTIONS | HPR CONNECTIONS | T   | T'  | U                       | U'   | V   | V'   | W    | W'                |             |            |  |  |                        |
| SM024-VT | 22.5  | 26    | 43.3   | 24.4   | 24.1  | 2.8   | 21.8                  | 22.5                   | 13.8                 | 18.9           | 2.9            | 2                   | 7.8          | 3.5          | 15.5            | 5.6             | 11.8            | 2               | 4.9             | 6.1 | 6.1 | 13.7                    | 13.7 | 1.4 | 3.1  | 15.6 | 13.1              | 3/4" F.P.T. | 24x24x2(1) |  |  |                        |
| SM036-VT | 24.5  | 33.3  | 54     | 32.4   | 30.6  | 2.8   | 28.3                  | 30.4                   | 16.5                 | 25.9           | 2.9            | 2                   | 7.8          | 3.5          | 15.5            | 5.6             | 13.5            | 2               | 5.9             | 8.1 | 7.8 | 17.8                    | 1.4  | 4   | 17.6 | 15.6 | 1" F.P.T.         | 16x30x2(2)  |            |  |  |                        |
| SM048-VT | 24.5  | 33.3  | 54     | 32.4   | 30.6  | 2.8   | 28.3                  | 30.4                   | 16.5                 | 25.9           | 2.9            | 2                   | 7.8          | 3.5          | 15.5            | 5.6             | 13.5            | 2               | 5.9             | 8.1 | 7.8 | 17.8                    | 1.4  | 4   | 17.6 | 15.6 | 1" F.P.T.         | 16x30x2(2)  |            |  |  |                        |
| SM060-VT | 26    | 33.3  | 60.1   | 40.8   | 30.6  | 2.8   | 28.4                  | 36.9                   | 15.3                 | 23.9           | 2.9            | 2                   | 7.8          | 3.5          | 15.5            | 5.6             | 12.3            | 2               | 5.9             | 8.1 | 7.8 | 17.8                    | 2    | 5.4 | 17.6 | 15.6 | 1" F.P.T.         | 20x30x2(2)  |            |  |  |                        |
| SM070-VT | 26    | 33.3  | 60.1   | 40.8   | 30.6  | 2.8   | 28.4                  | 36.9                   | 15.3                 | 23.9           | 2.9            | 2                   | 7.8          | 3.5          | 15.5            | 5.6             | 12.3            | 2               | 5.9             | 8.1 | 7.8 | 17.8                    | 2    | 5.4 | 17.6 | 15.6 | 1" F.P.T.         | 20x30x2(2)  |            |  |  |                        |

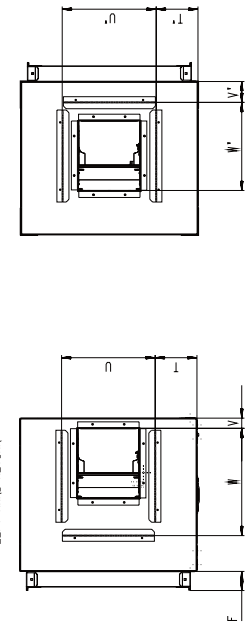
(FIELD INSTALLED ELECTRIC HEAT KIT)



LEFT HAND RETURN SHOWN

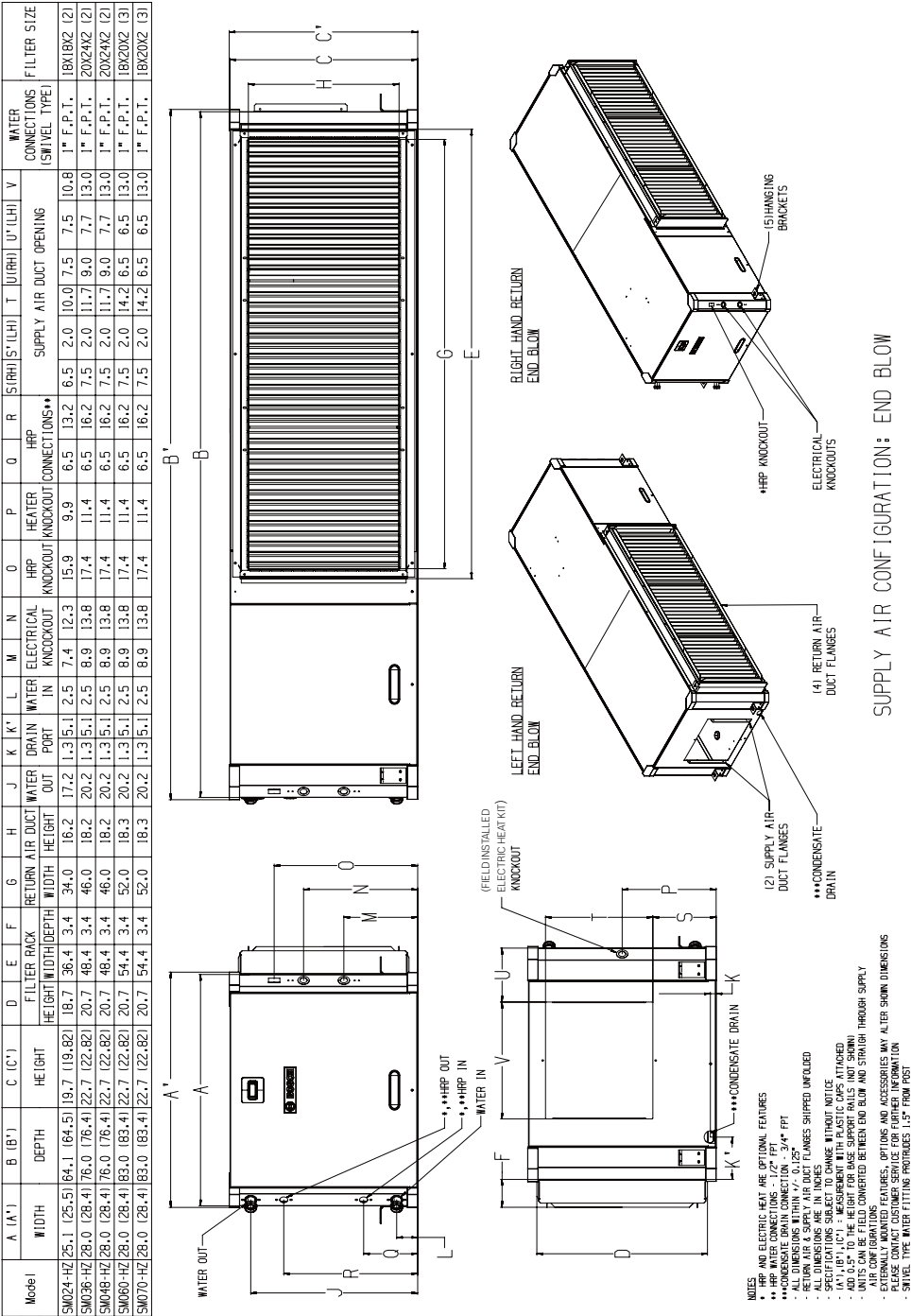
RIGHT HAND RETURN

LEFT HAND RETURN



- NOTES:
- HRP & ELECTRICAL HEAT ARE OPTIONAL FEATURES
  - HRP WATER CONNECTIONS - 1/2" FPT
  - CONDENSATE DRAIN CONNECTION - 3/4" FPT
  - ALL DIMENSIONS WITHIN +/- 0.125"
  - RETURN & SUPPLY AIR DUCT FLANGES SHIPPED UNFOLDED
  - ALL DIMENSIONS ARE IN INCHES
  - SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
  - SWIVEL TYPE WATER FITTINGS PROVIDES 1.5" FROM PANEL
  - UNIT SHIPPED WITH SWIVEL FITTING 1.00" FPT FOR FIELD INSTALLATION

SM-HZ End Blow Dimensions and Connections

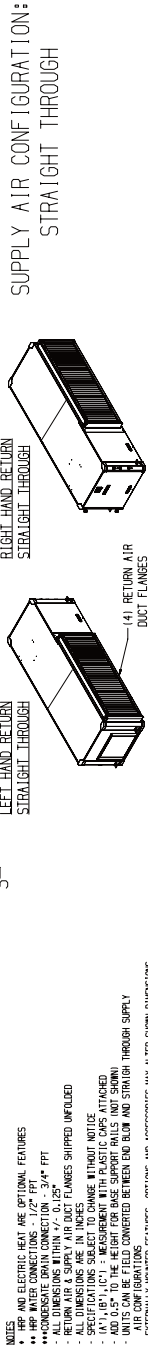
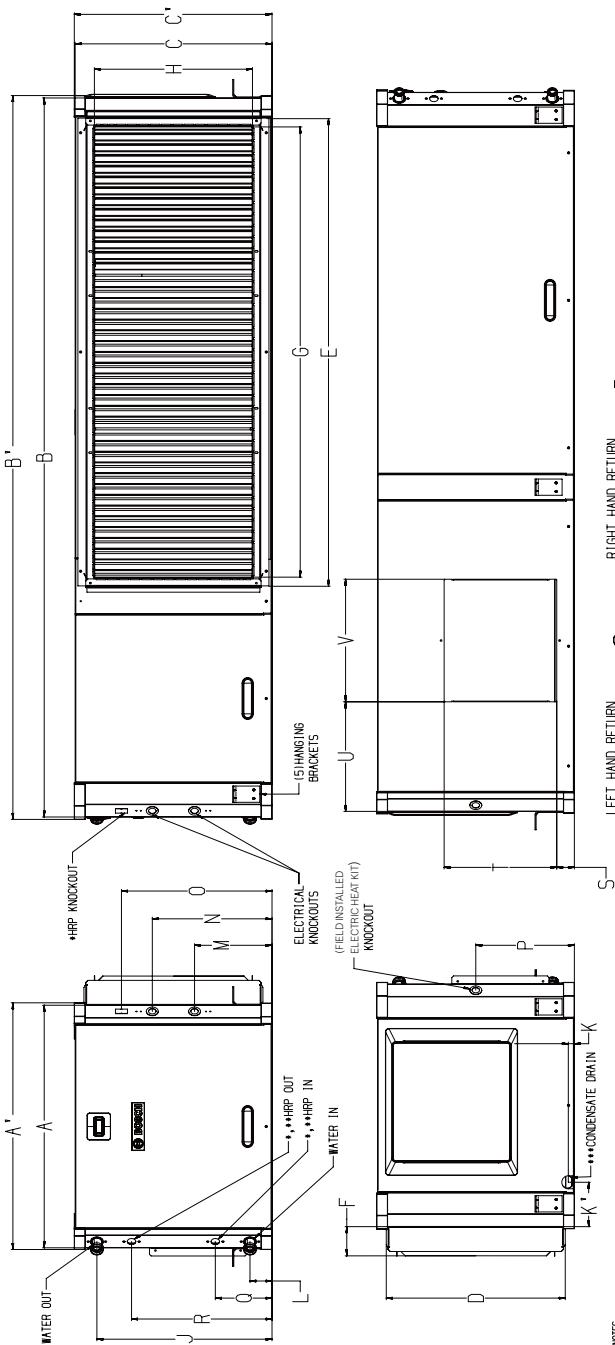






SM-HZ Straight Through Dimensions and Connections

| Model                            | A (A")       | B (B") | C (C") | D   | E    | F    | G    | H        | J   | K   | K"   | L    | M    | N   | O    | P   | Q   | R    | S (RH) S' (LH) | T    | U (RH) U' (LH) | V    | WATER CONNECTIONS (S/M VEL TYPE) | FILTER SIZE |
|----------------------------------|--------------|--------|--------|-----|------|------|------|----------|-----|-----|------|------|------|-----|------|-----|-----|------|----------------|------|----------------|------|----------------------------------|-------------|
| SM024-HZ 25.1 (25.5) 64.1 (64.5) | 19.7 (19.82) | 18.7   | 36.4   | 3.4 | 34.0 | 16.2 | 17.2 | 1.3 15.1 | 2.5 | 7.4 | 12.3 | 15.9 | 9.9  | 6.5 | 13.2 | 2.0 | 6.5 | 10.0 | 11.8           | 11.8 | 10.8           | 10.8 | 1" F.P.T.                        | 18X18X2 (2) |
| SM036-HZ 28.0 (28.4) 76.0 (76.4) | 22.7 (22.82) | 20.7   | 48.4   | 3.4 | 46.0 | 18.2 | 20.2 | 1.3 15.1 | 2.5 | 8.9 | 13.8 | 17.4 | 11.4 | 6.5 | 16.2 | 2.0 | 7.5 | 11.7 | 12.9           | 12.9 | 13.0           | 13.0 | 1" F.P.T.                        | 20X24X2 (2) |
| SM048-HZ 28.0 (28.4) 76.0 (76.4) | 22.7 (22.82) | 20.7   | 48.4   | 3.4 | 46.0 | 18.2 | 20.2 | 1.3 15.1 | 2.5 | 8.9 | 13.8 | 17.4 | 11.4 | 6.5 | 16.2 | 2.0 | 7.5 | 11.7 | 12.9           | 12.9 | 13.0           | 13.0 | 1" F.P.T.                        | 20X24X2 (2) |
| SM060-HZ 28.0 (28.4) 83.0 (83.4) | 22.7 (22.82) | 20.7   | 54.4   | 3.4 | 52.0 | 18.3 | 20.2 | 1.3 15.1 | 2.5 | 8.9 | 13.8 | 17.4 | 11.4 | 6.5 | 16.2 | 2.0 | 7.5 | 14.2 | 15.1           | 15.1 | 13.0           | 13.0 | 1" F.P.T.                        | 18X20X2 (3) |
| SM070-HZ 28.0 (28.4) 83.0 (83.4) | 22.7 (22.82) | 20.7   | 54.4   | 3.4 | 52.0 | 18.3 | 20.2 | 1.3 15.1 | 2.5 | 8.9 | 13.8 | 17.4 | 11.4 | 6.5 | 16.2 | 2.0 | 7.5 | 14.2 | 15.1           | 15.1 | 13.0           | 13.0 | 1" F.P.T.                        | 18X20X2 (3) |

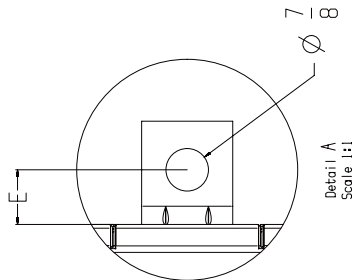


- NOTES
- HRP AND ELECTRICAL KNOCKOUTS ARE OPTIONAL FEATURES
  - HRP WATER CONNECTIONS - 1/2" PPT
  - CONDENSATE DRAIN CONNECTION - 3/4" PPT
  - ALL DIMENSIONS ARE IN INCHES
  - RETURN AIR & SUPPLY AIR DUCT FLANGES SHIPPED UNFLEATED
  - SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
  - DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED
  - ADD 0.5" TO THE HEIGHT FOR BASE SUPPORT RAILS (NOT SHOWN)
  - UNITS CAN BE FIELD CONVERTED BETWEEN END BLOW AND STRAIGHT THROUGH SUPPLY
  - AIR CONFIGURATION FEATURES, OPTIONS AND ACCESSORIES MAY ALTER SHOWN DIMENSIONS
  - PLEASE CONTACT CUSTOMER SERVICE FOR FURTHER INFORMATION
  - SN/VEL TYPE WATER FITTING PROTRUDES 1.5" FROM POST



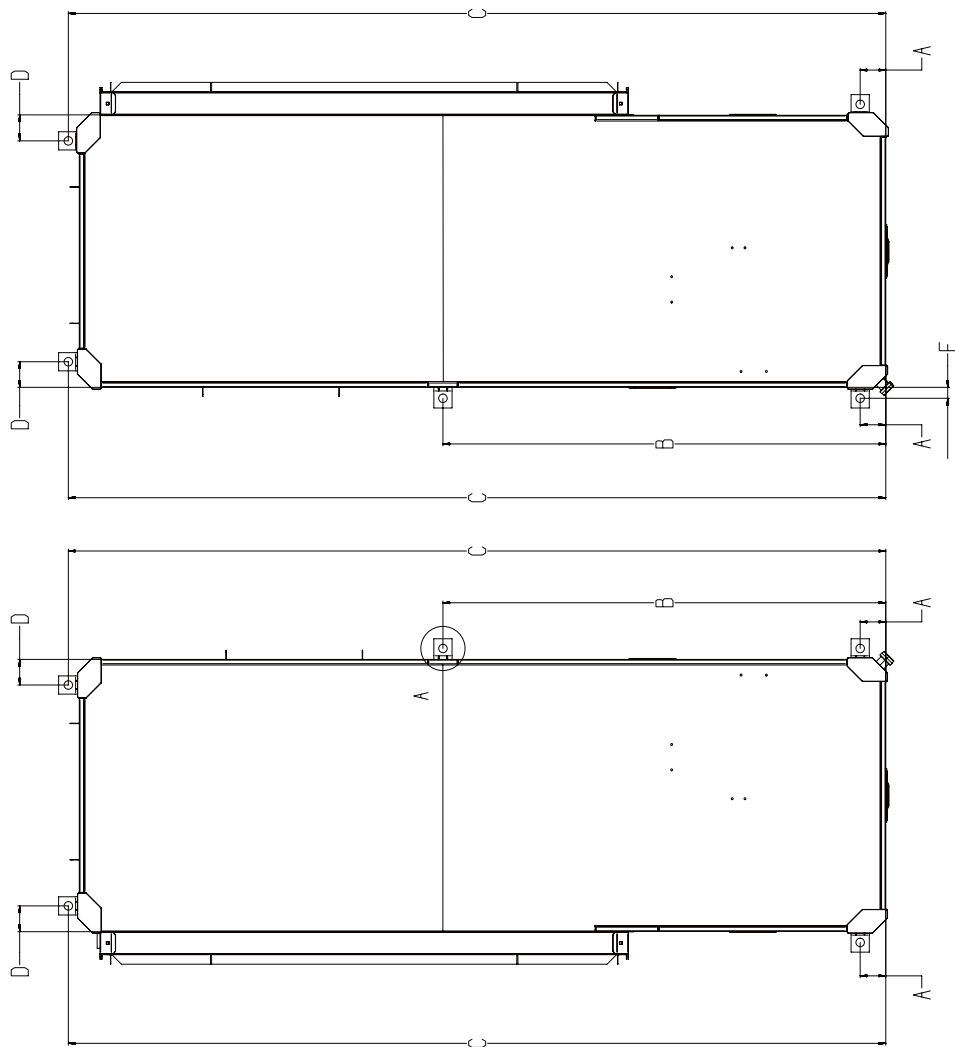
**SM-HZ Hanging Bracket Dimensions and Connections**

| Model    | A     | B      | C      | D     | E     |
|----------|-------|--------|--------|-------|-------|
| SM024-HZ | 2.634 | 32.817 | 65.225 | 2.634 | 1.125 |
| SM036-HZ | 2.634 | 33.972 | 77.125 | 2.634 | 1.125 |
| SM048-HZ | 2.634 | 33.972 | 77.125 | 2.634 | 1.125 |
| SM060-HZ | 2.634 | 45.573 | 84.125 | 2.634 | 1.125 |
| SM070-HZ | 2.634 | 45.573 | 84.125 | 2.634 | 1.125 |



**NOTES**  
 -ALL DIMENSIONS WITHIN +/- 0.125"  
 -ALL DIMENSIONS ARE IN INCHES  
 -SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE  
 -DIMENSION "E" IS TYPICAL FOR ALL MODELS,  
 CONFIGURATION AND BRACKET POSITIONS

**HANGING BRACKET LOCATION SPECIFICATIONS**



# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM024 HZ Full Load Cooling Performance Data - 930 CFM**

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 3                | 0.7                 | 75/63                        | 26.4                   | 21.6                      | 31.2                      | 1.4              | 19.0 |
|                          |                  |                     | 80/67                        | 28.1                   | 22.2                      | 32.9                      | 1.4              | 19.8 |
|                          |                  |                     | 85/71                        | 29.7                   | 22.9                      | 34.7                      | 1.4              | 20.6 |
|                          | 4.5              | 1.2                 | 75/63                        | 27.5                   | 21.9                      | 31.9                      | 1.3              | 21.2 |
|                          |                  |                     | 80/67                        | 29.2                   | 22.6                      | 33.7                      | 1.3              | 22.1 |
|                          |                  |                     | 85/71                        | 30.9                   | 23.2                      | 35.6                      | 1.3              | 23.2 |
|                          | 6                | 2.4                 | 75/63                        | 28.0                   | 22.2                      | 32.3                      | 1.2              | 22.4 |
|                          |                  |                     | 80/67                        | 29.7                   | 22.8                      | 34.1                      | 1.3              | 23.5 |
|                          |                  |                     | 85/71                        | 31.6                   | 23.6                      | 36.0                      | 1.3              | 24.8 |
| 60                       | 3                | 0.7                 | 75/63                        | 25.3                   | 21.0                      | 30.4                      | 1.5              | 16.7 |
|                          |                  |                     | 80/67                        | 26.8                   | 21.7                      | 32.0                      | 1.5              | 17.4 |
|                          |                  |                     | 85/71                        | 28.4                   | 22.5                      | 33.7                      | 1.6              | 18.2 |
|                          | 4.5              | 1.2                 | 75/63                        | 26.2                   | 21.4                      | 31.0                      | 1.4              | 18.5 |
|                          |                  |                     | 80/67                        | 27.8                   | 22.1                      | 32.8                      | 1.4              | 19.4 |
|                          |                  |                     | 85/71                        | 29.6                   | 22.7                      | 34.6                      | 1.5              | 20.3 |
|                          | 6                | 2.4                 | 75/63                        | 26.7                   | 21.6                      | 31.4                      | 1.4              | 19.5 |
|                          |                  |                     | 80/67                        | 28.4                   | 22.4                      | 33.1                      | 1.4              | 20.5 |
|                          |                  |                     | 85/71                        | 30.2                   | 22.9                      | 35.0                      | 1.4              | 21.6 |
| 70                       | 3                | 0.7                 | 75/63                        | 24.0                   | 20.7                      | 29.6                      | 1.6              | 14.6 |
|                          |                  |                     | 80/67                        | 25.5                   | 21.2                      | 31.2                      | 1.7              | 15.3 |
|                          |                  |                     | 85/71                        | 27.0                   | 22.0                      | 32.8                      | 1.7              | 16.0 |
|                          | 4.5              | 1.2                 | 75/63                        | 24.9                   | 21.0                      | 30.2                      | 1.5              | 16.1 |
|                          |                  |                     | 80/67                        | 26.5                   | 21.7                      | 31.8                      | 1.6              | 17.0 |
|                          |                  |                     | 85/71                        | 28.2                   | 22.2                      | 33.6                      | 1.6              | 17.8 |
|                          | 6                | 2.3                 | 75/63                        | 25.4                   | 21.2                      | 30.5                      | 1.5              | 17.0 |
|                          |                  |                     | 80/67                        | 27.1                   | 21.8                      | 32.2                      | 1.5              | 17.9 |
|                          |                  |                     | 85/71                        | 28.8                   | 22.5                      | 34.0                      | 1.5              | 18.9 |
| 80                       | 3                | 0.7                 | 75/63                        | 22.8                   | 20.0                      | 28.8                      | 1.8              | 12.8 |
|                          |                  |                     | 80/67                        | 24.2                   | 20.7                      | 30.3                      | 1.8              | 13.4 |
|                          |                  |                     | 85/71                        | 25.7                   | 21.3                      | 31.9                      | 1.8              | 14.0 |
|                          | 4.5              | 1.2                 | 75/63                        | 23.7                   | 20.4                      | 29.3                      | 1.7              | 14.1 |
|                          |                  |                     | 80/67                        | 25.2                   | 21.2                      | 30.9                      | 1.7              | 14.8 |
|                          |                  |                     | 85/71                        | 26.8                   | 21.8                      | 32.6                      | 1.7              | 15.6 |
|                          | 6                | 2.3                 | 75/63                        | 24.1                   | 20.7                      | 29.6                      | 1.6              | 14.7 |
|                          |                  |                     | 80/67                        | 25.7                   | 21.3                      | 31.3                      | 1.7              | 15.6 |
|                          |                  |                     | 85/71                        | 27.3                   | 22.1                      | 33.0                      | 1.7              | 16.4 |
| 90                       | 3                | 0.7                 | 75/63                        | 21.6                   | 19.5                      | 28.1                      | 2.0              | 11.0 |
|                          |                  |                     | 80/67                        | 22.9                   | 20.2                      | 29.5                      | 2.0              | 11.6 |
|                          |                  |                     | 85/71                        | 24.3                   | 21.1                      | 31.0                      | 2.0              | 12.2 |
|                          | 4.5              | 1.2                 | 75/63                        | 22.3                   | 20.0                      | 28.5                      | 1.8              | 12.1 |
|                          |                  |                     | 80/67                        | 23.8                   | 20.7                      | 30.1                      | 1.9              | 12.8 |
|                          |                  |                     | 85/71                        | 25.3                   | 21.3                      | 31.7                      | 1.9              | 13.5 |
|                          | 6                | 2.2                 | 75/63                        | 22.8                   | 20.0                      | 28.8                      | 1.8              | 12.7 |
|                          |                  |                     | 80/67                        | 24.3                   | 20.9                      | 30.3                      | 1.8              | 13.5 |
|                          |                  |                     | 85/71                        | 25.8                   | 21.6                      | 32.0                      | 1.8              | 14.2 |
| 100                      | 3                | 0.6                 | 75/63                        | 20.3                   | 19.1                      | 27.4                      | 2.1              | 9.5  |
|                          |                  |                     | 80/67                        | 21.6                   | 19.9                      | 28.8                      | 2.2              | 10.0 |
|                          |                  |                     | 85/71                        | 23.0                   | 20.5                      | 30.3                      | 2.2              | 10.5 |
|                          | 4.5              | 1.2                 | 75/63                        | 21.0                   | 19.4                      | 27.8                      | 2.0              | 10.4 |
|                          |                  |                     | 80/67                        | 22.5                   | 20.1                      | 29.3                      | 2.0              | 11.0 |
|                          |                  |                     | 85/71                        | 24.0                   | 20.8                      | 30.8                      | 2.1              | 11.7 |
|                          | 6                | 2.1                 | 75/63                        | 21.4                   | 19.5                      | 28.0                      | 2.0              | 10.9 |
|                          |                  |                     | 80/67                        | 22.9                   | 20.2                      | 29.5                      | 2.0              | 11.6 |
|                          |                  |                     | 85/71                        | 24.4                   | 20.9                      | 31.1                      | 2.0              | 12.3 |
| 110                      | 3                | 0.6                 | 75/63                        | 19.0                   | 18.7                      | 26.9                      | 2.4              | 8.1  |
|                          |                  |                     | 80/67                        | 20.3                   | 19.3                      | 28.2                      | 2.4              | 8.5  |
|                          |                  |                     | 85/71                        | 21.6                   | 20.0                      | 29.6                      | 2.4              | 9.0  |
|                          | 4.5              | 1.2                 | 75/63                        | 19.7                   | 18.9                      | 27.1                      | 2.2              | 8.8  |
|                          |                  |                     | 80/67                        | 21.1                   | 19.7                      | 28.6                      | 2.2              | 9.4  |
|                          |                  |                     | 85/71                        | 22.5                   | 20.5                      | 30.1                      | 2.3              | 10.0 |
|                          | 6                | 2.1                 | 75/63                        | 20.1                   | 19.1                      | 27.3                      | 2.2              | 9.2  |
|                          |                  |                     | 80/67                        | 21.5                   | 19.8                      | 28.8                      | 2.2              | 9.8  |
|                          |                  |                     | 85/71                        | 22.9                   | 20.6                      | 30.3                      | 2.2              | 10.5 |

**DISCLAIMER:** The performance reported herein is based on testing by FHP. Variations in the installation and operational environment may alter performance. Bosch disclaims all warranties, express and implied, that the performance will be as reported, including the warranty of merchantability and fitness for purpose. In addition, continuous research and development may result in a change to an appliances design and specifications at the time of order, which Bosch may change without notice. Before purchase, confirm the design specifications of the appliance.

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM024 HZ Full Load Heating Performance Data - 930 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 30                       | 0.7                 | 60                     | 17.7                   | 14.0                       | 1.4              | 3.71 |
|                          |                     | 70                     | 17.5                   | 12.7                       | 1.5              | 3.35 |
|                          |                     | 80                     | 17.4                   | 12.2                       | 1.7              | 3.02 |
|                          | 1.2                 | 60                     | 18.9                   | 14.5                       | 1.4              | 3.91 |
|                          |                     | 70                     | 18.5                   | 13.8                       | 1.6              | 3.49 |
|                          |                     | 80                     | 18.2                   | 13.0                       | 1.7              | 3.14 |
|                          | 2.5                 | 60                     | 19.4                   | 15.2                       | 1.4              | 3.99 |
|                          |                     | 70                     | 19.0                   | 14.3                       | 1.6              | 3.57 |
|                          |                     | 80                     | 18.7                   | 13.4                       | 1.7              | 3.21 |
| 40                       | 0.7                 | 60                     | 20.1                   | 16.4                       | 1.4              | 4.09 |
|                          |                     | 70                     | 19.7                   | 15.2                       | 1.6              | 3.66 |
|                          |                     | 80                     | 19.6                   | 14.2                       | 1.7              | 3.32 |
|                          | 1.2                 | 60                     | 21.5                   | 17.5                       | 1.5              | 4.31 |
|                          |                     | 70                     | 20.9                   | 15.9                       | 1.6              | 3.84 |
|                          |                     | 80                     | 20.3                   | 15.1                       | 1.7              | 3.41 |
|                          | 2.5                 | 60                     | 21.4                   | 16.9                       | 1.5              | 4.29 |
|                          |                     | 70                     | 21.5                   | 16.6                       | 1.6              | 3.92 |
|                          |                     | 80                     | 21.1                   | 15.8                       | 1.8              | 3.51 |
| 50                       | 0.7                 | 60                     | 22.6                   | 18.5                       | 1.5              | 4.46 |
|                          |                     | 70                     | 21.8                   | 16.9                       | 1.6              | 3.95 |
|                          |                     | 80                     | 21.3                   | 15.9                       | 1.8              | 3.54 |
|                          | 1.2                 | 60                     | 24.0                   | 20.1                       | 1.5              | 4.65 |
|                          |                     | 70                     | 23.0                   | 18.3                       | 1.6              | 4.11 |
|                          |                     | 80                     | 22.5                   | 16.7                       | 1.8              | 3.69 |
|                          | 2.4                 | 60                     | 24.8                   | 20.5                       | 1.5              | 4.77 |
|                          |                     | 70                     | 23.7                   | 18.6                       | 1.7              | 4.21 |
|                          |                     | 80                     | 23.9                   | 18.4                       | 1.8              | 3.86 |
| 60                       | 0.7                 | 60                     | 24.9                   | 20.4                       | 1.5              | 4.77 |
|                          |                     | 70                     | 24.5                   | 19.2                       | 1.7              | 4.3  |
|                          |                     | 80                     | 24.4                   | 19.0                       | 1.8              | 3.91 |
|                          | 1.2                 | 60                     | 26.7                   | 21.9                       | 1.6              | 5.03 |
|                          |                     | 70                     | 26.4                   | 21.4                       | 1.7              | 4.54 |
|                          |                     | 80                     | 25.2                   | 19.7                       | 1.8              | 4.01 |
|                          | 2.4                 | 60                     | 27.7                   | 22.4                       | 1.6              | 5.16 |
|                          |                     | 70                     | 26.9                   | 22.3                       | 1.7              | 4.59 |
|                          |                     | 80                     | 26.7                   | 21.3                       | 1.9              | 4.19 |
| 70                       | 0.7                 | 60                     | 27.8                   | 22.8                       | 1.6              | 5.16 |
|                          |                     | 70                     | 28.0                   | 22.9                       | 1.7              | 4.76 |
|                          |                     | 80                     | 27.1                   | 21.6                       | 1.9              | 4.24 |
|                          | 1.2                 | 60                     | 30.2                   | 25.7                       | 1.6              | 5.48 |
|                          |                     | 70                     | 29.0                   | 23.6                       | 1.7              | 4.87 |
|                          |                     | 80                     | 28.8                   | 22.7                       | 1.9              | 4.44 |
|                          | 2.3                 | 60                     | 30.7                   | 25.8                       | 1.6              | 5.52 |
|                          |                     | 70                     | 30.4                   | 25.3                       | 1.8              | 5.05 |
|                          |                     | 80                     | 29.7                   | 24.8                       | 1.9              | 4.54 |
| 80                       | 0.7                 | 60                     | 31.3                   | 26.8                       | 1.6              | 5.61 |
|                          |                     | 70                     | 30.0                   | 24.8                       | 1.8              | 4.99 |
|                          |                     | 80                     | 30.0                   | 24.2                       | 1.9              | 4.59 |
|                          | 1.2                 | 60                     | 33.1                   | 27.8                       | 1.7              | 5.84 |
|                          |                     | 70                     | 32.7                   | 26.8                       | 1.8              | 5.33 |
|                          |                     | 80                     | 31.9                   | 26.4                       | 2.0              | 4.78 |
|                          | 2.3                 | 60                     | 34.1                   | 29.6                       | 1.7              | 5.94 |
|                          |                     | 70                     | 33.9                   | 29.0                       | 1.8              | 5.45 |
|                          |                     | 80                     | 32.5                   | 26.8                       | 2.0              | 4.85 |

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Bosch Thermotechnology Corp.  
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM024 HZ Part Load Cooling Performance Data - 750 CFM**

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 3                | 0.7                 | 75/63                        | 20.6                   | 17.1                      | 23.7                      | 0.9              | 23.1 |
|                          |                  |                     | 80/67                        | 22.0                   | 17.7                      | 25.0                      | 0.9              | 24.8 |
|                          |                  |                     | 85/71                        | 23.3                   | 18.2                      | 26.4                      | 0.9              | 26.5 |
|                          | 4.5              | 1.2                 | 75/63                        | 21.3                   | 17.4                      | 24.2                      | 0.8              | 25.3 |
|                          |                  |                     | 80/67                        | 22.7                   | 17.9                      | 25.6                      | 0.8              | 27.3 |
|                          |                  |                     | 85/71                        | 24.1                   | 18.4                      | 27.0                      | 0.8              | 29.4 |
|                          | 6                | 2.4                 | 75/63                        | 21.6                   | 17.6                      | 24.4                      | 0.8              | 26.5 |
|                          |                  |                     | 80/67                        | 23.0                   | 18.1                      | 25.9                      | 0.8              | 28.7 |
|                          |                  |                     | 85/71                        | 24.5                   | 18.6                      | 27.3                      | 0.8              | 31.0 |
| 60                       | 3                | 0.7                 | 75/63                        | 19.6                   | 16.7                      | 23.0                      | 1.0              | 19.7 |
|                          |                  |                     | 80/67                        | 20.8                   | 17.3                      | 24.2                      | 1.0              | 21.1 |
|                          |                  |                     | 85/71                        | 22.1                   | 17.9                      | 25.5                      | 1.0              | 22.6 |
|                          | 4.5              | 1.2                 | 75/63                        | 20.2                   | 16.9                      | 23.4                      | 0.9              | 21.7 |
|                          |                  |                     | 80/67                        | 21.6                   | 17.5                      | 24.7                      | 0.9              | 23.4 |
|                          |                  |                     | 85/71                        | 22.9                   | 18.1                      | 26.1                      | 0.9              | 25.1 |
|                          | 6                | 2.4                 | 75/63                        | 20.5                   | 17.1                      | 23.6                      | 0.9              | 22.7 |
|                          |                  |                     | 80/67                        | 21.9                   | 17.6                      | 25.0                      | 0.9              | 24.6 |
|                          |                  |                     | 85/71                        | 23.3                   | 18.3                      | 26.4                      | 0.9              | 26.5 |
| 70                       | 3                | 0.7                 | 75/63                        | 18.5                   | 16.3                      | 22.2                      | 1.1              | 16.7 |
|                          |                  |                     | 80/67                        | 19.7                   | 16.8                      | 23.5                      | 1.1              | 17.9 |
|                          |                  |                     | 85/71                        | 20.9                   | 17.5                      | 24.7                      | 1.1              | 19.1 |
|                          | 4.5              | 1.2                 | 75/63                        | 19.1                   | 16.5                      | 22.6                      | 1.0              | 18.3 |
|                          |                  |                     | 80/67                        | 20.4                   | 17.2                      | 23.9                      | 1.0              | 19.7 |
|                          |                  |                     | 85/71                        | 21.7                   | 17.6                      | 25.2                      | 1.0              | 21.2 |
|                          | 6                | 2.3                 | 75/63                        | 19.4                   | 16.6                      | 22.8                      | 1.0              | 19.2 |
|                          |                  |                     | 80/67                        | 20.7                   | 17.3                      | 24.1                      | 1.0              | 20.7 |
|                          |                  |                     | 85/71                        | 22.1                   | 17.8                      | 25.5                      | 1.0              | 22.4 |
| 80                       | 3                | 0.7                 | 75/63                        | 17.4                   | 15.8                      | 21.6                      | 1.2              | 14.1 |
|                          |                  |                     | 80/67                        | 18.6                   | 16.4                      | 22.7                      | 1.2              | 15.0 |
|                          |                  |                     | 85/71                        | 19.7                   | 17.1                      | 23.9                      | 1.2              | 16.0 |
|                          | 4.5              | 1.2                 | 75/63                        | 18.0                   | 16.0                      | 21.9                      | 1.2              | 15.4 |
|                          |                  |                     | 80/67                        | 19.2                   | 16.6                      | 23.1                      | 1.2              | 16.5 |
|                          |                  |                     | 85/71                        | 20.5                   | 17.2                      | 24.4                      | 1.2              | 17.8 |
|                          | 6                | 2.3                 | 75/63                        | 18.3                   | 16.1                      | 22.1                      | 1.1              | 16.1 |
|                          |                  |                     | 80/67                        | 19.5                   | 16.7                      | 23.3                      | 1.1              | 17.4 |
|                          |                  |                     | 85/71                        | 20.8                   | 17.4                      | 24.6                      | 1.1              | 18.7 |
| 90                       | 3                | 0.7                 | 75/63                        | 16.3                   | 15.4                      | 20.9                      | 1.4              | 11.7 |
|                          |                  |                     | 80/67                        | 17.4                   | 16.0                      | 22.1                      | 1.4              | 12.5 |
|                          |                  |                     | 85/71                        | 18.5                   | 16.7                      | 23.2                      | 1.4              | 13.3 |
|                          | 4.5              | 1.2                 | 75/63                        | 16.8                   | 15.6                      | 21.2                      | 1.3              | 12.8 |
|                          |                  |                     | 80/67                        | 18.0                   | 16.2                      | 22.4                      | 1.3              | 13.8 |
|                          |                  |                     | 85/71                        | 19.2                   | 16.8                      | 23.6                      | 1.3              | 14.8 |
|                          | 6                | 2.2                 | 75/63                        | 17.1                   | 15.7                      | 21.4                      | 1.3              | 13.3 |
|                          |                  |                     | 80/67                        | 18.3                   | 16.3                      | 22.6                      | 1.3              | 14.4 |
|                          |                  |                     | 85/71                        | 19.5                   | 17.0                      | 23.8                      | 1.3              | 15.5 |
| 100                      | 3                | 0.6                 | 75/63                        | 15.3                   | 15.0                      | 20.4                      | 1.6              | 9.8  |
|                          |                  |                     | 80/67                        | 16.3                   | 15.7                      | 21.4                      | 1.6              | 10.4 |
|                          |                  |                     | 85/71                        | 17.3                   | 16.2                      | 22.5                      | 1.6              | 11.1 |
|                          | 4.5              | 1.2                 | 75/63                        | 15.7                   | 15.2                      | 20.6                      | 1.5              | 10.6 |
|                          |                  |                     | 80/67                        | 16.8                   | 15.8                      | 21.7                      | 1.5              | 11.4 |
|                          |                  |                     | 85/71                        | 18.0                   | 16.3                      | 22.9                      | 1.5              | 12.2 |
|                          | 6                | 2.1                 | 75/63                        | 16.0                   | 15.2                      | 20.7                      | 1.4              | 11.0 |
|                          |                  |                     | 80/67                        | 17.1                   | 15.9                      | 21.8                      | 1.4              | 11.9 |
|                          |                  |                     | 85/71                        | 18.2                   | 16.6                      | 23.0                      | 1.4              | 12.7 |
| 110                      | 3                | 0.6                 | 75/63                        | 14.4                   | 14.4                      | 20.0                      | 1.7              | 8.3  |
|                          |                  |                     | 80/67                        | 15.2                   | 15.2                      | 20.9                      | 1.7              | 8.7  |
|                          |                  |                     | 85/71                        | 16.2                   | 15.8                      | 21.9                      | 1.8              | 9.2  |
|                          | 4.5              | 1.2                 | 75/63                        | 14.6                   | 14.6                      | 20.1                      | 1.7              | 8.8  |
|                          |                  |                     | 80/67                        | 15.6                   | 15.4                      | 21.1                      | 1.7              | 9.4  |
|                          |                  |                     | 85/71                        | 16.7                   | 15.9                      | 22.2                      | 1.7              | 10.0 |
|                          | 6                | 2.1                 | 75/63                        | 14.8                   | 14.8                      | 20.1                      | 1.6              | 9.0  |
|                          |                  |                     | 80/67                        | 15.9                   | 15.5                      | 21.2                      | 1.6              | 9.7  |
|                          |                  |                     | 85/71                        | 17.0                   | 16.0                      | 22.3                      | 1.6              | 10.5 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

SM024 HZ Part Load Heating Performance Data - 750 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 30                       | 0.7                 | 60                     | 13.3                   | 10.3                       | 1.0              | 3.75 |
|                          |                     | 70                     | 12.9                   | 9.6                        | 1.2              | 3.25 |
|                          |                     | 80                     | 12.5                   | 8.8                        | 1.3              | 2.84 |
|                          | 1.2                 | 60                     | 13.9                   | 10.8                       | 1.0              | 3.9  |
|                          |                     | 70                     | 13.4                   | 10.1                       | 1.2              | 3.38 |
|                          |                     | 80                     | 13.0                   | 9.2                        | 1.3              | 2.95 |
|                          | 2.5                 | 60                     | 14.2                   | 11.2                       | 1.0              | 3.99 |
|                          |                     | 70                     | 13.7                   | 10.3                       | 1.2              | 3.45 |
|                          |                     | 80                     | 13.3                   | 9.5                        | 1.3              | 3    |
| 40                       | 0.7                 | 60                     | 15.2                   | 12.2                       | 1.1              | 4.24 |
|                          |                     | 70                     | 14.9                   | 11.5                       | 1.2              | 3.71 |
|                          |                     | 80                     | 14.5                   | 10.7                       | 1.3              | 3.25 |
|                          | 1.2                 | 60                     | 16.0                   | 13.0                       | 1.1              | 4.44 |
|                          |                     | 70                     | 15.6                   | 12.2                       | 1.2              | 3.87 |
|                          |                     | 80                     | 15.2                   | 11.3                       | 1.3              | 3.39 |
|                          | 2.5                 | 60                     | 16.5                   | 13.4                       | 1.1              | 4.56 |
|                          |                     | 70                     | 16.0                   | 12.5                       | 1.2              | 3.97 |
|                          |                     | 80                     | 15.5                   | 11.7                       | 1.3              | 3.46 |
| 50                       | 0.7                 | 60                     | 17.4                   | 14.2                       | 1.1              | 4.79 |
|                          |                     | 70                     | 16.9                   | 13.5                       | 1.2              | 4.17 |
|                          |                     | 80                     | 16.6                   | 12.7                       | 1.3              | 3.69 |
|                          | 1.2                 | 60                     | 18.2                   | 15.3                       | 1.1              | 5    |
|                          |                     | 70                     | 17.8                   | 14.3                       | 1.2              | 4.38 |
|                          |                     | 80                     | 17.4                   | 13.5                       | 1.3              | 3.85 |
|                          | 2.4                 | 60                     | 18.8                   | 15.8                       | 1.1              | 5.16 |
|                          |                     | 70                     | 18.3                   | 14.8                       | 1.2              | 4.5  |
|                          |                     | 80                     | 17.8                   | 13.9                       | 1.3              | 3.94 |
| 60                       | 0.7                 | 60                     | 19.3                   | 16.2                       | 1.1              | 5.28 |
|                          |                     | 70                     | 18.9                   | 15.5                       | 1.2              | 4.64 |
|                          |                     | 80                     | 18.6                   | 14.7                       | 1.3              | 4.1  |
|                          | 1.2                 | 60                     | 20.6                   | 17.3                       | 1.1              | 5.63 |
|                          |                     | 70                     | 20.0                   | 16.6                       | 1.2              | 4.9  |
|                          |                     | 80                     | 19.5                   | 15.8                       | 1.3              | 4.29 |
|                          | 2.4                 | 60                     | 21.3                   | 18.2                       | 1.1              | 5.82 |
|                          |                     | 70                     | 20.6                   | 17.2                       | 1.2              | 5.05 |
|                          |                     | 80                     | 20.1                   | 16.2                       | 1.3              | 4.41 |
| 70                       | 0.7                 | 60                     | 21.1                   | 17.8                       | 1.1              | 5.78 |
|                          |                     | 70                     | 21.4                   | 17.7                       | 1.2              | 5.24 |
|                          |                     | 80                     | 20.6                   | 16.3                       | 1.3              | 4.52 |
|                          | 1.2                 | 60                     | 22.7                   | 19.7                       | 1.1              | 6.2  |
|                          |                     | 70                     | 21.6                   | 18.0                       | 1.2              | 5.29 |
|                          |                     | 80                     | 21.8                   | 17.9                       | 1.3              | 4.76 |
|                          | 2.3                 | 60                     | 23.3                   | 20.1                       | 1.1              | 6.38 |
|                          |                     | 70                     | 23.0                   | 19.6                       | 1.2              | 5.62 |
|                          |                     | 80                     | 22.4                   | 18.7                       | 1.3              | 4.89 |
| 80                       | 0.7                 | 60                     | 23.8                   | 21.2                       | 1.1              | 6.52 |
|                          |                     | 70                     | 23.2                   | 20.1                       | 1.2              | 5.67 |
|                          |                     | 80                     | 22.9                   | 18.6                       | 1.3              | 5    |
|                          | 1.2                 | 60                     | 25.1                   | 22.7                       | 1.1              | 6.89 |
|                          |                     | 70                     | 24.6                   | 21.0                       | 1.2              | 6.02 |
|                          |                     | 80                     | 24.2                   | 19.8                       | 1.3              | 5.3  |
|                          | 2.3                 | 60                     | 26.0                   | 22.6                       | 1.1              | 7.15 |
|                          |                     | 70                     | 25.5                   | 21.6                       | 1.2              | 6.27 |
|                          |                     | 80                     | 24.9                   | 21.0                       | 1.3              | 5.45 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM036 HZ Full Load Cooling Performance Data - 1300 CFM**

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 4.5              | 1.2                 | 75/63                        | 40.7                   | 31.7                      | 47.3                      | 1.9              | 20.9 |
|                          |                  |                     | 80/67                        | 43.2                   | 32.8                      | 50.1                      | 2.0              | 21.8 |
|                          |                  |                     | 85/71                        | 46.0                   | 33.5                      | 53.0                      | 2.0              | 22.6 |
|                          | 7                | 2.5                 | 75/63                        | 42.0                   | 32.3                      | 48.4                      | 1.9              | 22.7 |
|                          |                  |                     | 80/67                        | 44.7                   | 33.4                      | 51.3                      | 1.9              | 23.6 |
|                          |                  |                     | 85/71                        | 47.7                   | 34.2                      | 54.4                      | 1.9              | 24.6 |
|                          | 9                | 3.9                 | 75/63                        | 42.6                   | 32.5                      | 48.8                      | 1.8              | 23.4 |
|                          |                  |                     | 80/67                        | 45.4                   | 33.6                      | 51.8                      | 1.9              | 24.4 |
|                          |                  |                     | 85/71                        | 48.4                   | 34.4                      | 55.0                      | 1.9              | 25.3 |
| 60                       | 4.5              | 1.2                 | 75/63                        | 38.9                   | 31.0                      | 46.1                      | 2.1              | 18.6 |
|                          |                  |                     | 80/67                        | 41.4                   | 32.1                      | 48.7                      | 2.1              | 19.5 |
|                          |                  |                     | 85/71                        | 44.0                   | 33.1                      | 51.5                      | 2.2              | 20.3 |
|                          | 7                | 2.5                 | 75/63                        | 40.2                   | 31.6                      | 47.0                      | 2.0              | 20.3 |
|                          |                  |                     | 80/67                        | 42.9                   | 32.5                      | 49.8                      | 2.0              | 21.3 |
|                          |                  |                     | 85/71                        | 45.7                   | 33.4                      | 52.8                      | 2.1              | 22.3 |
|                          | 9                | 3.8                 | 75/63                        | 40.7                   | 31.9                      | 47.3                      | 1.9              | 21.0 |
|                          |                  |                     | 80/67                        | 43.5                   | 32.7                      | 50.3                      | 2.0              | 22.0 |
|                          |                  |                     | 85/71                        | 46.4                   | 33.7                      | 53.3                      | 2.0              | 23.0 |
| 70                       | 4.5              | 1.1                 | 75/63                        | 37.2                   | 30.3                      | 44.9                      | 2.3              | 16.4 |
|                          |                  |                     | 80/67                        | 39.5                   | 31.4                      | 47.4                      | 2.3              | 17.2 |
|                          |                  |                     | 85/71                        | 42.1                   | 32.1                      | 50.1                      | 2.3              | 18.0 |
|                          | 7                | 2.4                 | 75/63                        | 38.3                   | 30.9                      | 45.7                      | 2.1              | 17.9 |
|                          |                  |                     | 80/67                        | 41.0                   | 31.8                      | 48.4                      | 2.2              | 18.9 |
|                          |                  |                     | 85/71                        | 43.7                   | 32.7                      | 51.2                      | 2.2              | 19.8 |
|                          | 9                | 3.8                 | 75/63                        | 38.8                   | 31.1                      | 46.0                      | 2.1              | 18.5 |
|                          |                  |                     | 80/67                        | 41.5                   | 32.0                      | 48.8                      | 2.1              | 19.6 |
|                          |                  |                     | 85/71                        | 44.3                   | 32.9                      | 51.7                      | 2.2              | 20.6 |
| 80                       | 4.5              | 1.1                 | 75/63                        | 35.4                   | 29.5                      | 43.8                      | 2.5              | 14.2 |
|                          |                  |                     | 80/67                        | 37.7                   | 30.5                      | 46.2                      | 2.5              | 15.0 |
|                          |                  |                     | 85/71                        | 40.0                   | 31.7                      | 48.7                      | 2.5              | 15.7 |
|                          | 7                | 2.4                 | 75/63                        | 36.5                   | 30.0                      | 44.5                      | 2.3              | 15.6 |
|                          |                  |                     | 80/67                        | 39.0                   | 31.2                      | 47.0                      | 2.4              | 16.5 |
|                          |                  |                     | 85/71                        | 41.6                   | 32.0                      | 49.8                      | 2.4              | 17.4 |
|                          | 9                | 3.7                 | 75/63                        | 37.0                   | 30.2                      | 44.7                      | 2.3              | 16.1 |
|                          |                  |                     | 80/67                        | 39.5                   | 31.4                      | 47.4                      | 2.3              | 17.1 |
|                          |                  |                     | 85/71                        | 42.1                   | 32.4                      | 50.1                      | 2.3              | 18.1 |
| 90                       | 4.5              | 1.1                 | 75/63                        | 33.5                   | 29.0                      | 42.7                      | 2.7              | 12.3 |
|                          |                  |                     | 80/67                        | 35.7                   | 30.0                      | 45.1                      | 2.8              | 12.9 |
|                          |                  |                     | 85/71                        | 38.1                   | 30.8                      | 47.6                      | 2.8              | 13.6 |
|                          | 7                | 2.4                 | 75/63                        | 34.6                   | 29.4                      | 43.3                      | 2.6              | 13.4 |
|                          |                  |                     | 80/67                        | 37.0                   | 30.5                      | 45.8                      | 2.6              | 14.2 |
|                          |                  |                     | 85/71                        | 39.5                   | 31.2                      | 48.4                      | 2.6              | 15.1 |
|                          | 9                | 3.6                 | 75/63                        | 35.0                   | 29.2                      | 43.5                      | 2.5              | 13.8 |
|                          |                  |                     | 80/67                        | 37.4                   | 30.6                      | 46.1                      | 2.5              | 14.7 |
|                          |                  |                     | 85/71                        | 40.1                   | 31.4                      | 48.7                      | 2.6              | 15.7 |
| 100                      | 4.5              | 1.1                 | 75/63                        | 31.7                   | 28.2                      | 41.8                      | 3.0              | 10.5 |
|                          |                  |                     | 80/67                        | 33.9                   | 29.1                      | 44.2                      | 3.0              | 11.1 |
|                          |                  |                     | 85/71                        | 36.1                   | 30.1                      | 46.5                      | 3.1              | 11.8 |
|                          | 7                | 2.3                 | 75/63                        | 32.7                   | 28.5                      | 42.3                      | 2.9              | 11.4 |
|                          |                  |                     | 80/67                        | 35.0                   | 29.5                      | 44.7                      | 2.9              | 12.2 |
|                          |                  |                     | 85/71                        | 37.3                   | 30.7                      | 47.1                      | 2.9              | 12.9 |
|                          | 9                | 3.6                 | 75/63                        | 32.9                   | 28.8                      | 42.4                      | 2.8              | 11.7 |
|                          |                  |                     | 80/67                        | 35.4                   | 29.4                      | 44.9                      | 2.8              | 12.5 |
|                          |                  |                     | 85/71                        | 37.8                   | 30.9                      | 47.4                      | 2.8              | 13.4 |
| 110                      | 4.5              | 1.1                 | 75/63                        | 29.8                   | 27.5                      | 41.0                      | 3.3              | 8.9  |
|                          |                  |                     | 80/67                        | 31.9                   | 28.6                      | 43.2                      | 3.4              | 9.5  |
|                          |                  |                     | 85/71                        | 34.0                   | 29.6                      | 45.5                      | 3.4              | 10.0 |
|                          | 7                | 2.2                 | 75/63                        | 30.7                   | 27.9                      | 41.4                      | 3.2              | 9.7  |
|                          |                  |                     | 80/67                        | 33.0                   | 28.8                      | 43.7                      | 3.2              | 10.3 |
|                          |                  |                     | 85/71                        | 35.2                   | 29.8                      | 46.1                      | 3.2              | 11.0 |
|                          | 9                | 3.5                 | 75/63                        | 31.1                   | 28.0                      | 41.6                      | 3.1              | 10.0 |
|                          |                  |                     | 80/67                        | 33.4                   | 28.9                      | 43.9                      | 3.1              | 10.7 |
|                          |                  |                     | 85/71                        | 35.6                   | 29.9                      | 46.3                      | 3.1              | 11.3 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM036 HZ Full Load Heating Performance Data - 1300 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 30                       | 1.2                 | 60                     | 26.9                   | 20.9                       | 1.9              | 4.12 |
|                          |                     | 70                     | 26.4                   | 19.8                       | 2.1              | 3.65 |
|                          |                     | 80                     | 26.1                   | 18.6                       | 2.3              | 3.26 |
|                          | 2.6                 | 60                     | 28.3                   | 22.3                       | 1.9              | 4.29 |
|                          |                     | 70                     | 27.8                   | 21.1                       | 2.1              | 3.79 |
|                          |                     | 80                     | 27.4                   | 19.6                       | 2.4              | 3.38 |
|                          | 4.1                 | 60                     | 29.0                   | 23.0                       | 1.9              | 4.36 |
|                          |                     | 70                     | 28.4                   | 21.7                       | 2.2              | 3.86 |
|                          |                     | 80                     | 27.9                   | 19.9                       | 2.4              | 3.43 |
| 40                       | 1.2                 | 60                     | 30.7                   | 24.5                       | 2.0              | 4.54 |
|                          |                     | 70                     | 30.1                   | 23.3                       | 2.2              | 4.03 |
|                          |                     | 80                     | 29.6                   | 22.0                       | 2.4              | 3.58 |
|                          | 2.6                 | 60                     | 32.5                   | 26.3                       | 2.0              | 4.74 |
|                          |                     | 70                     | 31.8                   | 24.9                       | 2.2              | 4.2  |
|                          |                     | 80                     | 31.1                   | 23.5                       | 2.5              | 3.72 |
|                          | 4.0                 | 60                     | 33.4                   | 27.1                       | 2.0              | 4.82 |
|                          |                     | 70                     | 32.6                   | 25.6                       | 2.2              | 4.27 |
|                          |                     | 80                     | 31.8                   | 24.1                       | 2.5              | 3.78 |
| 50                       | 1.2                 | 60                     | 34.7                   | 28.3                       | 2.1              | 4.96 |
|                          |                     | 70                     | 34.0                   | 26.9                       | 2.3              | 4.41 |
|                          |                     | 80                     | 33.4                   | 25.5                       | 2.5              | 3.92 |
|                          | 2.5                 | 60                     | 37.0                   | 30.5                       | 2.1              | 5.17 |
|                          |                     | 70                     | 36.0                   | 29.0                       | 2.3              | 4.58 |
|                          |                     | 80                     | 35.3                   | 27.4                       | 2.5              | 4.09 |
|                          | 3.9                 | 60                     | 38.0                   | 31.5                       | 2.1              | 5.27 |
|                          |                     | 70                     | 37.0                   | 29.8                       | 2.3              | 4.68 |
|                          |                     | 80                     | 36.1                   | 28.2                       | 2.5              | 4.16 |
| 60                       | 1.2                 | 60                     | 38.9                   | 32.3                       | 2.1              | 5.35 |
|                          |                     | 70                     | 38.1                   | 30.8                       | 2.3              | 4.78 |
|                          |                     | 80                     | 37.4                   | 29.3                       | 2.6              | 4.27 |
|                          | 2.5                 | 60                     | 41.6                   | 34.9                       | 2.2              | 5.59 |
|                          |                     | 70                     | 40.7                   | 32.9                       | 2.4              | 5.01 |
|                          |                     | 80                     | 39.7                   | 31.5                       | 2.6              | 4.46 |
|                          | 3.8                 | 60                     | 42.9                   | 36.1                       | 2.2              | 5.7  |
|                          |                     | 70                     | 41.7                   | 34.3                       | 2.4              | 5.09 |
|                          |                     | 80                     | 40.7                   | 32.7                       | 2.6              | 4.54 |
| 70                       | 1.1                 | 60                     | 43.3                   | 36.5                       | 2.2              | 5.74 |
|                          |                     | 70                     | 42.4                   | 34.9                       | 2.4              | 5.15 |
|                          |                     | 80                     | 41.6                   | 33.1                       | 2.6              | 4.61 |
|                          | 2.4                 | 60                     | 46.5                   | 39.6                       | 2.3              | 6.01 |
|                          |                     | 70                     | 45.4                   | 37.7                       | 2.5              | 5.39 |
|                          |                     | 80                     | 44.3                   | 35.9                       | 2.7              | 4.81 |
|                          | 3.8                 | 60                     | 48.0                   | 41.0                       | 2.3              | 6.12 |
|                          |                     | 70                     | 46.7                   | 39.0                       | 2.5              | 5.49 |
|                          |                     | 80                     | 45.6                   | 36.6                       | 2.7              | 4.92 |
| 80                       | 1.1                 | 60                     | 47.9                   | 40.9                       | 2.3              | 6.12 |
|                          |                     | 70                     | 46.9                   | 39.2                       | 2.5              | 5.5  |
|                          |                     | 80                     | 45.9                   | 37.1                       | 2.7              | 4.94 |
|                          | 2.4                 | 60                     | 51.7                   | 44.4                       | 2.4              | 6.39 |
|                          |                     | 70                     | 50.3                   | 42.4                       | 2.6              | 5.76 |
|                          |                     | 80                     | 49.1                   | 40.0                       | 2.8              | 5.17 |
|                          | 3.7                 | 60                     | 53.4                   | 46.0                       | 2.4              | 6.51 |
|                          |                     | 70                     | 51.9                   | 43.9                       | 2.6              | 5.86 |
|                          |                     | 80                     | 50.5                   | 41.8                       | 2.8              | 5.25 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM036 HZ Part Load Cooling Performance Data - 1080 CFM**

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 4.5              | 1.2                 | 75/63                        | 30.5                   | 24.8                      | 34.6                      | 1.2              | 25.8 |
|                          |                  |                     | 80/67                        | 32.6                   | 25.8                      | 36.6                      | 1.2              | 27.9 |
|                          |                  |                     | 85/71                        | 34.7                   | 26.6                      | 38.7                      | 1.2              | 30.1 |
|                          | 7                | 2.5                 | 75/63                        | 31.4                   | 25.2                      | 35.3                      | 1.1              | 27.8 |
|                          |                  |                     | 80/67                        | 33.5                   | 26.1                      | 37.4                      | 1.1              | 30.2 |
|                          |                  |                     | 85/71                        | 35.8                   | 26.9                      | 39.6                      | 1.1              | 33.0 |
|                          | 9                | 3.9                 | 75/63                        | 31.7                   | 25.3                      | 35.6                      | 1.1              | 28.5 |
|                          |                  |                     | 80/67                        | 33.9                   | 26.3                      | 37.7                      | 1.1              | 31.2 |
|                          |                  |                     | 85/71                        | 36.3                   | 26.9                      | 40.0                      | 1.1              | 34.2 |
| 60                       | 4.5              | 1.2                 | 75/63                        | 29.0                   | 24.3                      | 33.5                      | 1.3              | 22.3 |
|                          |                  |                     | 80/67                        | 31.0                   | 25.2                      | 35.5                      | 1.3              | 24.0 |
|                          |                  |                     | 85/71                        | 33.1                   | 26.0                      | 37.5                      | 1.3              | 25.9 |
|                          | 7                | 2.5                 | 75/63                        | 29.9                   | 24.6                      | 34.1                      | 1.2              | 24.2 |
|                          |                  |                     | 80/67                        | 31.9                   | 25.5                      | 36.1                      | 1.2              | 26.3 |
|                          |                  |                     | 85/71                        | 34.1                   | 26.4                      | 38.2                      | 1.2              | 28.5 |
|                          | 9                | 3.8                 | 75/63                        | 30.2                   | 24.7                      | 34.4                      | 1.2              | 25.0 |
|                          |                  |                     | 80/67                        | 32.3                   | 25.6                      | 36.4                      | 1.2              | 27.2 |
|                          |                  |                     | 85/71                        | 34.5                   | 26.5                      | 38.6                      | 1.2              | 29.7 |
| 70                       | 4.5              | 1.1                 | 75/63                        | 27.6                   | 23.6                      | 32.5                      | 1.5              | 19.0 |
|                          |                  |                     | 80/67                        | 29.5                   | 24.6                      | 34.4                      | 1.4              | 20.4 |
|                          |                  |                     | 85/71                        | 31.5                   | 25.3                      | 36.4                      | 1.4              | 21.9 |
|                          | 7                | 2.4                 | 75/63                        | 28.3                   | 24.0                      | 33.0                      | 1.4              | 20.7 |
|                          |                  |                     | 80/67                        | 30.4                   | 24.8                      | 35.0                      | 1.4              | 22.4 |
|                          |                  |                     | 85/71                        | 32.4                   | 25.8                      | 37.0                      | 1.3              | 24.2 |
|                          | 9                | 3.8                 | 75/63                        | 28.6                   | 24.2                      | 33.2                      | 1.3              | 21.4 |
|                          |                  |                     | 80/67                        | 30.7                   | 24.9                      | 35.3                      | 1.3              | 23.3 |
|                          |                  |                     | 85/71                        | 32.8                   | 25.9                      | 37.3                      | 1.3              | 25.2 |
| 80                       | 4.5              | 1.1                 | 75/63                        | 26.1                   | 23.0                      | 31.6                      | 1.6              | 15.9 |
|                          |                  |                     | 80/67                        | 27.9                   | 24.0                      | 33.4                      | 1.6              | 17.1 |
|                          |                  |                     | 85/71                        | 29.7                   | 24.9                      | 35.3                      | 1.6              | 18.3 |
|                          | 7                | 2.4                 | 75/63                        | 26.8                   | 23.3                      | 32.0                      | 1.5              | 17.4 |
|                          |                  |                     | 80/67                        | 28.7                   | 24.3                      | 33.9                      | 1.5              | 18.7 |
|                          |                  |                     | 85/71                        | 30.7                   | 25.2                      | 35.9                      | 1.5              | 20.2 |
|                          | 9                | 3.7                 | 75/63                        | 27.1                   | 23.4                      | 32.2                      | 1.5              | 17.9 |
|                          |                  |                     | 80/67                        | 29.0                   | 24.4                      | 34.1                      | 1.5              | 19.5 |
|                          |                  |                     | 85/71                        | 31.1                   | 25.3                      | 36.1                      | 1.5              | 21.1 |
| 90                       | 4.5              | 1.1                 | 75/63                        | 24.5                   | 22.5                      | 30.7                      | 1.9              | 13.2 |
|                          |                  |                     | 80/67                        | 26.2                   | 23.4                      | 32.5                      | 1.9              | 14.2 |
|                          |                  |                     | 85/71                        | 28.0                   | 24.3                      | 34.3                      | 1.9              | 15.2 |
|                          | 7                | 2.4                 | 75/63                        | 25.2                   | 22.8                      | 31.1                      | 1.8              | 14.4 |
|                          |                  |                     | 80/67                        | 27.0                   | 23.7                      | 32.9                      | 1.7              | 15.5 |
|                          |                  |                     | 85/71                        | 28.9                   | 24.6                      | 34.8                      | 1.7              | 16.7 |
|                          | 9                | 3.6                 | 75/63                        | 25.5                   | 22.8                      | 31.2                      | 1.7              | 14.8 |
|                          |                  |                     | 80/67                        | 27.3                   | 23.8                      | 33.1                      | 1.7              | 16.1 |
|                          |                  |                     | 85/71                        | 29.3                   | 24.5                      | 35.1                      | 1.7              | 17.4 |
| 100                      | 4.5              | 1.1                 | 75/63                        | 22.9                   | 21.8                      | 29.9                      | 2.1              | 10.9 |
|                          |                  |                     | 80/67                        | 24.6                   | 22.8                      | 31.7                      | 2.1              | 11.7 |
|                          |                  |                     | 85/71                        | 26.3                   | 23.7                      | 33.4                      | 2.1              | 12.5 |
|                          | 7                | 2.3                 | 75/63                        | 23.6                   | 22.0                      | 30.2                      | 2.0              | 11.8 |
|                          |                  |                     | 80/67                        | 25.4                   | 22.9                      | 32.0                      | 2.0              | 12.8 |
|                          |                  |                     | 85/71                        | 27.2                   | 23.8                      | 33.9                      | 2.0              | 13.8 |
|                          | 9                | 3.6                 | 75/63                        | 23.8                   | 22.1                      | 30.4                      | 2.0              | 12.2 |
|                          |                  |                     | 80/67                        | 25.6                   | 23.1                      | 32.2                      | 1.9              | 13.2 |
|                          |                  |                     | 85/71                        | 27.5                   | 23.9                      | 34.0                      | 1.9              | 14.3 |
| 110                      | 4.5              | 1.1                 | 75/63                        | 21.4                   | 21.2                      | 29.3                      | 2.4              | 9.0  |
|                          |                  |                     | 80/67                        | 23.0                   | 22.1                      | 31.0                      | 2.4              | 9.7  |
|                          |                  |                     | 85/71                        | 24.6                   | 23.1                      | 32.6                      | 2.4              | 10.4 |
|                          | 7                | 2.2                 | 75/63                        | 22.0                   | 21.3                      | 29.6                      | 2.3              | 9.7  |
|                          |                  |                     | 80/67                        | 23.7                   | 22.3                      | 31.2                      | 2.3              | 10.4 |
|                          |                  |                     | 85/71                        | 25.3                   | 23.4                      | 32.9                      | 2.3              | 11.2 |
|                          | 9                | 3.5                 | 75/63                        | 22.2                   | 21.5                      | 29.6                      | 2.2              | 9.9  |
|                          |                  |                     | 80/67                        | 23.9                   | 22.5                      | 31.3                      | 2.2              | 10.7 |
|                          |                  |                     | 85/71                        | 25.6                   | 23.5                      | 33.1                      | 2.2              | 11.6 |

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Bosch Thermotechnology Corp.  
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM036 HZ Part Load Heating Performance Data - 1080 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 30                       | 1.2                 | 60                     | 19.4                   | 15.2                       | 1.4              | 4.02 |
|                          |                     | 70                     | 18.8                   | 14.0                       | 1.6              | 3.49 |
|                          |                     | 80                     | 18.4                   | 12.8                       | 1.8              | 3.04 |
|                          | 2.6                 | 60                     | 20.1                   | 15.6                       | 1.4              | 4.16 |
|                          |                     | 70                     | 19.6                   | 14.7                       | 1.6              | 3.63 |
|                          |                     | 80                     | 19.2                   | 13.4                       | 1.8              | 3.16 |
|                          | 4.1                 | 60                     | 20.4                   | 16.1                       | 1.4              | 4.21 |
|                          |                     | 70                     | 20.0                   | 15.6                       | 1.6              | 3.7  |
|                          |                     | 80                     | 19.3                   | 13.9                       | 1.8              | 3.18 |
| 40                       | 1.2                 | 60                     | 22.5                   | 17.8                       | 1.4              | 4.62 |
|                          |                     | 70                     | 21.7                   | 16.8                       | 1.6              | 3.99 |
|                          |                     | 80                     | 21.4                   | 15.5                       | 1.8              | 3.51 |
|                          | 2.6                 | 60                     | 23.5                   | 18.9                       | 1.4              | 4.83 |
|                          |                     | 70                     | 22.9                   | 18.0                       | 1.6              | 4.22 |
|                          |                     | 80                     | 22.1                   | 16.4                       | 1.8              | 3.63 |
|                          | 4.0                 | 60                     | 24.0                   | 19.4                       | 1.4              | 4.92 |
|                          |                     | 70                     | 23.1                   | 18.0                       | 1.6              | 4.25 |
|                          |                     | 80                     | 22.6                   | 16.9                       | 1.8              | 3.71 |
| 50                       | 1.2                 | 60                     | 25.5                   | 21.3                       | 1.4              | 5.21 |
|                          |                     | 70                     | 25.1                   | 19.8                       | 1.6              | 4.59 |
|                          |                     | 80                     | 24.4                   | 18.8                       | 1.8              | 4    |
|                          | 2.5                 | 60                     | 27.1                   | 22.4                       | 1.4              | 5.52 |
|                          |                     | 70                     | 26.1                   | 21.0                       | 1.6              | 4.78 |
|                          |                     | 80                     | 25.4                   | 19.0                       | 1.8              | 4.15 |
|                          | 3.9                 | 60                     | 27.5                   | 23.0                       | 1.4              | 5.61 |
|                          |                     | 70                     | 26.6                   | 21.8                       | 1.6              | 4.86 |
|                          |                     | 80                     | 25.9                   | 20.2                       | 1.8              | 4.22 |
| 60                       | 1.2                 | 60                     | 29.0                   | 24.4                       | 1.4              | 5.9  |
|                          |                     | 70                     | 28.2                   | 23.2                       | 1.6              | 5.13 |
|                          |                     | 80                     | 27.5                   | 21.8                       | 1.8              | 4.46 |
|                          | 2.5                 | 60                     | 30.6                   | 26.1                       | 1.4              | 6.21 |
|                          |                     | 70                     | 29.7                   | 24.7                       | 1.6              | 5.39 |
|                          |                     | 80                     | 28.9                   | 23.3                       | 1.8              | 4.67 |
|                          | 3.8                 | 60                     | 31.3                   | 26.8                       | 1.4              | 6.36 |
|                          |                     | 70                     | 30.3                   | 25.3                       | 1.6              | 5.5  |
|                          |                     | 80                     | 29.4                   | 23.9                       | 1.8              | 4.75 |
| 70                       | 1.1                 | 60                     | 32.5                   | 27.9                       | 1.4              | 6.59 |
|                          |                     | 70                     | 31.6                   | 26.6                       | 1.6              | 5.71 |
|                          |                     | 80                     | 30.9                   | 25.2                       | 1.8              | 4.97 |
|                          | 2.4                 | 60                     | 34.4                   | 30.0                       | 1.4              | 6.97 |
|                          |                     | 70                     | 33.4                   | 28.3                       | 1.6              | 6.03 |
|                          |                     | 80                     | 32.5                   | 26.9                       | 1.8              | 5.21 |
|                          | 3.8                 | 60                     | 35.3                   | 30.8                       | 1.4              | 7.14 |
|                          |                     | 70                     | 34.2                   | 29.3                       | 1.6              | 6.16 |
|                          |                     | 80                     | 33.3                   | 27.6                       | 1.8              | 5.34 |
| 80                       | 1.1                 | 60                     | 36.1                   | 31.6                       | 1.4              | 7.31 |
|                          |                     | 70                     | 35.2                   | 30.2                       | 1.6              | 6.33 |
|                          |                     | 80                     | 34.3                   | 28.6                       | 1.8              | 5.49 |
|                          | 2.4                 | 60                     | 38.3                   | 34.1                       | 1.4              | 7.77 |
|                          |                     | 70                     | 37.2                   | 32.5                       | 1.6              | 6.68 |
|                          |                     | 80                     | 36.2                   | 30.6                       | 1.8              | 5.77 |
|                          | 3.7                 | 60                     | 39.3                   | 35.1                       | 1.4              | 7.98 |
|                          |                     | 70                     | 38.2                   | 33.3                       | 1.6              | 6.86 |
|                          |                     | 80                     | 37.1                   | 31.4                       | 1.8              | 5.89 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM048 HZ Full Load Cooling Performance Data - 1580 CFM**

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 6                | 1.0                 | 75/63                        | 50.8                   | 39.5                      | 60.0                      | 2.7              | 18.8 |
|                          |                  |                     | 80/67                        | 54.0                   | 40.7                      | 63.4                      | 2.7              | 19.7 |
|                          |                  |                     | 85/71                        | 57.4                   | 41.4                      | 66.9                      | 2.8              | 20.7 |
|                          | 9                | 2.1                 | 75/63                        | 52.7                   | 40.4                      | 61.3                      | 2.5              | 21.1 |
|                          |                  |                     | 80/67                        | 56.2                   | 41.4                      | 64.9                      | 2.5              | 22.3 |
|                          |                  |                     | 85/71                        | 59.8                   | 42.3                      | 68.6                      | 2.5              | 23.5 |
|                          | 12               | 3.5                 | 75/63                        | 53.8                   | 40.6                      | 62.1                      | 2.4              | 22.4 |
|                          |                  |                     | 80/67                        | 57.3                   | 41.9                      | 65.7                      | 2.4              | 23.7 |
|                          |                  |                     | 85/71                        | 61.1                   | 42.8                      | 69.5                      | 2.4              | 25.1 |
| 60                       | 6                | 1.0                 | 75/63                        | 48.4                   | 38.6                      | 58.5                      | 3.0              | 16.4 |
|                          |                  |                     | 80/67                        | 51.6                   | 39.7                      | 61.8                      | 3.0              | 17.2 |
|                          |                  |                     | 85/71                        | 54.9                   | 40.5                      | 65.2                      | 3.0              | 18.1 |
|                          | 9                | 2.1                 | 75/63                        | 50.4                   | 39.3                      | 59.8                      | 2.7              | 18.4 |
|                          |                  |                     | 80/67                        | 53.8                   | 40.3                      | 63.3                      | 2.8              | 19.4 |
|                          |                  |                     | 85/71                        | 57.1                   | 41.6                      | 66.8                      | 2.8              | 20.5 |
|                          | 12               | 3.4                 | 75/63                        | 51.4                   | 39.7                      | 60.4                      | 2.6              | 19.5 |
|                          |                  |                     | 80/67                        | 54.9                   | 40.7                      | 64.0                      | 2.7              | 20.7 |
|                          |                  |                     | 85/71                        | 58.4                   | 42.0                      | 67.6                      | 2.7              | 21.9 |
| 70                       | 6                | 1.0                 | 75/63                        | 46.1                   | 37.5                      | 57.2                      | 3.2              | 14.2 |
|                          |                  |                     | 80/67                        | 49.1                   | 38.7                      | 60.3                      | 3.3              | 15.0 |
|                          |                  |                     | 85/71                        | 52.3                   | 39.6                      | 63.7                      | 3.3              | 15.7 |
|                          | 9                | 2.0                 | 75/63                        | 48.1                   | 38.1                      | 58.3                      | 3.0              | 15.9 |
|                          |                  |                     | 80/67                        | 51.3                   | 39.3                      | 61.6                      | 3.0              | 16.9 |
|                          |                  |                     | 85/71                        | 54.5                   | 40.7                      | 65.0                      | 3.1              | 17.8 |
|                          | 12               | 3.4                 | 75/63                        | 49.0                   | 38.5                      | 58.9                      | 2.9              | 16.9 |
|                          |                  |                     | 80/67                        | 52.3                   | 40.0                      | 62.3                      | 2.9              | 17.9 |
|                          |                  |                     | 85/71                        | 55.7                   | 41.1                      | 65.8                      | 2.9              | 19.0 |
| 80                       | 6                | 1.0                 | 75/63                        | 43.8                   | 36.3                      | 55.9                      | 3.6              | 12.3 |
|                          |                  |                     | 80/67                        | 46.6                   | 37.8                      | 58.9                      | 3.6              | 12.9 |
|                          |                  |                     | 85/71                        | 49.6                   | 39.0                      | 62.1                      | 3.7              | 13.5 |
|                          | 9                | 2.0                 | 75/63                        | 45.6                   | 37.0                      | 56.8                      | 3.3              | 13.7 |
|                          |                  |                     | 80/67                        | 48.7                   | 38.3                      | 60.1                      | 3.4              | 14.5 |
|                          |                  |                     | 85/71                        | 51.8                   | 39.7                      | 63.3                      | 3.4              | 15.3 |
|                          | 12               | 3.3                 | 75/63                        | 46.5                   | 37.4                      | 57.4                      | 3.2              | 14.5 |
|                          |                  |                     | 80/67                        | 49.7                   | 38.7                      | 60.7                      | 3.2              | 15.4 |
|                          |                  |                     | 85/71                        | 53.1                   | 39.9                      | 64.1                      | 3.2              | 16.4 |
| 90                       | 6                | 1.0                 | 75/63                        | 41.4                   | 35.6                      | 54.7                      | 3.9              | 10.5 |
|                          |                  |                     | 80/67                        | 44.2                   | 36.6                      | 57.7                      | 4.0              | 11.1 |
|                          |                  |                     | 85/71                        | 47.0                   | 38.0                      | 60.8                      | 4.1              | 11.6 |
|                          | 9                | 2.0                 | 75/63                        | 43.0                   | 36.2                      | 55.5                      | 3.7              | 11.7 |
|                          |                  |                     | 80/67                        | 46.0                   | 37.5                      | 58.6                      | 3.7              | 12.4 |
|                          |                  |                     | 85/71                        | 49.1                   | 38.5                      | 61.8                      | 3.7              | 13.1 |
|                          | 12               | 3.2                 | 75/63                        | 43.9                   | 36.6                      | 55.9                      | 3.6              | 12.4 |
|                          |                  |                     | 80/67                        | 47.0                   | 37.6                      | 59.1                      | 3.6              | 13.2 |
|                          |                  |                     | 85/71                        | 50.2                   | 38.9                      | 62.5                      | 3.6              | 14.0 |
| 100                      | 6                | 0.9                 | 75/63                        | 39.0                   | 34.4                      | 53.7                      | 4.4              | 8.9  |
|                          |                  |                     | 80/67                        | 41.6                   | 35.9                      | 56.6                      | 4.5              | 9.3  |
|                          |                  |                     | 85/71                        | 44.4                   | 36.8                      | 59.6                      | 4.5              | 9.8  |
|                          | 9                | 1.9                 | 75/63                        | 40.5                   | 35.3                      | 54.3                      | 4.1              | 9.9  |
|                          |                  |                     | 80/67                        | 43.4                   | 36.6                      | 57.3                      | 4.1              | 10.5 |
|                          |                  |                     | 85/71                        | 46.4                   | 37.5                      | 60.5                      | 4.2              | 11.1 |
|                          | 12               | 3.2                 | 75/63                        | 41.3                   | 35.6                      | 54.7                      | 4.0              | 10.4 |
|                          |                  |                     | 80/67                        | 44.3                   | 36.9                      | 57.8                      | 4.0              | 11.1 |
|                          |                  |                     | 85/71                        | 47.3                   | 38.2                      | 60.9                      | 4.0              | 11.8 |
| 110                      | 6                | 0.9                 | 75/63                        | 36.6                   | 33.7                      | 52.9                      | 4.8              | 7.6  |
|                          |                  |                     | 80/67                        | 39.1                   | 35.1                      | 55.7                      | 4.9              | 8.0  |
|                          |                  |                     | 85/71                        | 41.8                   | 35.9                      | 58.7                      | 5.0              | 8.4  |
|                          | 9                | 1.9                 | 75/63                        | 38.1                   | 34.0                      | 53.4                      | 4.6              | 8.3  |
|                          |                  |                     | 80/67                        | 40.7                   | 35.5                      | 56.3                      | 4.6              | 8.8  |
|                          |                  |                     | 85/71                        | 43.4                   | 37.0                      | 59.2                      | 4.7              | 9.3  |
|                          | 12               | 3.1                 | 75/63                        | 38.7                   | 34.4                      | 53.6                      | 4.4              | 8.7  |
|                          |                  |                     | 80/67                        | 41.5                   | 35.9                      | 56.6                      | 4.5              | 9.3  |
|                          |                  |                     | 85/71                        | 44.4                   | 37.2                      | 59.6                      | 4.5              | 9.9  |

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Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM048 HZ Full Load Heating Performance Data - 1580 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 30                       | 1.1                 | 60                     | 35.9                   | 27.2                       | 2.7              | 3.91 |
|                          |                     | 70                     | 35.5                   | 25.6                       | 3.0              | 3.46 |
|                          |                     | 80                     | 34.8                   | 24.3                       | 3.3              | 3.06 |
|                          | 2.2                 | 60                     | 37.9                   | 29.1                       | 2.7              | 4.06 |
|                          |                     | 70                     | 37.4                   | 27.3                       | 3.0              | 3.59 |
|                          |                     | 80                     | 36.7                   | 25.8                       | 3.4              | 3.18 |
|                          | 3.7                 | 60                     | 39.2                   | 30.2                       | 2.8              | 4.14 |
|                          |                     | 70                     | 38.4                   | 28.4                       | 3.1              | 3.66 |
|                          |                     | 80                     | 37.7                   | 26.6                       | 3.4              | 3.25 |
| 40                       | 1.1                 | 60                     | 40.6                   | 31.9                       | 2.8              | 4.24 |
|                          |                     | 70                     | 40.1                   | 30.0                       | 3.1              | 3.77 |
|                          |                     | 80                     | 39.6                   | 28.5                       | 3.4              | 3.37 |
|                          | 2.2                 | 60                     | 43.2                   | 34.2                       | 2.9              | 4.42 |
|                          |                     | 70                     | 42.4                   | 32.4                       | 3.2              | 3.93 |
|                          |                     | 80                     | 41.8                   | 30.5                       | 3.5              | 3.51 |
|                          | 3.6                 | 60                     | 44.8                   | 35.6                       | 2.9              | 4.52 |
|                          |                     | 70                     | 43.9                   | 33.6                       | 3.2              | 4.03 |
|                          |                     | 80                     | 43.1                   | 31.6                       | 3.5              | 3.59 |
| 50                       | 1.0                 | 60                     | 45.9                   | 36.4                       | 2.9              | 4.59 |
|                          |                     | 70                     | 45.2                   | 34.8                       | 3.2              | 4.11 |
|                          |                     | 80                     | 44.5                   | 33.1                       | 3.5              | 3.68 |
|                          | 2.1                 | 60                     | 49.0                   | 39.5                       | 3.0              | 4.8  |
|                          |                     | 70                     | 48.1                   | 37.5                       | 3.3              | 4.3  |
|                          |                     | 80                     | 47.2                   | 35.6                       | 3.6              | 3.84 |
|                          | 3.5                 | 60                     | 50.9                   | 41.3                       | 3.0              | 4.92 |
|                          |                     | 70                     | 49.8                   | 39.1                       | 3.3              | 4.4  |
|                          |                     | 80                     | 48.8                   | 37.0                       | 3.6              | 3.93 |
| 60                       | 1.0                 | 60                     | 51.3                   | 41.7                       | 3.0              | 4.96 |
|                          |                     | 70                     | 50.5                   | 39.7                       | 3.3              | 4.45 |
|                          |                     | 80                     | 49.7                   | 38.0                       | 3.7              | 3.98 |
|                          | 2.1                 | 60                     | 55.1                   | 45.2                       | 3.1              | 5.19 |
|                          |                     | 70                     | 54.0                   | 43.0                       | 3.4              | 4.65 |
|                          |                     | 80                     | 53.0                   | 40.9                       | 3.7              | 4.16 |
|                          | 3.4                 | 60                     | 57.3                   | 47.4                       | 3.2              | 5.33 |
|                          |                     | 70                     | 56.1                   | 45.0                       | 3.4              | 4.77 |
|                          |                     | 80                     | 54.9                   | 42.7                       | 3.8              | 4.26 |
| 70                       | 1.0                 | 60                     | 57.1                   | 47.1                       | 3.1              | 5.31 |
|                          |                     | 70                     | 56.1                   | 45.1                       | 3.4              | 4.77 |
|                          |                     | 80                     | 55.2                   | 43.0                       | 3.8              | 4.28 |
|                          | 2.0                 | 60                     | 61.5                   | 51.2                       | 3.2              | 5.57 |
|                          |                     | 70                     | 60.2                   | 48.9                       | 3.5              | 4.99 |
|                          |                     | 80                     | 59.1                   | 46.5                       | 3.9              | 4.46 |
|                          | 3.4                 | 60                     | 64.0                   | 53.7                       | 3.3              | 5.72 |
|                          |                     | 70                     | 62.6                   | 51.1                       | 3.6              | 5.11 |
|                          |                     | 80                     | 61.3                   | 48.6                       | 3.9              | 4.57 |
| 80                       | 1.0                 | 60                     | 63.0                   | 52.7                       | 3.3              | 5.66 |
|                          |                     | 70                     | 61.9                   | 50.6                       | 3.6              | 5.08 |
|                          |                     | 80                     | 60.9                   | 48.4                       | 3.9              | 4.55 |
|                          | 2.0                 | 60                     | 68.0                   | 57.4                       | 3.4              | 5.93 |
|                          |                     | 70                     | 66.7                   | 54.9                       | 3.7              | 5.31 |
|                          |                     | 80                     | 65.4                   | 52.4                       | 4.0              | 4.74 |
|                          | 3.3                 | 60                     | 71.0                   | 60.3                       | 3.4              | 6.08 |
|                          |                     | 70                     | 69.4                   | 57.5                       | 3.7              | 5.44 |
|                          |                     | 80                     | 67.9                   | 54.7                       | 4.1              | 4.85 |

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Bosch Thermotechnology Corp.  
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM048 HZ Part Load Cooling Performance Data - 1380 CFM**

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 6                | 1.0                 | 75/63                        | 39.1                   | 32.1                      | 44.6                      | 1.6              | 24.3 |
|                          |                  |                     | 80/67                        | 41.6                   | 33.3                      | 47.1                      | 1.6              | 26.1 |
|                          |                  |                     | 85/71                        | 44.3                   | 34.3                      | 49.8                      | 1.6              | 28.1 |
|                          | 9                | 2.1                 | 75/63                        | 40.6                   | 32.7                      | 45.7                      | 1.5              | 27.4 |
|                          |                  |                     | 80/67                        | 43.2                   | 33.9                      | 48.3                      | 1.5              | 29.8 |
|                          |                  |                     | 85/71                        | 46.1                   | 34.7                      | 51.0                      | 1.4              | 32.4 |
|                          | 12               | 3.5                 | 75/63                        | 41.3                   | 33.0                      | 46.2                      | 1.4              | 29.2 |
|                          |                  |                     | 80/67                        | 44.1                   | 34.1                      | 48.9                      | 1.4              | 32.0 |
|                          |                  |                     | 85/71                        | 47.0                   | 35.1                      | 51.7                      | 1.3              | 34.9 |
| 60                       | 6                | 1.0                 | 75/63                        | 36.8                   | 31.2                      | 43.1                      | 1.8              | 20.1 |
|                          |                  |                     | 80/67                        | 39.4                   | 32.1                      | 45.6                      | 1.8              | 21.7 |
|                          |                  |                     | 85/71                        | 41.9                   | 33.4                      | 48.1                      | 1.8              | 23.3 |
|                          | 9                | 2.1                 | 75/63                        | 38.2                   | 31.6                      | 44.0                      | 1.7              | 22.6 |
|                          |                  |                     | 80/67                        | 40.9                   | 32.7                      | 46.6                      | 1.7              | 24.5 |
|                          |                  |                     | 85/71                        | 43.5                   | 33.9                      | 49.2                      | 1.6              | 26.6 |
|                          | 12               | 3.4                 | 75/63                        | 38.9                   | 32.0                      | 44.5                      | 1.6              | 24.0 |
|                          |                  |                     | 80/67                        | 41.7                   | 33.0                      | 47.2                      | 1.6              | 26.2 |
|                          |                  |                     | 85/71                        | 44.5                   | 34.0                      | 49.9                      | 1.6              | 28.5 |
| 70                       | 6                | 1.0                 | 75/63                        | 34.8                   | 30.3                      | 41.7                      | 2.1              | 16.8 |
|                          |                  |                     | 80/67                        | 37.1                   | 31.6                      | 44.1                      | 2.1              | 18.0 |
|                          |                  |                     | 85/71                        | 39.6                   | 32.5                      | 46.6                      | 2.0              | 19.4 |
|                          | 9                | 2.0                 | 75/63                        | 36.0                   | 30.8                      | 42.6                      | 1.9              | 18.7 |
|                          |                  |                     | 80/67                        | 38.5                   | 32.1                      | 45.0                      | 1.9              | 20.3 |
|                          |                  |                     | 85/71                        | 41.1                   | 33.2                      | 47.6                      | 1.9              | 21.9 |
|                          | 12               | 3.4                 | 75/63                        | 36.7                   | 31.1                      | 43.0                      | 1.9              | 19.8 |
|                          |                  |                     | 80/67                        | 39.3                   | 32.4                      | 45.5                      | 1.8              | 21.5 |
|                          |                  |                     | 85/71                        | 42.0                   | 33.3                      | 48.2                      | 1.8              | 23.4 |
| 80                       | 6                | 1.0                 | 75/63                        | 32.5                   | 29.5                      | 40.3                      | 2.3              | 13.9 |
|                          |                  |                     | 80/67                        | 34.7                   | 30.6                      | 42.6                      | 2.3              | 14.9 |
|                          |                  |                     | 85/71                        | 37.1                   | 31.7                      | 45.0                      | 2.3              | 16.1 |
|                          | 9                | 2.0                 | 75/63                        | 33.7                   | 29.9                      | 41.1                      | 2.2              | 15.4 |
|                          |                  |                     | 80/67                        | 36.1                   | 30.9                      | 43.5                      | 2.2              | 16.7 |
|                          |                  |                     | 85/71                        | 38.6                   | 32.2                      | 45.9                      | 2.1              | 18.0 |
|                          | 12               | 3.3                 | 75/63                        | 34.3                   | 30.2                      | 41.4                      | 2.1              | 16.3 |
|                          |                  |                     | 80/67                        | 36.8                   | 31.4                      | 43.9                      | 2.1              | 17.7 |
|                          |                  |                     | 85/71                        | 39.4                   | 32.5                      | 46.5                      | 2.1              | 19.2 |
| 90                       | 6                | 1.0                 | 75/63                        | 30.3                   | 28.7                      | 39.1                      | 2.6              | 11.5 |
|                          |                  |                     | 80/67                        | 32.5                   | 29.9                      | 41.3                      | 2.6              | 12.4 |
|                          |                  |                     | 85/71                        | 34.8                   | 31.1                      | 43.6                      | 2.6              | 13.3 |
|                          | 9                | 2.0                 | 75/63                        | 31.4                   | 29.1                      | 39.7                      | 2.5              | 12.7 |
|                          |                  |                     | 80/67                        | 33.7                   | 30.4                      | 42.0                      | 2.5              | 13.7 |
|                          |                  |                     | 85/71                        | 36.2                   | 31.5                      | 44.4                      | 2.4              | 14.8 |
|                          | 12               | 3.2                 | 75/63                        | 32.0                   | 29.3                      | 40.1                      | 2.4              | 13.4 |
|                          |                  |                     | 80/67                        | 34.4                   | 30.6                      | 42.4                      | 2.4              | 14.5 |
|                          |                  |                     | 85/71                        | 36.9                   | 31.8                      | 44.9                      | 2.3              | 15.7 |
| 100                      | 6                | 0.9                 | 75/63                        | 28.2                   | 27.5                      | 38.0                      | 2.9              | 9.6  |
|                          |                  |                     | 80/67                        | 30.3                   | 29.0                      | 40.1                      | 2.9              | 10.3 |
|                          |                  |                     | 85/71                        | 32.5                   | 30.2                      | 42.3                      | 2.9              | 11.1 |
|                          | 9                | 1.9                 | 75/63                        | 29.2                   | 27.9                      | 38.5                      | 2.8              | 10.5 |
|                          |                  |                     | 80/67                        | 31.4                   | 29.2                      | 40.7                      | 2.8              | 11.3 |
|                          |                  |                     | 85/71                        | 33.7                   | 30.4                      | 43.0                      | 2.8              | 12.2 |
|                          | 12               | 3.2                 | 75/63                        | 29.7                   | 28.1                      | 38.8                      | 2.7              | 11.0 |
|                          |                  |                     | 80/67                        | 32.0                   | 29.6                      | 41.0                      | 2.7              | 11.9 |
|                          |                  |                     | 85/71                        | 34.3                   | 30.8                      | 43.4                      | 2.7              | 12.9 |
| 110                      | 6                | 0.9                 | 75/63                        | 26.5                   | 26.5                      | 37.4                      | 3.3              | 8.0  |
|                          |                  |                     | 80/67                        | 28.2                   | 28.2                      | 39.1                      | 3.3              | 8.6  |
|                          |                  |                     | 85/71                        | 30.2                   | 29.6                      | 41.2                      | 3.3              | 9.2  |
|                          | 9                | 1.9                 | 75/63                        | 27.1                   | 27.1                      | 37.5                      | 3.1              | 8.7  |
|                          |                  |                     | 80/67                        | 29.1                   | 28.7                      | 39.6                      | 3.1              | 9.4  |
|                          |                  |                     | 85/71                        | 31.3                   | 29.9                      | 41.7                      | 3.1              | 10.1 |
|                          | 12               | 3.1                 | 75/63                        | 27.5                   | 27.5                      | 37.7                      | 3.1              | 9.0  |
|                          |                  |                     | 80/67                        | 29.7                   | 28.9                      | 39.8                      | 3.0              | 9.8  |
|                          |                  |                     | 85/71                        | 31.9                   | 30.1                      | 42.1                      | 3.0              | 10.6 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM048 HZ Part Load Heating Performance Data - 1380 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 30                       | 1.1                 | 60                     | 27.1                   | 20.8                       | 2.0              | 3.92 |
|                          |                     | 70                     | 26.2                   | 19.1                       | 2.3              | 3.41 |
|                          |                     | 80                     | 25.3                   | 17.5                       | 2.5              | 2.96 |
|                          | 2.2                 | 60                     | 28.3                   | 22.0                       | 2.0              | 4.09 |
|                          |                     | 70                     | 27.3                   | 20.2                       | 2.3              | 3.54 |
|                          |                     | 80                     | 26.3                   | 18.4                       | 2.5              | 3.06 |
|                          | 3.7                 | 60                     | 29.0                   | 22.7                       | 2.0              | 4.18 |
|                          |                     | 70                     | 27.9                   | 20.8                       | 2.3              | 3.61 |
|                          |                     | 80                     | 26.9                   | 19.0                       | 2.5              | 3.12 |
| 40                       | 1.1                 | 60                     | 30.8                   | 24.5                       | 2.0              | 4.42 |
|                          |                     | 70                     | 29.8                   | 22.7                       | 2.3              | 3.84 |
|                          |                     | 80                     | 28.9                   | 21.0                       | 2.5              | 3.34 |
|                          | 2.2                 | 60                     | 32.4                   | 26.0                       | 2.1              | 4.62 |
|                          |                     | 70                     | 31.2                   | 24.1                       | 2.3              | 4    |
|                          |                     | 80                     | 30.2                   | 22.2                       | 2.6              | 3.47 |
|                          | 3.6                 | 60                     | 33.2                   | 26.8                       | 2.1              | 4.74 |
|                          |                     | 70                     | 32.0                   | 24.9                       | 2.3              | 4.09 |
|                          |                     | 80                     | 30.9                   | 22.9                       | 2.6              | 3.54 |
| 50                       | 1.0                 | 60                     | 34.8                   | 28.4                       | 2.1              | 4.94 |
|                          |                     | 70                     | 33.8                   | 26.5                       | 2.3              | 4.29 |
|                          |                     | 80                     | 32.9                   | 24.7                       | 2.6              | 3.74 |
|                          | 2.1                 | 60                     | 36.7                   | 30.2                       | 2.1              | 5.19 |
|                          |                     | 70                     | 35.5                   | 28.3                       | 2.3              | 4.49 |
|                          |                     | 80                     | 34.5                   | 26.2                       | 2.6              | 3.9  |
|                          | 3.5                 | 60                     | 37.8                   | 31.3                       | 2.1              | 5.33 |
|                          |                     | 70                     | 36.5                   | 29.2                       | 2.3              | 4.6  |
|                          |                     | 80                     | 35.4                   | 27.1                       | 2.6              | 4    |
| 60                       | 1.0                 | 60                     | 39.0                   | 32.5                       | 2.1              | 5.49 |
|                          |                     | 70                     | 37.9                   | 30.6                       | 2.3              | 4.77 |
|                          |                     | 80                     | 37.0                   | 28.7                       | 2.6              | 4.17 |
|                          | 2.1                 | 60                     | 41.3                   | 34.8                       | 2.1              | 5.77 |
|                          |                     | 70                     | 40.0                   | 32.8                       | 2.3              | 5.01 |
|                          |                     | 80                     | 38.9                   | 30.7                       | 2.6              | 4.36 |
|                          | 3.4                 | 60                     | 42.6                   | 36.1                       | 2.1              | 5.95 |
|                          |                     | 70                     | 41.3                   | 33.9                       | 2.3              | 5.16 |
|                          |                     | 80                     | 40.0                   | 31.8                       | 2.6              | 4.47 |
| 70                       | 1.0                 | 60                     | 43.5                   | 37.0                       | 2.1              | 6.07 |
|                          |                     | 70                     | 42.4                   | 35.0                       | 2.3              | 5.28 |
|                          |                     | 80                     | 41.3                   | 33.0                       | 2.6              | 4.61 |
|                          | 2.0                 | 60                     | 46.2                   | 39.7                       | 2.1              | 6.43 |
|                          |                     | 70                     | 44.8                   | 37.5                       | 2.4              | 5.57 |
|                          |                     | 80                     | 43.6                   | 35.4                       | 2.6              | 4.84 |
|                          | 3.4                 | 60                     | 47.8                   | 41.3                       | 2.1              | 6.63 |
|                          |                     | 70                     | 46.3                   | 39.0                       | 2.4              | 5.74 |
|                          |                     | 80                     | 45.0                   | 36.6                       | 2.6              | 4.98 |
| 80                       | 1.0                 | 60                     | 48.2                   | 41.7                       | 2.1              | 6.69 |
|                          |                     | 70                     | 47.0                   | 39.6                       | 2.4              | 5.81 |
|                          |                     | 80                     | 45.8                   | 37.5                       | 2.7              | 5.07 |
|                          | 2.0                 | 60                     | 51.3                   | 44.8                       | 2.1              | 7.1  |
|                          |                     | 70                     | 49.9                   | 42.5                       | 2.4              | 6.15 |
|                          |                     | 80                     | 48.5                   | 40.2                       | 2.7              | 5.34 |
|                          | 3.3                 | 60                     | 53.1                   | 46.7                       | 2.1              | 7.34 |
|                          |                     | 70                     | 51.6                   | 44.2                       | 2.4              | 6.34 |
|                          |                     | 80                     | 50.1                   | 41.7                       | 2.7              | 5.49 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM060 HZ Full Load Cooling Performance Data - 2000 CFM

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 7.5              | 1.2                 | 75/63                        | 64.5                   | 50.2                      | 75.8                      | 3.3              | 19.7 |
|                          |                  |                     | 80/67                        | 68.7                   | 51.3                      | 80.2                      | 3.3              | 20.5 |
|                          |                  |                     | 85/71                        | 72.9                   | 52.6                      | 84.6                      | 3.4              | 21.4 |
|                          | 11               | 2.5                 | 75/63                        | 66.7                   | 50.8                      | 77.4                      | 3.1              | 21.4 |
|                          |                  |                     | 80/67                        | 71.0                   | 52.2                      | 81.9                      | 3.2              | 22.5 |
|                          |                  |                     | 85/71                        | 75.4                   | 53.8                      | 86.5                      | 3.2              | 23.4 |
|                          | 15               | 4.4                 | 75/63                        | 67.9                   | 51.3                      | 78.3                      | 3.0              | 22.5 |
|                          |                  |                     | 80/67                        | 72.3                   | 53.0                      | 82.9                      | 3.1              | 23.6 |
|                          |                  |                     | 85/71                        | 76.9                   | 54.4                      | 87.8                      | 3.1              | 24.7 |
| 60                       | 7.5              | 1.2                 | 75/63                        | 61.8                   | 48.7                      | 73.9                      | 3.5              | 17.4 |
|                          |                  |                     | 80/67                        | 65.7                   | 50.1                      | 78.1                      | 3.6              | 18.2 |
|                          |                  |                     | 85/71                        | 69.8                   | 51.5                      | 82.3                      | 3.7              | 19.0 |
|                          | 11               | 2.5                 | 75/63                        | 63.8                   | 49.6                      | 75.3                      | 3.4              | 19.0 |
|                          |                  |                     | 80/67                        | 67.9                   | 51.3                      | 79.6                      | 3.4              | 20.0 |
|                          |                  |                     | 85/71                        | 72.2                   | 52.8                      | 84.1                      | 3.4              | 20.9 |
|                          | 15               | 4.3                 | 75/63                        | 64.9                   | 50.3                      | 76.1                      | 3.2              | 20.0 |
|                          |                  |                     | 80/67                        | 69.2                   | 51.8                      | 80.6                      | 3.3              | 21.1 |
|                          |                  |                     | 85/71                        | 73.8                   | 52.9                      | 85.3                      | 3.3              | 22.1 |
| 70                       | 7.5              | 1.2                 | 75/63                        | 58.8                   | 47.7                      | 72.0                      | 3.9              | 15.3 |
|                          |                  |                     | 80/67                        | 62.7                   | 48.9                      | 76.0                      | 3.9              | 16.0 |
|                          |                  |                     | 85/71                        | 66.5                   | 50.3                      | 80.1                      | 4.0              | 16.8 |
|                          | 11               | 2.4                 | 75/63                        | 60.9                   | 48.3                      | 73.3                      | 3.6              | 16.7 |
|                          |                  |                     | 80/67                        | 64.9                   | 49.8                      | 77.5                      | 3.7              | 17.6 |
|                          |                  |                     | 85/71                        | 68.9                   | 51.6                      | 81.8                      | 3.7              | 18.5 |
|                          | 15               | 4.2                 | 75/63                        | 61.9                   | 49.1                      | 74.0                      | 3.5              | 17.6 |
|                          |                  |                     | 80/67                        | 66.1                   | 50.6                      | 78.3                      | 3.6              | 18.6 |
|                          |                  |                     | 85/71                        | 70.4                   | 52.1                      | 82.8                      | 3.6              | 19.6 |
| 80                       | 7.5              | 1.2                 | 75/63                        | 56.0                   | 46.3                      | 70.3                      | 4.2              | 13.3 |
|                          |                  |                     | 80/67                        | 59.6                   | 47.7                      | 74.1                      | 4.3              | 14.0 |
|                          |                  |                     | 85/71                        | 63.1                   | 49.6                      | 77.9                      | 4.3              | 14.6 |
|                          | 11               | 2.4                 | 75/63                        | 57.8                   | 47.3                      | 71.4                      | 4.0              | 14.5 |
|                          |                  |                     | 80/67                        | 61.7                   | 48.6                      | 75.4                      | 4.0              | 15.4 |
|                          |                  |                     | 85/71                        | 65.7                   | 50.0                      | 79.5                      | 4.1              | 16.2 |
|                          | 15               | 4.1                 | 75/63                        | 59.0                   | 47.5                      | 72.1                      | 3.8              | 15.3 |
|                          |                  |                     | 80/67                        | 62.8                   | 49.3                      | 76.2                      | 3.9              | 16.2 |
|                          |                  |                     | 85/71                        | 67.1                   | 50.5                      | 80.5                      | 3.9              | 17.1 |
| 90                       | 7.5              | 1.2                 | 75/63                        | 53.0                   | 45.1                      | 68.6                      | 4.6              | 11.5 |
|                          |                  |                     | 80/67                        | 56.1                   | 47.3                      | 72.1                      | 4.7              | 12.1 |
|                          |                  |                     | 85/71                        | 59.7                   | 48.5                      | 75.9                      | 4.7              | 12.7 |
|                          | 11               | 2.3                 | 75/63                        | 54.7                   | 46.1                      | 69.5                      | 4.4              | 12.6 |
|                          |                  |                     | 80/67                        | 58.5                   | 47.3                      | 73.4                      | 4.4              | 13.3 |
|                          |                  |                     | 85/71                        | 62.0                   | 49.3                      | 77.3                      | 4.4              | 14.0 |
|                          | 15               | 4.0                 | 75/63                        | 55.8                   | 46.2                      | 70.2                      | 4.2              | 13.2 |
|                          |                  |                     | 80/67                        | 59.6                   | 47.8                      | 74.1                      | 4.3              | 14.0 |
|                          |                  |                     | 85/71                        | 63.6                   | 49.3                      | 78.2                      | 4.3              | 14.8 |
| 100                      | 7.5              | 1.2                 | 75/63                        | 49.9                   | 44.2                      | 67.1                      | 5.1              | 9.9  |
|                          |                  |                     | 80/67                        | 53.1                   | 45.7                      | 70.5                      | 5.1              | 10.4 |
|                          |                  |                     | 85/71                        | 56.4                   | 47.4                      | 74.1                      | 5.2              | 10.9 |
|                          | 11               | 2.3                 | 75/63                        | 51.6                   | 44.5                      | 67.9                      | 4.8              | 10.8 |
|                          |                  |                     | 80/67                        | 55.0                   | 46.4                      | 71.5                      | 4.8              | 11.4 |
|                          |                  |                     | 85/71                        | 58.7                   | 47.7                      | 75.3                      | 4.9              | 12.0 |
|                          | 15               | 3.9                 | 75/63                        | 52.5                   | 45.2                      | 68.4                      | 4.7              | 11.3 |
|                          |                  |                     | 80/67                        | 56.1                   | 47.0                      | 72.1                      | 4.7              | 12.0 |
|                          |                  |                     | 85/71                        | 59.9                   | 48.2                      | 76.0                      | 4.7              | 12.7 |
| 110                      | 7.5              | 1.2                 | 75/63                        | 46.9                   | 42.8                      | 65.7                      | 5.6              | 8.4  |
|                          |                  |                     | 80/67                        | 49.9                   | 44.4                      | 69.0                      | 5.6              | 8.9  |
|                          |                  |                     | 85/71                        | 53.1                   | 45.9                      | 72.4                      | 5.7              | 9.3  |
|                          | 11               | 2.2                 | 75/63                        | 48.4                   | 43.5                      | 66.4                      | 5.3              | 9.1  |
|                          |                  |                     | 80/67                        | 51.7                   | 45.1                      | 69.9                      | 5.3              | 9.7  |
|                          |                  |                     | 85/71                        | 55.1                   | 46.7                      | 73.4                      | 5.4              | 10.3 |
|                          | 15               | 3.8                 | 75/63                        | 49.3                   | 43.8                      | 66.8                      | 5.2              | 9.6  |
|                          |                  |                     | 80/67                        | 52.8                   | 45.2                      | 70.4                      | 5.2              | 10.2 |
|                          |                  |                     | 85/71                        | 56.1                   | 47.5                      | 73.9                      | 5.2              | 10.8 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM060 HZ Full Load Heating Performance Data - 2000 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 30                       | 1.2                 | 60                     | 44.3                   | 33.2                       | 3.4              | 3.79 |
|                          |                     | 70                     | 43.6                   | 31.4                       | 3.8              | 3.4  |
|                          |                     | 80                     | 42.7                   | 29.8                       | 4.1              | 3.03 |
|                          | 2.6                 | 60                     | 46.3                   | 35.0                       | 3.5              | 3.91 |
|                          |                     | 70                     | 45.5                   | 33.0                       | 3.8              | 3.5  |
|                          |                     | 80                     | 44.7                   | 31.1                       | 4.2              | 3.14 |
|                          | 4.6                 | 60                     | 47.6                   | 36.5                       | 3.5              | 3.99 |
|                          |                     | 70                     | 46.7                   | 34.1                       | 3.8              | 3.57 |
|                          |                     | 80                     | 45.8                   | 32.2                       | 4.2              | 3.2  |
| 40                       | 1.2                 | 60                     | 49.9                   | 38.5                       | 3.5              | 4.13 |
|                          |                     | 70                     | 49.1                   | 36.6                       | 3.9              | 3.71 |
|                          |                     | 80                     | 48.5                   | 34.9                       | 4.3              | 3.34 |
|                          | 2.6                 | 60                     | 52.5                   | 40.9                       | 3.6              | 4.28 |
|                          |                     | 70                     | 51.5                   | 38.8                       | 3.9              | 3.84 |
|                          |                     | 80                     | 50.7                   | 36.7                       | 4.3              | 3.45 |
|                          | 4.5                 | 60                     | 54.2                   | 42.6                       | 3.6              | 4.38 |
|                          |                     | 70                     | 53.1                   | 40.2                       | 4.0              | 3.93 |
|                          |                     | 80                     | 52.0                   | 37.9                       | 4.3              | 3.53 |
| 50                       | 1.2                 | 60                     | 56.1                   | 44.4                       | 3.7              | 4.48 |
|                          |                     | 70                     | 55.2                   | 42.3                       | 4.0              | 4.04 |
|                          |                     | 80                     | 54.3                   | 40.5                       | 4.4              | 3.63 |
|                          | 2.5                 | 60                     | 59.3                   | 47.3                       | 3.7              | 4.66 |
|                          |                     | 70                     | 58.2                   | 45.0                       | 4.1              | 4.2  |
|                          |                     | 80                     | 57.0                   | 43.0                       | 4.4              | 3.77 |
|                          | 4.4                 | 60                     | 61.4                   | 49.2                       | 3.8              | 4.78 |
|                          |                     | 70                     | 60.1                   | 46.8                       | 4.1              | 4.3  |
|                          |                     | 80                     | 58.9                   | 44.3                       | 4.5              | 3.86 |
| 60                       | 1.2                 | 60                     | 62.7                   | 50.6                       | 3.8              | 4.85 |
|                          |                     | 70                     | 61.7                   | 48.4                       | 4.1              | 4.37 |
|                          |                     | 80                     | 60.8                   | 46.1                       | 4.5              | 3.94 |
|                          | 2.5                 | 60                     | 66.6                   | 54.1                       | 3.9              | 5.05 |
|                          |                     | 70                     | 65.2                   | 51.7                       | 4.2              | 4.54 |
|                          |                     | 80                     | 64.0                   | 49.1                       | 4.6              | 4.09 |
|                          | 4.3                 | 60                     | 69.1                   | 56.5                       | 3.9              | 5.17 |
|                          |                     | 70                     | 67.6                   | 53.8                       | 4.3              | 4.66 |
|                          |                     | 80                     | 66.2                   | 51.1                       | 4.6              | 4.18 |
| 70                       | 1.2                 | 60                     | 69.7                   | 57.1                       | 3.9              | 5.2  |
|                          |                     | 70                     | 68.5                   | 54.8                       | 4.3              | 4.69 |
|                          |                     | 80                     | 67.3                   | 52.4                       | 4.7              | 4.23 |
|                          | 2.4                 | 60                     | 74.2                   | 61.3                       | 4.0              | 5.41 |
|                          |                     | 70                     | 72.7                   | 58.7                       | 4.4              | 4.88 |
|                          |                     | 80                     | 71.3                   | 55.8                       | 4.8              | 4.39 |
|                          | 4.2                 | 60                     | 77.2                   | 64.0                       | 4.1              | 5.54 |
|                          |                     | 70                     | 75.5                   | 61.1                       | 4.4              | 5    |
|                          |                     | 80                     | 73.8                   | 58.1                       | 4.8              | 4.49 |
| 80                       | 1.2                 | 60                     | 77.0                   | 63.9                       | 4.1              | 5.54 |
|                          |                     | 70                     | 75.6                   | 61.4                       | 4.4              | 5    |
|                          |                     | 80                     | 74.2                   | 58.8                       | 4.8              | 4.51 |
|                          | 2.4                 | 60                     | 82.2                   | 68.8                       | 4.2              | 5.76 |
|                          |                     | 70                     | 80.4                   | 65.8                       | 4.5              | 5.19 |
|                          |                     | 80                     | 78.7                   | 62.9                       | 4.9              | 4.68 |
|                          | 4.1                 | 60                     | 85.7                   | 72.0                       | 4.3              | 5.89 |
|                          |                     | 70                     | 83.6                   | 68.7                       | 4.6              | 5.32 |
|                          |                     | 80                     | 81.7                   | 65.4                       | 5.0              | 4.78 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM060 HZ Part Load Cooling Performance Data - 1790 CFM

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 7.5              | 1.2                 | 75/63                        | 50.4                   | 41.4                      | 57.4                      | 2.0              | 24.7 |
|                          |                  |                     | 80/67                        | 53.6                   | 42.9                      | 60.6                      | 2.0              | 26.5 |
|                          |                  |                     | 85/71                        | 57.1                   | 43.9                      | 64.0                      | 2.0              | 28.6 |
|                          | 11               | 2.5                 | 75/63                        | 51.9                   | 42.2                      | 58.6                      | 1.9              | 27.1 |
|                          |                  |                     | 80/67                        | 55.5                   | 43.4                      | 62.0                      | 1.9              | 29.5 |
|                          |                  |                     | 85/71                        | 59.0                   | 44.6                      | 65.5                      | 1.8              | 32.0 |
|                          | 15               | 4.4                 | 75/63                        | 52.9                   | 42.6                      | 59.3                      | 1.8              | 28.8 |
|                          |                  |                     | 80/67                        | 56.5                   | 43.8                      | 62.8                      | 1.8              | 31.4 |
|                          |                  |                     | 85/71                        | 60.2                   | 45.1                      | 66.4                      | 1.8              | 34.2 |
| 60                       | 7.5              | 1.2                 | 75/63                        | 47.6                   | 40.2                      | 55.4                      | 2.3              | 20.8 |
|                          |                  |                     | 80/67                        | 50.7                   | 41.6                      | 58.5                      | 2.3              | 22.4 |
|                          |                  |                     | 85/71                        | 54.0                   | 42.9                      | 61.7                      | 2.2              | 24.0 |
|                          | 11               | 2.5                 | 75/63                        | 49.1                   | 40.8                      | 56.5                      | 2.2              | 22.8 |
|                          |                  |                     | 80/67                        | 52.4                   | 42.4                      | 59.7                      | 2.1              | 24.7 |
|                          |                  |                     | 85/71                        | 55.9                   | 43.5                      | 63.1                      | 2.1              | 26.8 |
|                          | 15               | 4.3                 | 75/63                        | 50.1                   | 41.2                      | 57.2                      | 2.1              | 24.2 |
|                          |                  |                     | 80/67                        | 53.5                   | 42.6                      | 60.5                      | 2.0              | 26.3 |
|                          |                  |                     | 85/71                        | 56.9                   | 44.2                      | 63.9                      | 2.0              | 28.5 |
| 70                       | 7.5              | 1.2                 | 75/63                        | 44.7                   | 39.0                      | 53.4                      | 2.6              | 17.4 |
|                          |                  |                     | 80/67                        | 47.8                   | 40.4                      | 56.5                      | 2.6              | 18.7 |
|                          |                  |                     | 85/71                        | 50.8                   | 42.1                      | 59.5                      | 2.5              | 20.1 |
|                          | 11               | 2.4                 | 75/63                        | 46.2                   | 39.6                      | 54.4                      | 2.4              | 19.1 |
|                          |                  |                     | 80/67                        | 49.4                   | 41.1                      | 57.6                      | 2.4              | 20.6 |
|                          |                  |                     | 85/71                        | 52.7                   | 42.4                      | 60.8                      | 2.4              | 22.3 |
|                          | 15               | 4.2                 | 75/63                        | 47.1                   | 40.0                      | 55.0                      | 2.3              | 20.1 |
|                          |                  |                     | 80/67                        | 50.4                   | 41.4                      | 58.3                      | 2.3              | 21.9 |
|                          |                  |                     | 85/71                        | 53.7                   | 43.0                      | 61.5                      | 2.3              | 23.7 |
| 80                       | 7.5              | 1.2                 | 75/63                        | 41.7                   | 38.1                      | 51.5                      | 2.9              | 14.4 |
|                          |                  |                     | 80/67                        | 44.6                   | 39.7                      | 54.4                      | 2.9              | 15.6 |
|                          |                  |                     | 85/71                        | 47.8                   | 40.7                      | 57.5                      | 2.9              | 16.8 |
|                          | 11               | 2.4                 | 75/63                        | 43.1                   | 38.6                      | 52.4                      | 2.7              | 15.8 |
|                          |                  |                     | 80/67                        | 46.2                   | 40.1                      | 55.5                      | 2.7              | 17.1 |
|                          |                  |                     | 85/71                        | 49.4                   | 41.7                      | 58.5                      | 2.7              | 18.5 |
|                          | 15               | 4.1                 | 75/63                        | 43.9                   | 39.0                      | 52.9                      | 2.6              | 16.6 |
|                          |                  |                     | 80/67                        | 47.1                   | 40.6                      | 56.0                      | 2.6              | 18.1 |
|                          |                  |                     | 85/71                        | 50.6                   | 41.7                      | 59.3                      | 2.6              | 19.7 |
| 90                       | 7.5              | 1.2                 | 75/63                        | 38.9                   | 36.6                      | 49.8                      | 3.2              | 12.0 |
|                          |                  |                     | 80/67                        | 41.6                   | 38.6                      | 52.5                      | 3.2              | 12.9 |
|                          |                  |                     | 85/71                        | 44.6                   | 39.8                      | 55.5                      | 3.2              | 13.9 |
|                          | 11               | 2.3                 | 75/63                        | 40.2                   | 37.2                      | 50.5                      | 3.1              | 13.0 |
|                          |                  |                     | 80/67                        | 43.1                   | 39.0                      | 53.5                      | 3.1              | 14.1 |
|                          |                  |                     | 85/71                        | 46.2                   | 40.5                      | 56.5                      | 3.0              | 15.3 |
|                          | 15               | 4.0                 | 75/63                        | 40.8                   | 37.8                      | 51.0                      | 3.0              | 13.7 |
|                          |                  |                     | 80/67                        | 43.9                   | 39.4                      | 54.0                      | 3.0              | 14.9 |
|                          |                  |                     | 85/71                        | 47.1                   | 40.9                      | 57.0                      | 2.9              | 16.2 |
| 100                      | 7.5              | 1.2                 | 75/63                        | 36.0                   | 35.8                      | 48.2                      | 3.6              | 10.0 |
|                          |                  |                     | 80/67                        | 38.7                   | 37.5                      | 50.8                      | 3.6              | 10.7 |
|                          |                  |                     | 85/71                        | 41.5                   | 38.7                      | 53.7                      | 3.6              | 11.6 |
|                          | 11               | 2.3                 | 75/63                        | 37.1                   | 36.3                      | 48.8                      | 3.5              | 10.7 |
|                          |                  |                     | 80/67                        | 40.0                   | 37.9                      | 51.6                      | 3.4              | 11.6 |
|                          |                  |                     | 85/71                        | 42.9                   | 39.2                      | 54.5                      | 3.4              | 12.6 |
|                          | 15               | 3.9                 | 75/63                        | 37.9                   | 36.4                      | 49.2                      | 3.4              | 11.2 |
|                          |                  |                     | 80/67                        | 40.8                   | 38.0                      | 52.1                      | 3.3              | 12.2 |
|                          |                  |                     | 85/71                        | 43.8                   | 39.4                      | 55.0                      | 3.3              | 13.3 |
| 110                      | 7.5              | 1.2                 | 75/63                        | 33.9                   | 33.9                      | 47.3                      | 4.0              | 8.4  |
|                          |                  |                     | 80/67                        | 36.0                   | 36.0                      | 49.5                      | 4.0              | 9.0  |
|                          |                  |                     | 85/71                        | 38.5                   | 37.9                      | 52.0                      | 4.0              | 9.6  |
|                          | 11               | 2.2                 | 75/63                        | 34.6                   | 34.6                      | 47.6                      | 3.9              | 9.0  |
|                          |                  |                     | 80/67                        | 37.0                   | 36.7                      | 49.9                      | 3.8              | 9.6  |
|                          |                  |                     | 85/71                        | 39.6                   | 38.5                      | 52.6                      | 3.8              | 10.4 |
|                          | 15               | 3.8                 | 75/63                        | 35.0                   | 35.0                      | 47.7                      | 3.8              | 9.3  |
|                          |                  |                     | 80/67                        | 37.7                   | 36.9                      | 50.3                      | 3.8              | 10.0 |
|                          |                  |                     | 85/71                        | 40.5                   | 38.4                      | 53.1                      | 3.7              | 10.9 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM060 HZ Part Load Heating Performance Data - 1790 CFM**

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 30                       | 1.2                 | 60                     | 32.6                   | 24.7                       | 2.5              | 3.81 |
|                          |                     | 70                     | 31.3                   | 22.6                       | 2.8              | 3.31 |
|                          |                     | 80                     | 30.2                   | 20.5                       | 3.1              | 2.88 |
|                          | 2.6                 | 60                     | 34.1                   | 25.8                       | 2.5              | 3.98 |
|                          |                     | 70                     | 32.8                   | 23.5                       | 2.8              | 3.46 |
|                          |                     | 80                     | 31.2                   | 21.3                       | 3.1              | 2.97 |
|                          | 4.6                 | 60                     | 34.9                   | 26.5                       | 2.5              | 4.06 |
|                          |                     | 70                     | 33.5                   | 24.2                       | 2.8              | 3.52 |
|                          |                     | 80                     | 31.8                   | 22.0                       | 3.1              | 3.03 |
| 40                       | 1.2                 | 60                     | 37.1                   | 29.2                       | 2.5              | 4.31 |
|                          |                     | 70                     | 36.2                   | 26.8                       | 2.8              | 3.79 |
|                          |                     | 80                     | 34.6                   | 24.7                       | 3.1              | 3.27 |
|                          | 2.6                 | 60                     | 39.0                   | 30.5                       | 2.5              | 4.51 |
|                          |                     | 70                     | 37.6                   | 28.2                       | 2.8              | 3.92 |
|                          |                     | 80                     | 35.9                   | 26.0                       | 3.1              | 3.38 |
|                          | 4.5                 | 60                     | 39.9                   | 31.4                       | 2.5              | 4.62 |
|                          |                     | 70                     | 38.2                   | 29.2                       | 2.8              | 3.98 |
|                          |                     | 80                     | 36.7                   | 26.6                       | 3.1              | 3.45 |
| 50                       | 1.2                 | 60                     | 42.0                   | 33.9                       | 2.5              | 4.83 |
|                          |                     | 70                     | 40.6                   | 31.7                       | 2.8              | 4.21 |
|                          |                     | 80                     | 39.4                   | 29.3                       | 3.1              | 3.68 |
|                          | 2.5                 | 60                     | 44.2                   | 35.6                       | 2.6              | 5.07 |
|                          |                     | 70                     | 42.4                   | 33.4                       | 2.8              | 4.37 |
|                          |                     | 80                     | 41.0                   | 30.9                       | 3.2              | 3.82 |
|                          | 4.4                 | 60                     | 45.4                   | 36.8                       | 2.6              | 5.2  |
|                          |                     | 70                     | 43.5                   | 34.5                       | 2.8              | 4.48 |
|                          |                     | 80                     | 42.2                   | 31.9                       | 3.2              | 3.91 |
| 60                       | 1.2                 | 60                     | 47.1                   | 38.9                       | 2.6              | 5.39 |
|                          |                     | 70                     | 45.7                   | 36.6                       | 2.8              | 4.7  |
|                          |                     | 80                     | 44.4                   | 34.3                       | 3.2              | 4.11 |
|                          | 2.5                 | 60                     | 49.4                   | 41.2                       | 2.6              | 5.63 |
|                          |                     | 70                     | 47.8                   | 38.7                       | 2.9              | 4.91 |
|                          |                     | 80                     | 46.4                   | 36.2                       | 3.2              | 4.28 |
|                          | 4.3                 | 60                     | 50.9                   | 42.7                       | 2.6              | 5.8  |
|                          |                     | 70                     | 49.2                   | 40.1                       | 2.9              | 5.05 |
|                          |                     | 80                     | 47.6                   | 37.4                       | 3.2              | 4.39 |
| 70                       | 1.2                 | 60                     | 52.5                   | 44.3                       | 2.6              | 5.99 |
|                          |                     | 70                     | 51.1                   | 41.9                       | 2.9              | 5.23 |
|                          |                     | 80                     | 49.7                   | 39.4                       | 3.2              | 4.57 |
|                          | 2.4                 | 60                     | 55.2                   | 47.1                       | 2.6              | 6.3  |
|                          |                     | 70                     | 53.6                   | 44.5                       | 2.9              | 5.48 |
|                          |                     | 80                     | 52.0                   | 41.7                       | 3.2              | 4.78 |
|                          | 4.2                 | 60                     | 57.0                   | 48.9                       | 2.6              | 6.51 |
|                          |                     | 70                     | 55.2                   | 46.1                       | 2.9              | 5.65 |
|                          |                     | 80                     | 53.5                   | 43.3                       | 3.2              | 4.91 |
| 80                       | 1.2                 | 60                     | 58.1                   | 50.0                       | 2.6              | 6.64 |
|                          |                     | 70                     | 56.6                   | 47.4                       | 2.9              | 5.79 |
|                          |                     | 80                     | 55.0                   | 44.8                       | 3.2              | 5.05 |
|                          | 2.4                 | 60                     | 61.2                   | 53.2                       | 2.6              | 7.01 |
|                          |                     | 70                     | 59.5                   | 50.4                       | 2.9              | 6.08 |
|                          |                     | 80                     | 57.7                   | 47.4                       | 3.2              | 5.29 |
|                          | 4.1                 | 60                     | 63.3                   | 55.3                       | 2.6              | 7.25 |
|                          |                     | 70                     | 61.3                   | 52.3                       | 2.9              | 6.28 |
|                          |                     | 80                     | 59.5                   | 49.3                       | 3.2              | 5.45 |

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Bosch Thermotechnology Corp.  
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM070 HZ Full Load Cooling Performance Data - 2450 CFM**

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 9                | 0.8                 | 75/63                        | 69.7                   | 56.9                      | 84.0                      | 4.2              | 16.7 |
|                          |                  |                     | 80/67                        | 74.0                   | 58.7                      | 88.7                      | 4.2              | 17.4 |
|                          |                  |                     | 85/71                        | 78.8                   | 60.0                      | 93.6                      | 4.3              | 18.3 |
|                          | 13               | 1.6                 | 75/63                        | 72.1                   | 57.9                      | 85.7                      | 3.9              | 18.3 |
|                          |                  |                     | 80/67                        | 76.8                   | 59.8                      | 90.6                      | 4.0              | 19.3 |
|                          |                  |                     | 85/71                        | 81.9                   | 61.1                      | 95.8                      | 4.0              | 20.3 |
|                          | 17.5             | 2.7                 | 75/63                        | 73.6                   | 58.5                      | 86.7                      | 3.8              | 19.4 |
|                          |                  |                     | 80/67                        | 78.5                   | 60.4                      | 91.8                      | 3.8              | 20.5 |
|                          |                  |                     | 85/71                        | 83.6                   | 62.2                      | 97.1                      | 3.9              | 21.6 |
| 60                       | 9                | 0.8                 | 75/63                        | 66.6                   | 55.3                      | 82.0                      | 4.5              | 14.7 |
|                          |                  |                     | 80/67                        | 70.7                   | 57.4                      | 86.4                      | 4.6              | 15.4 |
|                          |                  |                     | 85/71                        | 74.8                   | 59.8                      | 90.8                      | 4.6              | 16.1 |
|                          | 13               | 1.6                 | 75/63                        | 68.9                   | 56.6                      | 83.5                      | 4.3              | 16.2 |
|                          |                  |                     | 80/67                        | 73.4                   | 58.4                      | 88.2                      | 4.3              | 17.0 |
|                          |                  |                     | 85/71                        | 78.1                   | 60.2                      | 93.1                      | 4.4              | 17.9 |
|                          | 17.5             | 2.7                 | 75/63                        | 70.3                   | 57.1                      | 84.5                      | 4.1              | 17.1 |
|                          |                  |                     | 80/67                        | 75.2                   | 58.7                      | 89.4                      | 4.2              | 18.1 |
|                          |                  |                     | 85/71                        | 79.9                   | 60.9                      | 94.4                      | 4.2              | 19.1 |
| 70                       | 9                | 0.8                 | 75/63                        | 63.4                   | 54.0                      | 80.0                      | 4.9              | 12.9 |
|                          |                  |                     | 80/67                        | 67.2                   | 56.0                      | 84.2                      | 5.0              | 13.5 |
|                          |                  |                     | 85/71                        | 71.6                   | 57.6                      | 88.7                      | 5.0              | 14.2 |
|                          | 13               | 1.6                 | 75/63                        | 65.6                   | 55.2                      | 81.4                      | 4.6              | 14.2 |
|                          |                  |                     | 80/67                        | 69.8                   | 57.1                      | 85.9                      | 4.7              | 14.9 |
|                          |                  |                     | 85/71                        | 74.3                   | 59.1                      | 90.5                      | 4.7              | 15.8 |
|                          | 17.5             | 2.7                 | 75/63                        | 67.1                   | 55.5                      | 82.4                      | 4.5              | 15.0 |
|                          |                  |                     | 80/67                        | 71.5                   | 57.7                      | 86.9                      | 4.5              | 15.9 |
|                          |                  |                     | 85/71                        | 76.3                   | 59.2                      | 91.9                      | 4.5              | 16.8 |
| 80                       | 9                | 0.8                 | 75/63                        | 60.0                   | 53.0                      | 78.2                      | 5.3              | 11.3 |
|                          |                  |                     | 80/67                        | 63.9                   | 54.8                      | 82.2                      | 5.4              | 11.9 |
|                          |                  |                     | 85/71                        | 67.5                   | 57.4                      | 86.3                      | 5.4              | 12.4 |
|                          | 13               | 1.5                 | 75/63                        | 62.3                   | 53.5                      | 79.4                      | 5.0              | 12.4 |
|                          |                  |                     | 80/67                        | 66.3                   | 55.6                      | 83.7                      | 5.1              | 13.0 |
|                          |                  |                     | 85/71                        | 70.5                   | 57.9                      | 88.1                      | 5.1              | 13.8 |
|                          | 17.5             | 2.7                 | 75/63                        | 63.5                   | 54.4                      | 80.2                      | 4.9              | 13.1 |
|                          |                  |                     | 80/67                        | 67.9                   | 56.0                      | 84.7                      | 4.9              | 13.9 |
|                          |                  |                     | 85/71                        | 72.2                   | 58.5                      | 89.2                      | 4.9              | 14.7 |
| 90                       | 9                | 0.8                 | 75/63                        | 56.9                   | 51.7                      | 76.5                      | 5.8              | 9.9  |
|                          |                  |                     | 80/67                        | 60.6                   | 53.6                      | 80.5                      | 5.8              | 10.4 |
|                          |                  |                     | 85/71                        | 64.4                   | 55.4                      | 84.5                      | 5.9              | 10.9 |
|                          | 13               | 1.5                 | 75/63                        | 58.9                   | 52.5                      | 77.6                      | 5.5              | 10.8 |
|                          |                  |                     | 80/67                        | 62.8                   | 54.4                      | 81.7                      | 5.5              | 11.4 |
|                          |                  |                     | 85/71                        | 66.9                   | 56.3                      | 85.9                      | 5.6              | 12.0 |
|                          | 17.5             | 2.7                 | 75/63                        | 60.1                   | 53.0                      | 78.2                      | 5.3              | 11.3 |
|                          |                  |                     | 80/67                        | 64.1                   | 55.1                      | 82.4                      | 5.3              | 12.0 |
|                          |                  |                     | 85/71                        | 68.4                   | 57.0                      | 86.8                      | 5.4              | 12.7 |
| 100                      | 9                | 0.8                 | 75/63                        | 53.5                   | 50.4                      | 75.0                      | 6.3              | 8.5  |
|                          |                  |                     | 80/67                        | 57.0                   | 52.5                      | 78.7                      | 6.4              | 8.9  |
|                          |                  |                     | 85/71                        | 60.7                   | 54.2                      | 82.6                      | 6.4              | 9.4  |
|                          | 13               | 1.5                 | 75/63                        | 55.6                   | 51.1                      | 75.9                      | 6.0              | 9.3  |
|                          |                  |                     | 80/67                        | 59.4                   | 53.1                      | 79.9                      | 6.0              | 9.9  |
|                          |                  |                     | 85/71                        | 63.2                   | 55.1                      | 83.9                      | 6.1              | 10.4 |
|                          | 17.5             | 2.7                 | 75/63                        | 56.8                   | 51.7                      | 76.5                      | 5.8              | 9.8  |
|                          |                  |                     | 80/67                        | 60.8                   | 53.3                      | 80.6                      | 5.8              | 10.4 |
|                          |                  |                     | 85/71                        | 64.7                   | 55.4                      | 84.7                      | 5.9              | 11.1 |
| 110                      | 9                | 0.8                 | 75/63                        | 50.3                   | 49.4                      | 73.7                      | 6.9              | 7.3  |
|                          |                  |                     | 80/67                        | 53.8                   | 51.2                      | 77.3                      | 6.9              | 7.8  |
|                          |                  |                     | 85/71                        | 57.0                   | 53.6                      | 80.9                      | 7.0              | 8.1  |
|                          | 13               | 1.5                 | 75/63                        | 52.1                   | 49.9                      | 74.4                      | 6.6              | 7.9  |
|                          |                  |                     | 80/67                        | 55.8                   | 51.8                      | 78.2                      | 6.6              | 8.4  |
|                          |                  |                     | 85/71                        | 59.3                   | 53.9                      | 82.0                      | 6.6              | 8.9  |
|                          | 17.5             | 2.7                 | 75/63                        | 53.3                   | 50.1                      | 74.9                      | 6.4              | 8.4  |
|                          |                  |                     | 80/67                        | 57.0                   | 52.1                      | 78.7                      | 6.4              | 8.9  |
|                          |                  |                     | 85/71                        | 60.6                   | 54.7                      | 82.5                      | 6.4              | 9.4  |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM070 HZ Full Load Heating Performance Data - 2450 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 30                       | 0.9                 | 60                     | 52.7                   | 38.2                       | 4.4              | 3.48 |
|                          |                     | 70                     | 52.3                   | 36.5                       | 4.8              | 3.16 |
|                          |                     | 80                     | 52.1                   | 34.4                       | 5.3              | 2.88 |
|                          | 1.7                 | 60                     | 55.3                   | 40.8                       | 4.5              | 3.61 |
|                          |                     | 70                     | 54.7                   | 38.8                       | 4.9              | 3.27 |
|                          |                     | 80                     | 54.7                   | 37.1                       | 5.4              | 2.99 |
|                          | 2.7                 | 60                     | 57.3                   | 42.3                       | 4.5              | 3.71 |
|                          |                     | 70                     | 56.2                   | 40.2                       | 4.9              | 3.34 |
|                          |                     | 80                     | 56.2                   | 38.7                       | 5.4              | 3.05 |
| 40                       | 0.9                 | 60                     | 59.4                   | 44.5                       | 4.6              | 3.8  |
|                          |                     | 70                     | 58.8                   | 42.5                       | 5.0              | 3.45 |
|                          |                     | 80                     | 58.4                   | 40.7                       | 5.4              | 3.14 |
|                          | 1.7                 | 60                     | 62.7                   | 47.5                       | 4.6              | 3.96 |
|                          |                     | 70                     | 61.9                   | 45.5                       | 5.1              | 3.59 |
|                          |                     | 80                     | 61.5                   | 42.8                       | 5.5              | 3.27 |
|                          | 2.7                 | 60                     | 64.9                   | 49.6                       | 4.7              | 4.06 |
|                          |                     | 70                     | 63.8                   | 47.7                       | 5.1              | 3.67 |
|                          |                     | 80                     | 62.8                   | 46.0                       | 5.6              | 3.31 |
| 50                       | 0.8                 | 60                     | 66.7                   | 51.4                       | 4.7              | 4.15 |
|                          |                     | 70                     | 66.0                   | 49.3                       | 5.1              | 3.77 |
|                          |                     | 80                     | 65.4                   | 47.1                       | 5.6              | 3.42 |
|                          | 1.6                 | 60                     | 70.7                   | 55.1                       | 4.8              | 4.33 |
|                          |                     | 70                     | 69.8                   | 52.9                       | 5.2              | 3.92 |
|                          |                     | 80                     | 68.9                   | 50.4                       | 5.7              | 3.55 |
|                          | 2.7                 | 60                     | 73.5                   | 57.6                       | 4.8              | 4.45 |
|                          |                     | 70                     | 72.2                   | 55.5                       | 5.3              | 4.01 |
|                          |                     | 80                     | 71.2                   | 52.7                       | 5.7              | 3.64 |
| 60                       | 0.8                 | 60                     | 74.5                   | 58.7                       | 4.9              | 4.49 |
|                          |                     | 70                     | 73.6                   | 56.4                       | 5.3              | 4.07 |
|                          |                     | 80                     | 72.8                   | 54.0                       | 5.8              | 3.69 |
|                          | 1.6                 | 60                     | 79.3                   | 63.3                       | 5.0              | 4.69 |
|                          |                     | 70                     | 78.1                   | 60.6                       | 5.4              | 4.25 |
|                          |                     | 80                     | 77.0                   | 58.0                       | 5.9              | 3.84 |
|                          | 2.7                 | 60                     | 82.6                   | 66.4                       | 5.0              | 4.82 |
|                          |                     | 70                     | 81.2                   | 63.3                       | 5.5              | 4.36 |
|                          |                     | 80                     | 79.8                   | 60.7                       | 5.9              | 3.94 |
| 70                       | 0.8                 | 60                     | 82.6                   | 66.3                       | 5.0              | 4.82 |
|                          |                     | 70                     | 81.5                   | 63.7                       | 5.5              | 4.37 |
|                          |                     | 80                     | 80.6                   | 61.2                       | 6.0              | 3.97 |
|                          | 1.6                 | 60                     | 88.3                   | 71.7                       | 5.1              | 5.03 |
|                          |                     | 70                     | 86.9                   | 68.8                       | 5.6              | 4.56 |
|                          |                     | 80                     | 85.5                   | 65.9                       | 6.1              | 4.13 |
|                          | 2.7                 | 60                     | 92.2                   | 75.4                       | 5.2              | 5.18 |
|                          |                     | 70                     | 90.5                   | 72.3                       | 5.7              | 4.69 |
|                          |                     | 80                     | 88.9                   | 68.7                       | 6.1              | 4.24 |
| 80                       | 0.8                 | 60                     | 91.1                   | 74.3                       | 5.2              | 5.14 |
|                          |                     | 70                     | 89.8                   | 71.5                       | 5.6              | 4.67 |
|                          |                     | 80                     | 88.6                   | 68.6                       | 6.1              | 4.23 |
|                          | 1.5                 | 60                     | 97.6                   | 80.5                       | 5.3              | 5.36 |
|                          |                     | 70                     | 95.9                   | 77.3                       | 5.8              | 4.87 |
|                          |                     | 80                     | 94.3                   | 74.1                       | 6.3              | 4.41 |
|                          | 2.7                 | 60                     | 102.1                  | 84.7                       | 5.4              | 5.51 |
|                          |                     | 70                     | 100.1                  | 81.3                       | 5.9              | 5    |
|                          |                     | 80                     | 98.2                   | 77.7                       | 6.4              | 4.52 |

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Bosch Thermotechnology Corp.  
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM070 HZ Part Load Cooling Performance Data - 2100 CFM**

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 9                | 0.8                 | 75/63                        | 56.7                   | 47.8                      | 65.9                      | 2.7              | 21.0 |
|                          |                  |                     | 80/67                        | 60.2                   | 49.6                      | 69.5                      | 2.7              | 22.3 |
|                          |                  |                     | 85/71                        | 64.1                   | 50.8                      | 73.4                      | 2.7              | 23.7 |
|                          | 13               | 1.6                 | 75/63                        | 58.4                   | 48.7                      | 67.1                      | 2.5              | 23.2 |
|                          |                  |                     | 80/67                        | 62.2                   | 50.3                      | 70.9                      | 2.5              | 24.8 |
|                          |                  |                     | 85/71                        | 66.2                   | 51.6                      | 74.8                      | 2.5              | 26.5 |
|                          | 17.5             | 2.7                 | 75/63                        | 59.5                   | 48.9                      | 67.9                      | 2.4              | 24.6 |
|                          |                  |                     | 80/67                        | 63.5                   | 50.5                      | 71.8                      | 2.4              | 26.5 |
|                          |                  |                     | 85/71                        | 67.5                   | 52.1                      | 75.7                      | 2.4              | 28.4 |
| 60                       | 9                | 0.8                 | 75/63                        | 53.8                   | 46.8                      | 64.1                      | 3.0              | 18.0 |
|                          |                  |                     | 80/67                        | 57.4                   | 48.2                      | 67.7                      | 3.0              | 19.1 |
|                          |                  |                     | 85/71                        | 60.9                   | 49.8                      | 71.3                      | 3.0              | 20.2 |
|                          | 13               | 1.6                 | 75/63                        | 55.5                   | 47.5                      | 65.2                      | 2.8              | 19.7 |
|                          |                  |                     | 80/67                        | 59.2                   | 49.0                      | 68.8                      | 2.8              | 21.1 |
|                          |                  |                     | 85/71                        | 63.0                   | 50.5                      | 72.7                      | 2.8              | 22.5 |
|                          | 17.5             | 2.7                 | 75/63                        | 56.6                   | 47.7                      | 65.9                      | 2.7              | 20.9 |
|                          |                  |                     | 80/67                        | 60.3                   | 49.6                      | 69.6                      | 2.7              | 22.4 |
|                          |                  |                     | 85/71                        | 64.2                   | 51.2                      | 73.5                      | 2.7              | 24.0 |
| 70                       | 9                | 0.8                 | 75/63                        | 50.9                   | 45.7                      | 62.3                      | 3.3              | 15.3 |
|                          |                  |                     | 80/67                        | 54.4                   | 47.1                      | 65.8                      | 3.4              | 16.2 |
|                          |                  |                     | 85/71                        | 57.8                   | 48.7                      | 69.3                      | 3.4              | 17.2 |
|                          | 13               | 1.6                 | 75/63                        | 52.7                   | 46.1                      | 63.4                      | 3.1              | 16.8 |
|                          |                  |                     | 80/67                        | 56.2                   | 47.8                      | 66.9                      | 3.1              | 17.9 |
|                          |                  |                     | 85/71                        | 59.7                   | 49.7                      | 70.5                      | 3.1              | 19.0 |
|                          | 17.5             | 2.7                 | 75/63                        | 53.7                   | 46.5                      | 64.0                      | 3.0              | 17.7 |
|                          |                  |                     | 80/67                        | 57.3                   | 48.2                      | 67.6                      | 3.0              | 19.0 |
|                          |                  |                     | 85/71                        | 61.0                   | 49.8                      | 71.4                      | 3.0              | 20.3 |
| 80                       | 9                | 0.8                 | 75/63                        | 48.0                   | 44.4                      | 60.7                      | 3.7              | 12.9 |
|                          |                  |                     | 80/67                        | 51.2                   | 46.2                      | 64.0                      | 3.7              | 13.7 |
|                          |                  |                     | 85/71                        | 54.5                   | 47.8                      | 67.4                      | 3.8              | 14.5 |
|                          | 13               | 1.5                 | 75/63                        | 49.6                   | 45.1                      | 61.6                      | 3.5              | 14.1 |
|                          |                  |                     | 80/67                        | 53.0                   | 46.7                      | 65.0                      | 3.5              | 15.1 |
|                          |                  |                     | 85/71                        | 56.4                   | 48.5                      | 68.5                      | 3.5              | 16.0 |
|                          | 17.5             | 2.7                 | 75/63                        | 50.6                   | 45.4                      | 62.1                      | 3.4              | 14.9 |
|                          |                  |                     | 80/67                        | 54.0                   | 47.3                      | 65.6                      | 3.4              | 16.0 |
|                          |                  |                     | 85/71                        | 57.6                   | 49.0                      | 69.2                      | 3.4              | 17.1 |
| 90                       | 9                | 0.8                 | 75/63                        | 45.1                   | 43.3                      | 59.2                      | 4.2              | 10.9 |
|                          |                  |                     | 80/67                        | 48.2                   | 45.1                      | 62.3                      | 4.2              | 11.5 |
|                          |                  |                     | 85/71                        | 51.2                   | 47.1                      | 65.5                      | 4.2              | 12.2 |
|                          | 13               | 1.5                 | 75/63                        | 46.6                   | 43.9                      | 59.9                      | 3.9              | 11.8 |
|                          |                  |                     | 80/67                        | 49.9                   | 45.5                      | 63.2                      | 3.9              | 12.7 |
|                          |                  |                     | 85/71                        | 53.2                   | 47.3                      | 66.6                      | 3.9              | 13.5 |
|                          | 17.5             | 2.7                 | 75/63                        | 47.5                   | 44.2                      | 60.4                      | 3.8              | 12.5 |
|                          |                  |                     | 80/67                        | 50.8                   | 46.1                      | 63.8                      | 3.8              | 13.4 |
|                          |                  |                     | 85/71                        | 54.3                   | 47.7                      | 67.2                      | 3.8              | 14.3 |
| 100                      | 9                | 0.8                 | 75/63                        | 42.2                   | 42.0                      | 57.8                      | 4.6              | 9.1  |
|                          |                  |                     | 80/67                        | 45.2                   | 43.8                      | 60.9                      | 4.7              | 9.7  |
|                          |                  |                     | 85/71                        | 48.2                   | 45.9                      | 64.0                      | 4.7              | 10.4 |
|                          | 13               | 1.5                 | 75/63                        | 43.5                   | 42.6                      | 58.4                      | 4.4              | 9.9  |
|                          |                  |                     | 80/67                        | 46.6                   | 44.6                      | 61.5                      | 4.4              | 10.6 |
|                          |                  |                     | 85/71                        | 49.7                   | 46.6                      | 64.8                      | 4.4              | 11.3 |
|                          | 17.5             | 2.7                 | 75/63                        | 44.4                   | 43.0                      | 58.8                      | 4.3              | 10.4 |
|                          |                  |                     | 80/67                        | 47.6                   | 44.9                      | 62.0                      | 4.3              | 11.2 |
|                          |                  |                     | 85/71                        | 50.7                   | 46.9                      | 65.3                      | 4.3              | 11.9 |
| 110                      | 9                | 0.8                 | 75/63                        | 39.9                   | 39.9                      | 57.3                      | 5.2              | 7.7  |
|                          |                  |                     | 80/67                        | 42.4                   | 42.4                      | 59.8                      | 5.2              | 8.2  |
|                          |                  |                     | 85/71                        | 45.0                   | 45.0                      | 62.5                      | 5.2              | 8.7  |
|                          | 13               | 1.5                 | 75/63                        | 40.8                   | 40.8                      | 57.4                      | 4.9              | 8.3  |
|                          |                  |                     | 80/67                        | 43.5                   | 43.5                      | 60.2                      | 4.9              | 8.9  |
|                          |                  |                     | 85/71                        | 46.5                   | 45.6                      | 63.2                      | 4.9              | 9.5  |
|                          | 17.5             | 2.7                 | 75/63                        | 41.4                   | 41.4                      | 57.5                      | 4.8              | 8.7  |
|                          |                  |                     | 80/67                        | 44.2                   | 44.0                      | 60.4                      | 4.8              | 9.3  |
|                          |                  |                     | 85/71                        | 47.6                   | 45.5                      | 63.7                      | 4.8              | 10.0 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM070 HZ Part Load Heating Performance Data - 2100 CFM**

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 30                       | 0.9                 | 60                     | 38.7                   | 30.4                       | 3.3              | 3.44 |
|                          |                     | 70                     | 38.6                   | 27.0                       | 3.6              | 3.11 |
|                          |                     | 80                     | 38.0                   | 24.7                       | 4.0              | 2.75 |
|                          | 1.7                 | 60                     | 40.9                   | 30.0                       | 3.3              | 3.62 |
|                          |                     | 70                     | 39.9                   | 27.6                       | 3.7              | 3.2  |
|                          |                     | 80                     | 39.2                   | 26.4                       | 4.1              | 2.83 |
|                          | 2.7                 | 60                     | 41.5                   | 31.0                       | 3.3              | 3.67 |
|                          |                     | 70                     | 41.5                   | 31.0                       | 3.7              | 3.32 |
|                          |                     | 80                     | 40.7                   | 27.3                       | 4.1              | 2.93 |
| 40                       | 0.9                 | 60                     | 44.6                   | 33.8                       | 3.3              | 3.92 |
|                          |                     | 70                     | 44.0                   | 30.4                       | 3.7              | 3.5  |
|                          |                     | 80                     | 43.6                   | 31.4                       | 4.1              | 3.12 |
|                          | 1.7                 | 60                     | 46.4                   | 35.7                       | 3.3              | 4.07 |
|                          |                     | 70                     | 45.1                   | 35.1                       | 3.7              | 3.57 |
|                          |                     | 80                     | 45.0                   | 32.6                       | 4.1              | 3.21 |
|                          | 2.7                 | 60                     | 47.9                   | 36.1                       | 3.3              | 4.19 |
|                          |                     | 70                     | 47.6                   | 36.6                       | 3.7              | 3.74 |
|                          |                     | 80                     | 45.4                   | 32.7                       | 4.1              | 3.23 |
| 50                       | 0.8                 | 60                     | 50.7                   | 39.5                       | 3.4              | 4.4  |
|                          |                     | 70                     | 49.4                   | 37.3                       | 3.7              | 3.88 |
|                          |                     | 80                     | 48.4                   | 35.5                       | 4.1              | 3.42 |
|                          | 1.6                 | 60                     | 52.9                   | 41.9                       | 3.4              | 4.58 |
|                          |                     | 70                     | 51.8                   | 39.3                       | 3.7              | 4.05 |
|                          |                     | 80                     | 50.6                   | 37.4                       | 4.2              | 3.57 |
|                          | 2.7                 | 60                     | 54.6                   | 41.6                       | 3.4              | 4.72 |
|                          |                     | 70                     | 53.4                   | 40.6                       | 3.8              | 4.16 |
|                          |                     | 80                     | 51.9                   | 39.3                       | 4.2              | 3.64 |
| 60                       | 0.8                 | 60                     | 56.5                   | 45.4                       | 3.4              | 4.86 |
|                          |                     | 70                     | 55.5                   | 43.1                       | 3.8              | 4.31 |
|                          |                     | 80                     | 54.6                   | 41.0                       | 4.2              | 3.82 |
|                          | 1.6                 | 60                     | 59.5                   | 48.2                       | 3.4              | 5.1  |
|                          |                     | 70                     | 58.3                   | 45.9                       | 3.8              | 4.5  |
|                          |                     | 80                     | 57.3                   | 45.0                       | 4.2              | 3.98 |
|                          | 2.7                 | 60                     | 61.4                   | 50.4                       | 3.4              | 5.24 |
|                          |                     | 70                     | 60.4                   | 45.8                       | 3.8              | 4.65 |
|                          |                     | 80                     | 59.0                   | 42.9                       | 4.2              | 4.1  |
| 70                       | 0.8                 | 60                     | 63.0                   | 51.9                       | 3.4              | 5.37 |
|                          |                     | 70                     | 61.9                   | 49.5                       | 3.8              | 4.75 |
|                          |                     | 80                     | 60.8                   | 47.0                       | 4.2              | 4.21 |
|                          | 1.6                 | 60                     | 66.5                   | 55.5                       | 3.5              | 5.65 |
|                          |                     | 70                     | 65.2                   | 52.6                       | 3.8              | 4.98 |
|                          |                     | 80                     | 64.0                   | 49.8                       | 4.3              | 4.4  |
|                          | 2.7                 | 60                     | 68.8                   | 58.2                       | 3.5              | 5.81 |
|                          |                     | 70                     | 67.4                   | 54.7                       | 3.9              | 5.13 |
|                          |                     | 80                     | 66.0                   | 51.6                       | 4.3              | 4.52 |
| 80                       | 0.8                 | 60                     | 69.8                   | 58.7                       | 3.5              | 5.9  |
|                          |                     | 70                     | 68.6                   | 56.2                       | 3.9              | 5.21 |
|                          |                     | 80                     | 67.4                   | 53.5                       | 4.3              | 4.6  |
|                          | 1.5                 | 60                     | 74.0                   | 62.8                       | 3.5              | 6.21 |
|                          |                     | 70                     | 72.4                   | 59.9                       | 3.9              | 5.46 |
|                          |                     | 80                     | 71.0                   | 56.9                       | 4.3              | 4.81 |
|                          | 2.7                 | 60                     | 76.9                   | 65.0                       | 3.5              | 6.43 |
|                          |                     | 70                     | 75.0                   | 62.5                       | 3.9              | 5.63 |
|                          |                     | 80                     | 73.4                   | 59.2                       | 4.3              | 4.96 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM024 VT Full Load Cooling Performance Data - 800 CFM

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 3                | 0.6                 | 75/63                        | 26.9                   | 20.9                      | 29.9                      | 1.1              | 25.3 |
|                          |                  |                     | 80/67                        | 28.8                   | 21.2                      | 31.9                      | 1.1              | 26.5 |
|                          |                  |                     | 85/71                        | 30.5                   | 21.8                      | 33.7                      | 1.1              | 27.6 |
|                          | 4.5              | 1.2                 | 75/63                        | 27.8                   | 21.1                      | 30.6                      | 1.0              | 28.2 |
|                          |                  |                     | 80/67                        | 29.6                   | 21.6                      | 32.4                      | 1.0              | 29.5 |
|                          |                  |                     | 85/71                        | 31.4                   | 22.2                      | 34.4                      | 1.0              | 30.9 |
|                          | 6                | 2.0                 | 75/63                        | 28.1                   | 21.3                      | 30.8                      | 0.9              | 29.7 |
|                          |                  |                     | 80/67                        | 30.1                   | 21.7                      | 32.8                      | 1.0              | 31.3 |
|                          |                  |                     | 85/71                        | 31.9                   | 22.4                      | 34.7                      | 1.0              | 32.8 |
| 60                       | 3                | 0.6                 | 75/63                        | 25.9                   | 20.2                      | 29.3                      | 1.2              | 21.9 |
|                          |                  |                     | 80/67                        | 27.5                   | 20.8                      | 31.0                      | 1.2              | 22.9 |
|                          |                  |                     | 85/71                        | 29.3                   | 21.4                      | 32.9                      | 1.2              | 24.0 |
|                          | 4.5              | 1.2                 | 75/63                        | 26.6                   | 20.5                      | 29.7                      | 1.1              | 24.0 |
|                          |                  |                     | 80/67                        | 28.4                   | 21.2                      | 31.6                      | 1.1              | 25.3 |
|                          |                  |                     | 85/71                        | 30.2                   | 21.7                      | 33.5                      | 1.1              | 26.5 |
|                          | 6                | 2.0                 | 75/63                        | 26.8                   | 20.9                      | 29.9                      | 1.1              | 25.0 |
|                          |                  |                     | 80/67                        | 28.8                   | 21.3                      | 31.9                      | 1.1              | 26.5 |
|                          |                  |                     | 85/71                        | 30.6                   | 21.9                      | 33.8                      | 1.1              | 27.9 |
| 70                       | 3                | 0.6                 | 75/63                        | 24.9                   | 19.8                      | 28.7                      | 1.3              | 18.9 |
|                          |                  |                     | 80/67                        | 26.5                   | 20.5                      | 30.5                      | 1.3              | 19.8 |
|                          |                  |                     | 85/71                        | 28.2                   | 21.0                      | 32.2                      | 1.4              | 20.7 |
|                          | 4.5              | 1.1                 | 75/63                        | 25.6                   | 20.1                      | 29.2                      | 1.2              | 20.6 |
|                          |                  |                     | 80/67                        | 27.3                   | 20.7                      | 31.0                      | 1.3              | 21.7 |
|                          |                  |                     | 85/71                        | 28.9                   | 21.6                      | 32.7                      | 1.3              | 22.7 |
|                          | 6                | 1.9                 | 75/63                        | 26.0                   | 20.2                      | 29.5                      | 1.2              | 21.4 |
|                          |                  |                     | 80/67                        | 27.6                   | 21.1                      | 31.2                      | 1.2              | 22.5 |
|                          |                  |                     | 85/71                        | 29.6                   | 21.4                      | 33.2                      | 1.2              | 23.9 |
| 80                       | 3                | 0.5                 | 75/63                        | 23.6                   | 19.5                      | 27.9                      | 1.5              | 16.2 |
|                          |                  |                     | 80/67                        | 25.0                   | 20.4                      | 29.4                      | 1.5              | 17.0 |
|                          |                  |                     | 85/71                        | 27.4                   | 19.5                      | 31.6                      | 1.5              | 18.2 |
|                          | 4.5              | 1.1                 | 75/63                        | 24.4                   | 19.6                      | 28.4                      | 1.4              | 17.7 |
|                          |                  |                     | 80/67                        | 25.9                   | 20.5                      | 30.0                      | 1.4              | 18.6 |
|                          |                  |                     | 85/71                        | 27.4                   | 21.4                      | 31.7                      | 1.4              | 19.5 |
|                          | 6                | 1.9                 | 75/63                        | 24.6                   | 19.7                      | 28.6                      | 1.3              | 18.3 |
|                          |                  |                     | 80/67                        | 26.2                   | 20.6                      | 30.2                      | 1.4              | 19.3 |
|                          |                  |                     | 85/71                        | 28.1                   | 20.9                      | 32.2                      | 1.4              | 20.5 |
| 90                       | 3                | 0.5                 | 75/63                        | 22.2                   | 19.0                      | 27.1                      | 1.6              | 13.7 |
|                          |                  |                     | 80/67                        | 23.6                   | 19.9                      | 28.6                      | 1.6              | 14.3 |
|                          |                  |                     | 85/71                        | 24.5                   | 20.6                      | 29.9                      | 1.7              | 14.7 |
|                          | 4.5              | 1.1                 | 75/63                        | 22.7                   | 19.4                      | 27.4                      | 1.5              | 14.7 |
|                          |                  |                     | 80/67                        | 24.4                   | 19.9                      | 29.1                      | 1.6              | 15.6 |
|                          |                  |                     | 85/71                        | 26.5                   | 19.6                      | 31.1                      | 1.6              | 16.7 |
|                          | 6                | 1.8                 | 75/63                        | 23.2                   | 19.2                      | 27.7                      | 1.5              | 15.3 |
|                          |                  |                     | 80/67                        | 24.9                   | 19.8                      | 29.4                      | 1.5              | 16.3 |
|                          |                  |                     | 85/71                        | 26.4                   | 20.7                      | 31.1                      | 1.5              | 17.2 |
| 100                      | 3                | 0.5                 | 75/63                        | 21.0                   | 18.5                      | 26.4                      | 1.8              | 11.6 |
|                          |                  |                     | 80/67                        | 21.8                   | 19.4                      | 27.6                      | 1.8              | 11.9 |
|                          |                  |                     | 85/71                        | 22.2                   | 19.8                      | 28.4                      | 1.8              | 12.1 |
|                          | 4.5              | 1.1                 | 75/63                        | 21.4                   | 18.9                      | 26.6                      | 1.7              | 12.4 |
|                          |                  |                     | 80/67                        | 23.5                   | 18.6                      | 28.6                      | 1.7              | 13.4 |
|                          |                  |                     | 85/71                        | 25.7                   | 17.3                      | 30.5                      | 1.8              | 14.5 |
|                          | 6                | 1.8                 | 75/63                        | 21.8                   | 18.8                      | 26.9                      | 1.7              | 12.9 |
|                          |                  |                     | 80/67                        | 24.0                   | 18.0                      | 28.9                      | 1.7              | 14.0 |
|                          |                  |                     | 85/71                        | 24.2                   | 20.5                      | 29.7                      | 1.7              | 14.2 |
| 110                      | 3                | 0.5                 | 75/63                        | 19.3                   | 18.1                      | 25.6                      | 2.0              | 9.5  |
|                          |                  |                     | 80/67                        | 20.1                   | 18.8                      | 26.7                      | 2.0              | 9.8  |
|                          |                  |                     | 85/71                        | 21.3                   | 19.5                      | 28.2                      | 2.1              | 10.3 |
|                          | 4.5              | 1.0                 | 75/63                        | 19.8                   | 18.3                      | 25.8                      | 1.9              | 10.2 |
|                          |                  |                     | 80/67                        | 22.8                   | 15.7                      | 28.2                      | 2.0              | 11.6 |
|                          |                  |                     | 85/71                        | 24.4                   | 15.6                      | 29.7                      | 2.0              | 12.3 |
|                          | 6                | 1.7                 | 75/63                        | 21.1                   | 16.5                      | 26.6                      | 1.9              | 10.9 |
|                          |                  |                     | 80/67                        | 21.0                   | 19.1                      | 27.2                      | 1.9              | 11.1 |
|                          |                  |                     | 85/71                        | 21.9                   | 19.7                      | 28.4                      | 1.9              | 11.5 |

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Bosch Thermotechnology Corp.  
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM024 VT Full Load Heating Performance Data - 800 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 20                       | 0.7                 | 60                     | 15.5                   | 12.1                       | 1.1              | 3.97 |
|                          |                     | 70                     | 15.3                   | 11.6                       | 1.3              | 3.48 |
|                          |                     | 80                     | 14.9                   | 10.7                       | 1.4              | 3.06 |
|                          | 1.4                 | 60                     | 16.4                   | 13.0                       | 1.2              | 4.12 |
|                          |                     | 70                     | 16.0                   | 12.1                       | 1.3              | 3.59 |
|                          |                     | 80                     | 15.5                   | 11.2                       | 1.4              | 3.14 |
|                          | 2.4                 | 60                     | 16.8                   | 13.4                       | 1.2              | 4.17 |
|                          |                     | 70                     | 16.3                   | 12.5                       | 1.3              | 3.64 |
|                          |                     | 80                     | 15.8                   | 11.5                       | 1.5              | 3.19 |
| 30                       | 0.7                 | 60                     | 17.4                   | 13.8                       | 1.2              | 4.31 |
|                          |                     | 70                     | 17.4                   | 13.2                       | 1.3              | 3.85 |
|                          |                     | 80                     | 17.1                   | 12.6                       | 1.5              | 3.39 |
|                          | 1.4                 | 60                     | 18.9                   | 15.3                       | 1.2              | 4.55 |
|                          |                     | 70                     | 18.4                   | 14.4                       | 1.4              | 3.98 |
|                          |                     | 80                     | 18.0                   | 13.4                       | 1.5              | 3.52 |
|                          | 2.3                 | 60                     | 19.4                   | 15.8                       | 1.2              | 4.61 |
|                          |                     | 70                     | 18.9                   | 14.8                       | 1.4              | 4.04 |
|                          |                     | 80                     | 18.5                   | 13.8                       | 1.5              | 3.57 |
| 40                       | 0.6                 | 60                     | 20.0                   | 16.4                       | 1.2              | 4.73 |
|                          |                     | 70                     | 19.6                   | 15.4                       | 1.4              | 4.17 |
|                          |                     | 80                     | 19.0                   | 14.5                       | 1.5              | 3.66 |
|                          | 1.3                 | 60                     | 21.4                   | 17.6                       | 1.3              | 4.94 |
|                          |                     | 70                     | 21.1                   | 17.0                       | 1.4              | 4.38 |
|                          |                     | 80                     | 20.6                   | 15.9                       | 1.6              | 3.86 |
|                          | 2.2                 | 60                     | 22.3                   | 18.5                       | 1.3              | 5.05 |
|                          |                     | 70                     | 21.7                   | 17.5                       | 1.4              | 4.44 |
|                          |                     | 80                     | 21.2                   | 16.4                       | 1.6              | 3.91 |
| 50                       | 0.6                 | 60                     | 23.3                   | 19.4                       | 1.3              | 5.23 |
|                          |                     | 70                     | 22.8                   | 18.4                       | 1.4              | 4.62 |
|                          |                     | 80                     | 22.3                   | 17.4                       | 1.6              | 4.08 |
|                          | 1.3                 | 60                     | 24.9                   | 20.9                       | 1.3              | 5.44 |
|                          |                     | 70                     | 24.7                   | 19.8                       | 1.5              | 4.87 |
|                          |                     | 80                     | 23.8                   | 18.7                       | 1.6              | 4.26 |
|                          | 2.1                 | 60                     | 26.0                   | 22.0                       | 1.4              | 5.55 |
|                          |                     | 70                     | 25.4                   | 20.9                       | 1.5              | 4.93 |
|                          |                     | 80                     | 24.8                   | 19.7                       | 1.7              | 4.38 |
| 60                       | 0.6                 | 60                     | 26.6                   | 22.4                       | 1.4              | 5.57 |
|                          |                     | 70                     | 26.0                   | 21.3                       | 1.5              | 4.95 |
|                          |                     | 80                     | 25.5                   | 20.3                       | 1.7              | 4.40 |
|                          | 1.2                 | 60                     | 27.9                   | 23.8                       | 1.4              | 5.73 |
|                          |                     | 70                     | 27.2                   | 22.4                       | 1.6              | 5.10 |
|                          |                     | 80                     | 27.5                   | 21.4                       | 1.7              | 4.64 |
|                          | 2.0                 | 60                     | 29.8                   | 25.3                       | 1.5              | 5.97 |
|                          |                     | 70                     | 28.8                   | 23.9                       | 1.6              | 5.27 |
|                          |                     | 80                     | 28.3                   | 23.0                       | 1.8              | 4.70 |
| 70                       | 0.6                 | 60                     | 29.8                   | 25.4                       | 1.5              | 5.99 |
|                          |                     | 70                     | 29.2                   | 24.3                       | 1.6              | 5.34 |
|                          |                     | 80                     | 28.5                   | 23.2                       | 1.8              | 4.74 |
|                          | 1.2                 | 60                     | 31.6                   | 26.9                       | 1.5              | 6.20 |
|                          |                     | 70                     | 30.8                   | 26.0                       | 1.6              | 5.51 |
|                          |                     | 80                     | 29.9                   | 24.6                       | 1.8              | 4.88 |
|                          | 2.0                 | 60                     | 32.8                   | 28.9                       | 1.5              | 6.30 |
|                          |                     | 70                     | 31.9                   | 26.9                       | 1.7              | 5.63 |
|                          |                     | 80                     | 31.3                   | 25.8                       | 1.8              | 5.02 |
| 80                       | 0.6                 | 60                     | 33.2                   | 28.6                       | 1.5              | 6.39 |
|                          |                     | 70                     | 32.4                   | 27.4                       | 1.7              | 5.70 |
|                          |                     | 80                     | 31.7                   | 26.2                       | 1.8              | 5.08 |
|                          | 1.2                 | 60                     | 35.2                   | 30.7                       | 1.6              | 6.60 |
|                          |                     | 70                     | 34.3                   | 29.2                       | 1.7              | 5.89 |
|                          |                     | 80                     | 33.5                   | 27.6                       | 1.9              | 5.25 |
|                          | 1.9                 | 60                     | 36.3                   | 31.2                       | 1.6              | 6.70 |
|                          |                     | 70                     | 35.2                   | 29.9                       | 1.7              | 5.97 |
|                          |                     | 80                     | 35.3                   | 29.0                       | 1.9              | 5.41 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM024 VT Part Load Cooling Performance Data - 700 CFM**

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 3                | 0.6                 | 75/63                        | 20.7                   | 16.9                      | 22.3                      | 0.6              | 32.2 |
|                          |                  |                     | 80/67                        | 22.1                   | 17.4                      | 23.8                      | 0.6              | 34.9 |
|                          |                  |                     | 85/71                        | 23.5                   | 18.0                      | 25.1                      | 0.6              | 37.5 |
|                          | 4.5              | 1.2                 | 75/63                        | 21.3                   | 17.0                      | 22.9                      | 0.6              | 35.4 |
|                          |                  |                     | 80/67                        | 22.7                   | 17.6                      | 24.2                      | 0.6              | 38.2 |
|                          |                  |                     | 85/71                        | 24.1                   | 18.2                      | 25.6                      | 0.6              | 41.3 |
|                          | 6                | 2.1                 | 75/63                        | 21.5                   | 17.2                      | 23.0                      | 0.6              | 36.6 |
|                          |                  |                     | 80/67                        | 22.9                   | 17.8                      | 24.4                      | 0.6              | 39.7 |
|                          |                  |                     | 85/71                        | 24.6                   | 18.1                      | 26.0                      | 0.6              | 43.5 |
| 60                       | 3                | 0.6                 | 75/63                        | 19.7                   | 16.5                      | 21.6                      | 0.7              | 27.0 |
|                          |                  |                     | 80/67                        | 21.0                   | 17.1                      | 22.9                      | 0.7              | 29.1 |
|                          |                  |                     | 85/71                        | 22.3                   | 17.7                      | 24.2                      | 0.7              | 31.3 |
|                          | 4.5              | 1.2                 | 75/63                        | 20.2                   | 16.7                      | 22.0                      | 0.7              | 29.4 |
|                          |                  |                     | 80/67                        | 21.5                   | 17.2                      | 23.3                      | 0.7              | 31.8 |
|                          |                  |                     | 85/71                        | 23.0                   | 17.7                      | 24.8                      | 0.7              | 34.7 |
|                          | 6                | 2.0                 | 75/63                        | 20.4                   | 16.8                      | 22.2                      | 0.7              | 30.5 |
|                          |                  |                     | 80/67                        | 21.7                   | 17.5                      | 23.5                      | 0.7              | 33.0 |
|                          |                  |                     | 85/71                        | 23.3                   | 18.0                      | 25.0                      | 0.6              | 36.2 |
| 70                       | 3                | 0.6                 | 75/63                        | 19.1                   | 16.2                      | 21.4                      | 0.8              | 22.6 |
|                          |                  |                     | 80/67                        | 20.3                   | 16.9                      | 22.7                      | 0.8              | 24.3 |
|                          |                  |                     | 85/71                        | 20.2                   | 17.6                      | 23.0                      | 0.8              | 24.3 |
|                          | 4.5              | 1.1                 | 75/63                        | 19.5                   | 16.5                      | 21.7                      | 0.8              | 24.5 |
|                          |                  |                     | 80/67                        | 21.0                   | 17.1                      | 23.1                      | 0.8              | 26.7 |
|                          |                  |                     | 85/71                        | 21.9                   | 18.2                      | 24.2                      | 0.8              | 28.2 |
|                          | 6                | 1.9                 | 75/63                        | 19.7                   | 16.7                      | 21.8                      | 0.8              | 25.3 |
|                          |                  |                     | 80/67                        | 21.2                   | 17.1                      | 23.3                      | 0.8              | 27.8 |
|                          |                  |                     | 85/71                        | 22.5                   | 17.9                      | 24.6                      | 0.8              | 30.0 |
| 80                       | 3                | 0.5                 | 75/63                        | 17.9                   | 16.0                      | 20.6                      | 1.0              | 18.5 |
|                          |                  |                     | 80/67                        | 18.4                   | 16.7                      | 21.3                      | 1.0              | 19.1 |
|                          |                  |                     | 85/71                        | 19.2                   | 17.3                      | 22.3                      | 1.0              | 20.1 |
|                          | 4.5              | 1.1                 | 75/63                        | 18.5                   | 16.0                      | 21.0                      | 0.9              | 20.2 |
|                          |                  |                     | 80/67                        | 19.4                   | 17.1                      | 22.0                      | 0.9              | 21.3 |
|                          |                  |                     | 85/71                        | 19.8                   | 17.5                      | 22.7                      | 0.9              | 22.0 |
|                          | 6                | 1.9                 | 75/63                        | 18.7                   | 16.1                      | 21.2                      | 0.9              | 20.9 |
|                          |                  |                     | 80/67                        | 20.0                   | 16.6                      | 22.5                      | 0.9              | 22.7 |
|                          |                  |                     | 85/71                        | 20.0                   | 17.5                      | 22.9                      | 0.9              | 22.8 |
| 90                       | 3                | 0.5                 | 75/63                        | 16.2                   | 15.6                      | 19.6                      | 1.1              | 14.4 |
|                          |                  |                     | 80/67                        | 17.1                   | 16.2                      | 20.6                      | 1.1              | 15.2 |
|                          |                  |                     | 85/71                        | 18.1                   | 16.9                      | 21.7                      | 1.1              | 16.2 |
|                          | 4.5              | 1.1                 | 75/63                        | 16.6                   | 15.7                      | 19.8                      | 1.1              | 15.4 |
|                          |                  |                     | 80/67                        | 17.6                   | 16.4                      | 20.9                      | 1.1              | 16.5 |
|                          |                  |                     | 85/71                        | 18.4                   | 17.0                      | 21.9                      | 1.1              | 17.4 |
|                          | 6                | 1.8                 | 75/63                        | 17.3                   | 15.5                      | 20.2                      | 1.1              | 16.4 |
|                          |                  |                     | 80/67                        | 19.3                   | 14.1                      | 21.9                      | 1.0              | 18.7 |
|                          |                  |                     | 85/71                        | 20.9                   | 13.9                      | 23.3                      | 1.0              | 20.4 |
| 100                      | 3                | 0.5                 | 75/63                        | 15.9                   | 14.3                      | 19.4                      | 1.3              | 12.4 |
|                          |                  |                     | 80/67                        | 16.3                   | 15.9                      | 20.1                      | 1.3              | 12.6 |
|                          |                  |                     | 85/71                        | 17.2                   | 16.6                      | 21.2                      | 1.3              | 13.4 |
|                          | 4.5              | 1.1                 | 75/63                        | 15.6                   | 15.3                      | 19.2                      | 1.2              | 12.6 |
|                          |                  |                     | 80/67                        | 16.6                   | 16.1                      | 20.3                      | 1.2              | 13.5 |
|                          |                  |                     | 85/71                        | 19.1                   | 14.2                      | 22.2                      | 1.2              | 15.8 |
|                          | 6                | 1.8                 | 75/63                        | 15.8                   | 15.4                      | 19.4                      | 1.2              | 13.0 |
|                          |                  |                     | 80/67                        | 16.7                   | 16.1                      | 20.4                      | 1.2              | 13.9 |
|                          |                  |                     | 85/71                        | 17.7                   | 16.8                      | 21.5                      | 1.2              | 14.9 |
| 110                      | 3                | 0.5                 | 75/63                        | 14.5                   | 14.5                      | 18.7                      | 1.5              | 9.9  |
|                          |                  |                     | 80/67                        | 15.4                   | 15.2                      | 19.7                      | 1.5              | 10.5 |
|                          |                  |                     | 85/71                        | 17.0                   | 14.7                      | 21.1                      | 1.5              | 11.7 |
|                          | 4.5              | 1.0                 | 75/63                        | 14.7                   | 14.6                      | 18.8                      | 1.4              | 10.4 |
|                          |                  |                     | 80/67                        | 16.2                   | 14.5                      | 20.2                      | 1.4              | 11.6 |
|                          |                  |                     | 85/71                        | 16.6                   | 16.4                      | 20.9                      | 1.4              | 11.9 |
|                          | 6                | 1.7                 | 75/63                        | 14.9                   | 14.5                      | 18.9                      | 1.4              | 10.7 |
|                          |                  |                     | 80/67                        | 15.8                   | 15.8                      | 19.9                      | 1.4              | 11.4 |
|                          |                  |                     | 85/71                        | 17.8                   | 14.5                      | 21.5                      | 1.4              | 13.0 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM024 VT Part Load Heating Performance Data - 700 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 20                       | 0.7                 | 60                     | 11.1                   | 8.7                        | 0.9              | 3.80 |
|                          |                     | 70                     | 10.7                   | 7.9                        | 1.0              | 3.19 |
|                          |                     | 80                     | 10.2                   | 7.2                        | 1.1              | 2.69 |
|                          | 1.4                 | 60                     | 11.6                   | 9.1                        | 0.9              | 3.92 |
|                          |                     | 70                     | 11.1                   | 8.3                        | 1.0              | 3.29 |
|                          |                     | 80                     | 10.6                   | 7.5                        | 1.1              | 2.77 |
|                          | 2.4                 | 60                     | 11.8                   | 9.3                        | 0.9              | 3.96 |
|                          |                     | 70                     | 11.3                   | 8.5                        | 1.0              | 3.33 |
|                          |                     | 80                     | 10.8                   | 7.7                        | 1.1              | 2.81 |
| 30                       | 0.6                 | 60                     | 19.5                   | 16.7                       | 0.9              | 6.20 |
|                          |                     | 70                     | 19.0                   | 15.6                       | 1.1              | 5.28 |
|                          |                     | 80                     | 18.9                   | 15.2                       | 1.2              | 4.63 |
|                          | 1.2                 | 60                     | 21.0                   | 18.4                       | 0.9              | 6.61 |
|                          |                     | 70                     | 20.4                   | 17.3                       | 1.1              | 5.62 |
|                          |                     | 80                     | 19.8                   | 16.3                       | 1.2              | 4.81 |
|                          | 2.0                 | 60                     | 21.6                   | 18.9                       | 0.9              | 6.74 |
|                          |                     | 70                     | 20.9                   | 17.8                       | 1.1              | 5.73 |
|                          |                     | 80                     | 20.3                   | 16.8                       | 1.2              | 4.90 |
| 40                       | 0.6                 | 60                     | 15.2                   | 12.7                       | 0.9              | 4.95 |
|                          |                     | 70                     | 14.9                   | 11.9                       | 1.0              | 4.24 |
|                          |                     | 80                     | 14.4                   | 11.1                       | 1.2              | 3.64 |
|                          | 1.3                 | 60                     | 16.0                   | 13.4                       | 0.9              | 5.16 |
|                          |                     | 70                     | 15.5                   | 12.5                       | 1.0              | 4.40 |
|                          |                     | 80                     | 15.0                   | 11.7                       | 1.2              | 3.77 |
|                          | 2.2                 | 60                     | 16.4                   | 13.8                       | 0.9              | 5.25 |
|                          |                     | 70                     | 15.9                   | 12.9                       | 1.0              | 4.47 |
|                          |                     | 80                     | 15.4                   | 12.0                       | 1.2              | 3.83 |
| 50                       | 0.6                 | 60                     | 17.7                   | 16.2                       | 0.9              | 5.72 |
|                          |                     | 70                     | 16.8                   | 13.9                       | 1.0              | 4.79 |
|                          |                     | 80                     | 16.7                   | 13.3                       | 1.2              | 4.18 |
|                          | 1.3                 | 60                     | 18.5                   | 15.9                       | 0.9              | 5.94 |
|                          |                     | 70                     | 17.9                   | 15.0                       | 1.0              | 5.06 |
|                          |                     | 80                     | 17.5                   | 14.0                       | 1.2              | 4.35 |
|                          | 2.1                 | 60                     | 19.0                   | 16.4                       | 0.9              | 6.05 |
|                          |                     | 70                     | 18.4                   | 15.4                       | 1.0              | 5.15 |
|                          |                     | 80                     | 17.9                   | 14.4                       | 1.2              | 4.42 |
| 60                       | 0.6                 | 60                     | 19.6                   | 17.0                       | 0.9              | 6.24 |
|                          |                     | 70                     | 19.0                   | 16.0                       | 1.0              | 5.31 |
|                          |                     | 80                     | 18.4                   | 14.9                       | 1.2              | 4.53 |
|                          | 1.2                 | 60                     | 21.1                   | 18.5                       | 0.9              | 6.67 |
|                          |                     | 70                     | 20.5                   | 17.4                       | 1.1              | 5.68 |
|                          |                     | 80                     | 19.9                   | 16.4                       | 1.2              | 4.86 |
|                          | 2.0                 | 60                     | 21.7                   | 19.1                       | 0.9              | 6.80 |
|                          |                     | 70                     | 21.0                   | 18.0                       | 1.1              | 5.78 |
|                          |                     | 80                     | 20.4                   | 16.9                       | 1.2              | 4.95 |
| 70                       | 0.6                 | 60                     | 22.2                   | 19.4                       | 0.9              | 7.00 |
|                          |                     | 70                     | 21.8                   | 19.5                       | 1.1              | 6.03 |
|                          |                     | 80                     | 20.9                   | 17.4                       | 1.2              | 5.09 |
|                          | 1.2                 | 60                     | 23.4                   | 20.9                       | 0.9              | 7.35 |
|                          |                     | 70                     | 23.0                   | 20.0                       | 1.1              | 6.33 |
|                          |                     | 80                     | 22.4                   | 18.9                       | 1.2              | 5.43 |
|                          | 2.0                 | 60                     | 24.4                   | 21.8                       | 0.9              | 7.63 |
|                          |                     | 70                     | 23.6                   | 20.6                       | 1.1              | 6.48 |
|                          |                     | 80                     | 23.0                   | 19.4                       | 1.2              | 5.54 |
| 80                       | 0.6                 | 60                     | 24.7                   | 22.2                       | 0.9              | 7.78 |
|                          |                     | 70                     | 24.0                   | 21.1                       | 1.1              | 6.62 |
|                          |                     | 80                     | 23.2                   | 20.7                       | 1.2              | 5.63 |
|                          | 1.2                 | 60                     | 26.2                   | 23.8                       | 0.9              | 8.24 |
|                          |                     | 70                     | 25.2                   | 22.4                       | 1.1              | 6.92 |
|                          |                     | 80                     | 24.8                   | 21.3                       | 1.2              | 5.98 |
|                          | 1.9                 | 60                     | 27.2                   | 24.6                       | 0.9              | 8.53 |
|                          |                     | 70                     | 26.4                   | 23.3                       | 1.1              | 7.22 |
|                          |                     | 80                     | 25.6                   | 22.0                       | 1.2              | 6.12 |

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Bosch Thermotechnology Corp.  
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM036 VT Full Load Cooling Performance Data - 1200 CFM

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 4.5              | 1.2                 | 75/63                        | 41.1                   | 31.4                      | 45.4                      | 1.5              | 27.3 |
|                          |                  |                     | 80/67                        | 43.6                   | 32.3                      | 48.1                      | 1.5              | 28.3 |
|                          |                  |                     | 85/71                        | 46.5                   | 33.1                      | 51.2                      | 1.6              | 29.3 |
|                          | 6.75             | 2.4                 | 75/63                        | 42.2                   | 31.9                      | 46.3                      | 1.4              | 29.5 |
|                          |                  |                     | 80/67                        | 45.0                   | 32.9                      | 49.2                      | 1.5              | 30.7 |
|                          |                  |                     | 85/71                        | 47.8                   | 33.9                      | 52.2                      | 1.5              | 31.8 |
|                          | 9                | 4.1                 | 75/63                        | 42.7                   | 32.2                      | 46.7                      | 1.4              | 30.5 |
|                          |                  |                     | 80/67                        | 45.6                   | 33.1                      | 49.7                      | 1.4              | 31.7 |
|                          |                  |                     | 85/71                        | 48.8                   | 33.8                      | 53.1                      | 1.5              | 32.9 |
| 60                       | 4.5              | 1.1                 | 75/63                        | 39.4                   | 30.7                      | 44.2                      | 1.6              | 23.9 |
|                          |                  |                     | 80/67                        | 41.9                   | 31.6                      | 46.9                      | 1.7              | 24.9 |
|                          |                  |                     | 85/71                        | 44.6                   | 32.3                      | 49.7                      | 1.7              | 25.9 |
|                          | 6.75             | 2.4                 | 75/63                        | 40.4                   | 31.1                      | 44.9                      | 1.6              | 25.9 |
|                          |                  |                     | 80/67                        | 43.1                   | 32.0                      | 47.7                      | 1.6              | 27.1 |
|                          |                  |                     | 85/71                        | 45.8                   | 33.2                      | 50.6                      | 1.6              | 28.2 |
|                          | 9                | 4.0                 | 75/63                        | 40.9                   | 31.5                      | 45.3                      | 1.5              | 26.8 |
|                          |                  |                     | 80/67                        | 43.7                   | 32.3                      | 48.2                      | 1.6              | 28.0 |
|                          |                  |                     | 85/71                        | 46.7                   | 33.2                      | 51.4                      | 1.6              | 29.3 |
| 70                       | 4.5              | 1.1                 | 75/63                        | 37.6                   | 29.8                      | 43.0                      | 1.8              | 20.4 |
|                          |                  |                     | 80/67                        | 40.1                   | 30.7                      | 45.6                      | 1.9              | 21.3 |
|                          |                  |                     | 85/71                        | 42.6                   | 31.7                      | 48.3                      | 1.9              | 22.2 |
|                          | 6.75             | 2.3                 | 75/63                        | 38.6                   | 30.2                      | 43.7                      | 1.7              | 22.1 |
|                          |                  |                     | 80/67                        | 41.1                   | 31.2                      | 46.4                      | 1.8              | 23.2 |
|                          |                  |                     | 85/71                        | 43.8                   | 32.1                      | 49.2                      | 1.8              | 24.3 |
|                          | 9                | 3.8                 | 75/63                        | 39.1                   | 30.5                      | 44.0                      | 1.7              | 22.9 |
|                          |                  |                     | 80/67                        | 41.7                   | 31.5                      | 46.8                      | 1.7              | 24.1 |
|                          |                  |                     | 85/71                        | 44.5                   | 32.3                      | 49.7                      | 1.8              | 25.2 |
| 80                       | 4.5              | 1.1                 | 75/63                        | 35.8                   | 29.1                      | 41.9                      | 2.0              | 17.5 |
|                          |                  |                     | 80/67                        | 38.2                   | 30.0                      | 44.4                      | 2.1              | 18.4 |
|                          |                  |                     | 85/71                        | 40.7                   | 30.9                      | 47.0                      | 2.1              | 19.3 |
|                          | 6.75             | 2.2                 | 75/63                        | 36.6                   | 29.7                      | 42.4                      | 1.9              | 18.9 |
|                          |                  |                     | 80/67                        | 39.2                   | 30.5                      | 45.0                      | 2.0              | 19.9 |
|                          |                  |                     | 85/71                        | 41.7                   | 31.5                      | 47.7                      | 2.0              | 20.9 |
|                          | 9                | 3.7                 | 75/63                        | 37.3                   | 29.7                      | 42.9                      | 1.9              | 19.7 |
|                          |                  |                     | 80/67                        | 39.8                   | 30.7                      | 45.5                      | 1.9              | 20.8 |
|                          |                  |                     | 85/71                        | 42.2                   | 31.9                      | 48.1                      | 1.9              | 21.8 |
| 90                       | 4.5              | 1.0                 | 75/63                        | 34.5                   | 28.6                      | 41.3                      | 2.3              | 15.2 |
|                          |                  |                     | 80/67                        | 36.9                   | 29.5                      | 43.8                      | 2.3              | 16.1 |
|                          |                  |                     | 85/71                        | 39.3                   | 30.6                      | 46.3                      | 2.3              | 17.0 |
|                          | 6.75             | 2.2                 | 75/63                        | 35.4                   | 28.9                      | 41.8                      | 2.2              | 16.5 |
|                          |                  |                     | 80/67                        | 37.8                   | 30.0                      | 44.4                      | 2.2              | 17.4 |
|                          |                  |                     | 85/71                        | 40.4                   | 30.9                      | 47.0                      | 2.2              | 18.5 |
|                          | 9                | 3.6                 | 75/63                        | 35.9                   | 29.1                      | 42.1                      | 2.1              | 17.0 |
|                          |                  |                     | 80/67                        | 38.3                   | 30.2                      | 44.7                      | 2.1              | 18.1 |
|                          |                  |                     | 85/71                        | 41.0                   | 31.0                      | 47.4                      | 2.1              | 19.2 |
| 100                      | 4.5              | 1.0                 | 75/63                        | 32.7                   | 28.0                      | 40.4                      | 2.5              | 13.0 |
|                          |                  |                     | 80/67                        | 34.9                   | 29.0                      | 42.7                      | 2.5              | 13.7 |
|                          |                  |                     | 85/71                        | 37.3                   | 29.9                      | 45.2                      | 2.6              | 14.5 |
|                          | 6.75             | 2.1                 | 75/63                        | 33.6                   | 28.2                      | 40.9                      | 2.4              | 14.0 |
|                          |                  |                     | 80/67                        | 36.0                   | 29.3                      | 43.3                      | 2.4              | 14.9 |
|                          |                  |                     | 85/71                        | 38.5                   | 30.1                      | 45.9                      | 2.4              | 15.8 |
|                          | 9                | 3.5                 | 75/63                        | 34.0                   | 28.4                      | 41.1                      | 2.4              | 14.4 |
|                          |                  |                     | 80/67                        | 36.5                   | 29.3                      | 43.6                      | 2.4              | 15.4 |
|                          |                  |                     | 85/71                        | 38.9                   | 30.5                      | 46.2                      | 2.4              | 16.4 |
| 110                      | 4.5              | 1.0                 | 75/63                        | 31.0                   | 27.1                      | 39.6                      | 2.8              | 11.0 |
|                          |                  |                     | 80/67                        | 33.1                   | 28.2                      | 41.8                      | 2.8              | 11.7 |
|                          |                  |                     | 85/71                        | 35.2                   | 29.2                      | 44.1                      | 2.9              | 12.3 |
|                          | 6.75             | 2.1                 | 75/63                        | 31.7                   | 27.5                      | 39.9                      | 2.7              | 11.8 |
|                          |                  |                     | 80/67                        | 33.9                   | 28.5                      | 42.2                      | 2.7              | 12.6 |
|                          |                  |                     | 85/71                        | 36.3                   | 29.5                      | 44.7                      | 2.7              | 13.4 |
|                          | 9                | 3.4                 | 75/63                        | 32.1                   | 27.7                      | 40.1                      | 2.6              | 12.2 |
|                          |                  |                     | 80/67                        | 34.4                   | 28.7                      | 42.5                      | 2.6              | 13.0 |
|                          |                  |                     | 85/71                        | 36.8                   | 29.8                      | 45.0                      | 2.7              | 13.9 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM036 VT Full Load Heating Performance Data - 1200 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 20                       | 1.4                 | 60                     | 23.2                   | 18.2                       | 1.6              | 4.14 |
|                          |                     | 70                     | 22.9                   | 17.2                       | 1.9              | 3.62 |
|                          |                     | 80                     | 22.6                   | 16.2                       | 2.1              | 3.18 |
|                          | 2.9                 | 60                     | 24.3                   | 19.2                       | 1.7              | 4.26 |
|                          |                     | 70                     | 23.9                   | 18.2                       | 1.9              | 3.72 |
|                          |                     | 80                     | 23.6                   | 17.1                       | 2.1              | 3.27 |
|                          | 4.8                 | 60                     | 24.9                   | 19.8                       | 1.7              | 4.30 |
|                          |                     | 70                     | 24.5                   | 18.7                       | 1.9              | 3.76 |
|                          |                     | 80                     | 24.1                   | 17.5                       | 2.1              | 3.30 |
| 30                       | 1.4                 | 60                     | 27.0                   | 21.8                       | 1.7              | 4.62 |
|                          |                     | 70                     | 26.6                   | 20.6                       | 1.9              | 4.05 |
|                          |                     | 80                     | 26.3                   | 19.5                       | 2.2              | 3.56 |
|                          | 2.8                 | 60                     | 28.4                   | 23.1                       | 1.7              | 4.76 |
|                          |                     | 70                     | 27.9                   | 21.8                       | 2.0              | 4.16 |
|                          |                     | 80                     | 27.5                   | 20.6                       | 2.2              | 3.67 |
|                          | 4.6                 | 60                     | 29.2                   | 23.8                       | 1.8              | 4.82 |
|                          |                     | 70                     | 28.6                   | 22.5                       | 2.0              | 4.21 |
|                          |                     | 80                     | 28.2                   | 21.2                       | 2.2              | 3.71 |
| 40                       | 1.3                 | 60                     | 31.4                   | 24.9                       | 1.8              | 5.15 |
|                          |                     | 70                     | 30.5                   | 24.3                       | 2.0              | 4.45 |
|                          |                     | 80                     | 30.0                   | 23.0                       | 2.2              | 3.92 |
|                          | 2.6                 | 60                     | 32.9                   | 27.2                       | 1.8              | 5.26 |
|                          |                     | 70                     | 32.1                   | 25.8                       | 2.0              | 4.60 |
|                          |                     | 80                     | 31.5                   | 24.4                       | 2.3              | 4.04 |
|                          | 4.4                 | 60                     | 33.8                   | 28.2                       | 1.9              | 5.32 |
|                          |                     | 70                     | 33.1                   | 26.7                       | 2.1              | 4.66 |
|                          |                     | 80                     | 32.4                   | 25.2                       | 2.3              | 4.09 |
| 50                       | 1.3                 | 60                     | 33.9                   | 28.2                       | 1.9              | 5.29 |
|                          |                     | 70                     | 33.1                   | 27.5                       | 2.1              | 4.61 |
|                          |                     | 80                     | 34.1                   | 26.1                       | 2.4              | 4.22 |
|                          | 2.6                 | 60                     | 37.4                   | 31.4                       | 2.0              | 5.60 |
|                          |                     | 70                     | 36.6                   | 29.8                       | 2.2              | 4.94 |
|                          |                     | 80                     | 35.9                   | 28.3                       | 2.4              | 4.36 |
|                          | 4.2                 | 60                     | 38.6                   | 32.5                       | 2.0              | 5.67 |
|                          |                     | 70                     | 37.7                   | 30.9                       | 2.2              | 5.00 |
|                          |                     | 80                     | 36.9                   | 29.3                       | 2.4              | 4.42 |
| 60                       | 1.2                 | 60                     | 38.6                   | 31.2                       | 2.0              | 5.65 |
|                          |                     | 70                     | 37.5                   | 30.5                       | 2.2              | 4.92 |
|                          |                     | 80                     | 37.2                   | 30.7                       | 2.5              | 4.37 |
|                          | 2.5                 | 60                     | 41.4                   | 33.9                       | 2.1              | 5.85 |
|                          |                     | 70                     | 41.1                   | 34.2                       | 2.3              | 5.21 |
|                          |                     | 80                     | 40.3                   | 32.2                       | 2.6              | 4.62 |
|                          | 4.1                 | 60                     | 43.4                   | 37.1                       | 2.1              | 5.97 |
|                          |                     | 70                     | 42.3                   | 35.1                       | 2.3              | 5.28 |
|                          |                     | 80                     | 41.3                   | 33.3                       | 2.6              | 4.67 |
| 70                       | 1.2                 | 60                     | 43.3                   | 36.8                       | 2.1              | 6.02 |
|                          |                     | 70                     | 42.4                   | 35.0                       | 2.3              | 5.34 |
|                          |                     | 80                     | 41.4                   | 33.6                       | 2.6              | 4.71 |
|                          | 2.4                 | 60                     | 45.4                   | 38.2                       | 2.2              | 6.18 |
|                          |                     | 70                     | 46.2                   | 38.7                       | 2.4              | 5.62 |
|                          |                     | 80                     | 45.3                   | 36.6                       | 2.7              | 4.99 |
|                          | 4.0                 | 60                     | 48.8                   | 42.3                       | 2.2              | 6.38 |
|                          |                     | 70                     | 47.6                   | 40.1                       | 2.5              | 5.68 |
|                          |                     | 80                     | 46.4                   | 38.1                       | 2.7              | 5.03 |
| 80                       | 1.1                 | 60                     | 48.4                   | 41.6                       | 2.2              | 6.40 |
|                          |                     | 70                     | 47.3                   | 39.8                       | 2.4              | 5.71 |
|                          |                     | 80                     | 46.3                   | 37.9                       | 2.7              | 5.07 |
|                          | 2.3                 | 60                     | 50.8                   | 44.2                       | 2.3              | 6.54 |
|                          |                     | 70                     | 50.5                   | 43.0                       | 2.5              | 5.91 |
|                          |                     | 80                     | 50.2                   | 41.1                       | 2.8              | 5.31 |
|                          | 3.8                 | 60                     | 53.9                   | 46.8                       | 2.4              | 6.70 |
|                          |                     | 70                     | 53.1                   | 45.2                       | 2.6              | 6.03 |
|                          |                     | 80                     | 51.8                   | 43.0                       | 2.8              | 5.38 |

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Bosch Thermotechnology Corp.  
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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM036 VT Part Load Cooling Performance Data - 1050 CFM

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 4.5              | 1.2                 | 75/63                        | 30.8                   | 25.3                      | 32.8                      | 0.8              | 37.9 |
|                          |                  |                     | 80/67                        | 32.9                   | 26.2                      | 34.9                      | 0.8              | 40.9 |
|                          |                  |                     | 85/71                        | 35.1                   | 27.0                      | 37.1                      | 0.8              | 44.3 |
|                          | 6.75             | 2.5                 | 75/63                        | 31.4                   | 25.6                      | 33.4                      | 0.8              | 40.3 |
|                          |                  |                     | 80/67                        | 33.7                   | 26.4                      | 35.6                      | 0.8              | 43.8 |
|                          |                  |                     | 85/71                        | 35.9                   | 27.3                      | 37.8                      | 0.8              | 47.7 |
|                          | 9                | 4.1                 | 75/63                        | 31.8                   | 25.8                      | 33.7                      | 0.8              | 41.0 |
|                          |                  |                     | 80/67                        | 34.1                   | 26.6                      | 36.0                      | 0.8              | 44.7 |
|                          |                  |                     | 85/71                        | 36.4                   | 27.4                      | 38.2                      | 0.7              | 48.8 |
| 60                       | 4.5              | 1.2                 | 75/63                        | 29.3                   | 24.7                      | 31.7                      | 0.9              | 32.3 |
|                          |                  |                     | 80/67                        | 31.4                   | 25.6                      | 33.7                      | 0.9              | 34.8 |
|                          |                  |                     | 85/71                        | 33.5                   | 26.4                      | 35.8                      | 0.9              | 37.4 |
|                          | 6.75             | 2.4                 | 75/63                        | 30.0                   | 25.0                      | 32.2                      | 0.9              | 34.5 |
|                          |                  |                     | 80/67                        | 32.1                   | 25.9                      | 34.3                      | 0.9              | 37.5 |
|                          |                  |                     | 85/71                        | 34.2                   | 26.9                      | 36.4                      | 0.8              | 40.5 |
|                          | 9                | 4.0                 | 75/63                        | 30.3                   | 25.1                      | 32.5                      | 0.9              | 35.3 |
|                          |                  |                     | 80/67                        | 32.6                   | 25.8                      | 34.8                      | 0.8              | 38.7 |
|                          |                  |                     | 85/71                        | 34.6                   | 27.1                      | 36.8                      | 0.8              | 41.7 |
| 70                       | 4.5              | 1.1                 | 75/63                        | 28.0                   | 24.1                      | 30.8                      | 1.1              | 25.9 |
|                          |                  |                     | 80/67                        | 29.9                   | 25.1                      | 32.8                      | 1.1              | 27.8 |
|                          |                  |                     | 85/71                        | 31.8                   | 26.2                      | 34.7                      | 1.1              | 29.8 |
|                          | 6.75             | 2.3                 | 75/63                        | 28.7                   | 24.3                      | 31.4                      | 1.0              | 28.0 |
|                          |                  |                     | 80/67                        | 30.7                   | 25.3                      | 33.4                      | 1.0              | 30.2 |
|                          |                  |                     | 85/71                        | 32.8                   | 26.2                      | 35.5                      | 1.0              | 32.6 |
|                          | 9                | 3.9                 | 75/63                        | 28.9                   | 24.6                      | 31.6                      | 1.0              | 28.7 |
|                          |                  |                     | 80/67                        | 31.0                   | 25.5                      | 33.7                      | 1.0              | 31.1 |
|                          |                  |                     | 85/71                        | 33.2                   | 26.3                      | 35.8                      | 1.0              | 33.8 |
| 80                       | 4.5              | 1.1                 | 75/63                        | 26.4                   | 23.5                      | 29.8                      | 1.2              | 21.4 |
|                          |                  |                     | 80/67                        | 28.2                   | 24.7                      | 31.7                      | 1.2              | 22.9 |
|                          |                  |                     | 85/71                        | 30.3                   | 25.3                      | 33.7                      | 1.2              | 24.6 |
|                          | 6.75             | 2.2                 | 75/63                        | 26.9                   | 24.0                      | 30.2                      | 1.2              | 22.9 |
|                          |                  |                     | 80/67                        | 29.0                   | 24.8                      | 32.2                      | 1.2              | 24.9 |
|                          |                  |                     | 85/71                        | 31.0                   | 25.6                      | 34.2                      | 1.2              | 26.8 |
|                          | 9                | 3.7                 | 75/63                        | 27.4                   | 23.9                      | 30.5                      | 1.2              | 23.7 |
|                          |                  |                     | 80/67                        | 29.4                   | 24.8                      | 32.5                      | 1.1              | 25.7 |
|                          |                  |                     | 85/71                        | 31.4                   | 25.8                      | 34.5                      | 1.1              | 27.7 |
| 90                       | 4.5              | 1.1                 | 75/63                        | 25.3                   | 23.3                      | 29.5                      | 1.5              | 17.3 |
|                          |                  |                     | 80/67                        | 27.0                   | 24.6                      | 31.3                      | 1.5              | 18.5 |
|                          |                  |                     | 85/71                        | 29.0                   | 25.3                      | 33.3                      | 1.5              | 19.9 |
|                          | 6.75             | 2.2                 | 75/63                        | 26.0                   | 23.4                      | 29.9                      | 1.4              | 18.7 |
|                          |                  |                     | 80/67                        | 27.8                   | 24.6                      | 31.8                      | 1.4              | 20.1 |
|                          |                  |                     | 85/71                        | 29.8                   | 25.5                      | 33.8                      | 1.4              | 21.6 |
|                          | 9                | 3.6                 | 75/63                        | 26.3                   | 23.5                      | 30.2                      | 1.4              | 19.2 |
|                          |                  |                     | 80/67                        | 28.4                   | 24.2                      | 32.2                      | 1.4              | 20.9 |
|                          |                  |                     | 85/71                        | 30.3                   | 25.4                      | 34.2                      | 1.3              | 22.5 |
| 100                      | 4.5              | 1.0                 | 75/63                        | 23.3                   | 23.0                      | 28.3                      | 1.7              | 13.9 |
|                          |                  |                     | 80/67                        | 26.3                   | 21.8                      | 30.8                      | 1.7              | 15.7 |
|                          |                  |                     | 85/71                        | 28.4                   | 21.8                      | 32.8                      | 1.7              | 16.9 |
|                          | 6.75             | 2.1                 | 75/63                        | 23.7                   | 23.1                      | 28.5                      | 1.6              | 14.7 |
|                          |                  |                     | 80/67                        | 26.1                   | 24.0                      | 30.8                      | 1.6              | 16.3 |
|                          |                  |                     | 85/71                        | 27.6                   | 25.5                      | 32.4                      | 1.6              | 17.2 |
|                          | 9                | 3.5                 | 75/63                        | 24.4                   | 23.2                      | 29.0                      | 1.6              | 15.4 |
|                          |                  |                     | 80/67                        | 26.4                   | 24.1                      | 31.0                      | 1.6              | 16.8 |
|                          |                  |                     | 85/71                        | 28.8                   | 24.0                      | 33.2                      | 1.6              | 18.5 |
| 110                      | 4.5              | 1.0                 | 75/63                        | 20.4                   | 20.4                      | 26.6                      | 1.9              | 10.6 |
|                          |                  |                     | 80/67                        | 21.7                   | 21.7                      | 28.2                      | 1.9              | 11.3 |
|                          |                  |                     | 85/71                        | 23.1                   | 23.1                      | 29.8                      | 1.9              | 12.0 |
|                          | 6.75             | 2.1                 | 75/63                        | 22.4                   | 22.4                      | 27.9                      | 1.9              | 12.1 |
|                          |                  |                     | 80/67                        | 23.9                   | 23.7                      | 29.5                      | 1.8              | 12.9 |
|                          |                  |                     | 85/71                        | 25.4                   | 24.8                      | 31.2                      | 1.8              | 13.8 |
|                          | 9                | 3.5                 | 75/63                        | 20.9                   | 20.9                      | 26.8                      | 1.8              | 11.4 |
|                          |                  |                     | 80/67                        | 25.3                   | 21.9                      | 30.4                      | 1.8              | 14.0 |
|                          |                  |                     | 85/71                        | 27.5                   | 21.9                      | 32.3                      | 1.8              | 15.2 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM036 VT Part Load Heating Performance Data - 1050 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 20                       | 1.4                 | 60                     | 15.8                   | 12.3                       | 1.2              | 3.84 |
|                          |                     | 70                     | 15.4                   | 11.3                       | 1.4              | 3.25 |
|                          |                     | 80                     | 15.0                   | 10.3                       | 1.6              | 2.75 |
|                          | 2.9                 | 60                     | 16.4                   | 12.8                       | 1.2              | 3.94 |
|                          |                     | 70                     | 15.9                   | 11.8                       | 1.4              | 3.33 |
|                          |                     | 80                     | 15.5                   | 10.8                       | 1.6              | 2.83 |
|                          | 4.8                 | 60                     | 16.8                   | 13.1                       | 1.2              | 3.97 |
|                          |                     | 70                     | 16.2                   | 12.1                       | 1.4              | 3.36 |
|                          |                     | 80                     | 15.7                   | 11.0                       | 1.6              | 2.85 |
| 30                       | 1.3                 | 60                     | 18.8                   | 15.2                       | 1.2              | 4.49 |
|                          |                     | 70                     | 18.3                   | 14.1                       | 1.4              | 3.83 |
|                          |                     | 80                     | 18.0                   | 13.1                       | 1.6              | 3.29 |
|                          | 2.7                 | 60                     | 19.6                   | 15.9                       | 1.2              | 4.63 |
|                          |                     | 70                     | 19.0                   | 14.8                       | 1.4              | 3.95 |
|                          |                     | 80                     | 18.5                   | 13.7                       | 1.6              | 3.37 |
|                          | 4.6                 | 60                     | 20.0                   | 16.4                       | 1.3              | 4.67 |
|                          |                     | 70                     | 19.4                   | 15.2                       | 1.4              | 3.99 |
|                          |                     | 80                     | 18.9                   | 14.1                       | 1.6              | 3.40 |
| 40                       | 1.3                 | 60                     | 22.1                   | 18.4                       | 1.2              | 5.20 |
|                          |                     | 70                     | 21.5                   | 17.3                       | 1.4              | 4.46 |
|                          |                     | 80                     | 21.0                   | 16.1                       | 1.6              | 3.82 |
|                          | 2.6                 | 60                     | 23.1                   | 19.4                       | 1.3              | 5.39 |
|                          |                     | 70                     | 22.4                   | 18.2                       | 1.4              | 4.61 |
|                          |                     | 80                     | 21.8                   | 16.9                       | 1.6              | 3.94 |
|                          | 4.4                 | 60                     | 23.6                   | 19.9                       | 1.3              | 5.45 |
|                          |                     | 70                     | 22.9                   | 18.7                       | 1.4              | 4.66 |
|                          |                     | 80                     | 22.3                   | 17.4                       | 1.6              | 3.98 |
| 50                       | 1.2                 | 60                     | 25.5                   | 21.7                       | 1.3              | 5.83 |
|                          |                     | 70                     | 24.8                   | 20.5                       | 1.5              | 5.00 |
|                          |                     | 80                     | 24.4                   | 19.2                       | 1.7              | 4.30 |
|                          | 2.5                 | 60                     | 26.7                   | 22.9                       | 1.3              | 6.06 |
|                          |                     | 70                     | 26.0                   | 21.6                       | 1.5              | 5.18 |
|                          |                     | 80                     | 25.4                   | 20.2                       | 1.7              | 4.44 |
|                          | 4.2                 | 60                     | 27.4                   | 23.6                       | 1.3              | 6.14 |
|                          |                     | 70                     | 26.6                   | 22.2                       | 1.5              | 5.25 |
|                          |                     | 80                     | 25.9                   | 20.8                       | 1.7              | 4.50 |
| 60                       | 1.2                 | 60                     | 28.5                   | 24.8                       | 1.3              | 6.52 |
|                          |                     | 70                     | 28.1                   | 23.8                       | 1.5              | 5.65 |
|                          |                     | 80                     | 27.5                   | 22.4                       | 1.7              | 4.83 |
|                          | 2.5                 | 60                     | 30.3                   | 26.5                       | 1.3              | 6.87 |
|                          |                     | 70                     | 29.4                   | 25.1                       | 1.5              | 5.86 |
|                          |                     | 80                     | 28.6                   | 23.6                       | 1.7              | 4.99 |
|                          | 4.1                 | 60                     | 31.1                   | 27.3                       | 1.3              | 6.98 |
|                          |                     | 70                     | 30.1                   | 25.8                       | 1.5              | 5.94 |
|                          |                     | 80                     | 29.3                   | 24.2                       | 1.7              | 5.07 |
| 70                       | 1.2                 | 60                     | 31.1                   | 27.0                       | 1.3              | 7.09 |
|                          |                     | 70                     | 31.0                   | 25.6                       | 1.5              | 6.18 |
|                          |                     | 80                     | 30.9                   | 25.8                       | 1.7              | 5.38 |
|                          | 2.4                 | 60                     | 34.3                   | 30.5                       | 1.3              | 7.74 |
|                          |                     | 70                     | 33.4                   | 29.0                       | 1.5              | 6.58 |
|                          |                     | 80                     | 32.5                   | 27.4                       | 1.7              | 5.61 |
|                          | 3.9                 | 60                     | 35.2                   | 31.5                       | 1.3              | 7.84 |
|                          |                     | 70                     | 34.2                   | 29.8                       | 1.5              | 6.68 |
|                          |                     | 80                     | 33.3                   | 28.2                       | 1.7              | 5.69 |
| 80                       | 1.1                 | 60                     | 35.4                   | 31.4                       | 1.3              | 8.02 |
|                          |                     | 70                     | 33.3                   | 33.2                       | 1.5              | 6.55 |
|                          |                     | 80                     | 33.0                   | 28.5                       | 1.7              | 5.70 |
|                          | 2.3                 | 60                     | 38.5                   | 34.8                       | 1.3              | 8.66 |
|                          |                     | 70                     | 37.5                   | 33.1                       | 1.5              | 7.32 |
|                          |                     | 80                     | 36.5                   | 31.3                       | 1.7              | 6.21 |
|                          | 3.8                 | 60                     | 39.6                   | 35.8                       | 1.3              | 8.82 |
|                          |                     | 70                     | 38.5                   | 34.1                       | 1.5              | 7.44 |
|                          |                     | 80                     | 37.4                   | 32.3                       | 1.7              | 6.30 |

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Bosch Thermotechnology Corp.  
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM048 VT Full Load Cooling Performance Data - 1600 CFM

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 6                | 2.3                 | 75/63                        | 53.3                   | 41.3                      | 59.1                      | 2.0              | 26.2 |
|                          |                  |                     | 80/67                        | 56.7                   | 42.6                      | 62.7                      | 2.1              | 27.5 |
|                          |                  |                     | 85/71                        | 60.2                   | 43.7                      | 66.3                      | 2.1              | 28.9 |
|                          | 9                | 4.9                 | 75/63                        | 54.9                   | 41.8                      | 60.3                      | 1.9              | 28.7 |
|                          |                  |                     | 80/67                        | 58.5                   | 43.1                      | 64.0                      | 1.9              | 30.3 |
|                          |                  |                     | 85/71                        | 62.2                   | 44.3                      | 67.8                      | 1.9              | 32.0 |
|                          | 12               | 8.1                 | 75/63                        | 55.6                   | 42.3                      | 60.9                      | 1.9              | 29.7 |
|                          |                  |                     | 80/67                        | 59.4                   | 43.4                      | 64.8                      | 1.9              | 31.4 |
|                          |                  |                     | 85/71                        | 63.2                   | 44.6                      | 68.6                      | 1.9              | 33.2 |
| 60                       | 6                | 2.3                 | 75/63                        | 51.2                   | 40.3                      | 57.7                      | 2.3              | 22.7 |
|                          |                  |                     | 80/67                        | 54.5                   | 41.4                      | 61.2                      | 2.3              | 23.9 |
|                          |                  |                     | 85/71                        | 58.0                   | 42.5                      | 64.7                      | 2.3              | 25.1 |
|                          | 9                | 4.7                 | 75/63                        | 52.6                   | 40.8                      | 58.7                      | 2.1              | 24.7 |
|                          |                  |                     | 80/67                        | 56.1                   | 42.0                      | 62.3                      | 2.1              | 26.1 |
|                          |                  |                     | 85/71                        | 59.6                   | 43.5                      | 65.9                      | 2.2              | 27.6 |
|                          | 12               | 7.9                 | 75/63                        | 53.3                   | 41.2                      | 59.3                      | 2.1              | 25.5 |
|                          |                  |                     | 80/67                        | 56.8                   | 42.6                      | 62.9                      | 2.1              | 27.0 |
|                          |                  |                     | 85/71                        | 60.5                   | 43.8                      | 66.7                      | 2.1              | 28.7 |
| 70                       | 6                | 2.2                 | 75/63                        | 49.1                   | 39.7                      | 56.6                      | 2.5              | 19.3 |
|                          |                  |                     | 80/67                        | 52.5                   | 40.6                      | 60.1                      | 2.6              | 20.4 |
|                          |                  |                     | 85/71                        | 55.8                   | 41.9                      | 63.5                      | 2.6              | 21.4 |
|                          | 9                | 4.6                 | 75/63                        | 50.6                   | 40.0                      | 57.7                      | 2.4              | 21.0 |
|                          |                  |                     | 80/67                        | 54.0                   | 41.4                      | 61.1                      | 2.4              | 22.2 |
|                          |                  |                     | 85/71                        | 57.6                   | 42.4                      | 64.8                      | 2.4              | 23.6 |
|                          | 12               | 7.6                 | 75/63                        | 51.3                   | 40.4                      | 58.2                      | 2.4              | 21.7 |
|                          |                  |                     | 80/67                        | 54.8                   | 41.7                      | 61.8                      | 2.4              | 23.0 |
|                          |                  |                     | 85/71                        | 58.4                   | 42.9                      | 65.4                      | 2.4              | 24.5 |
| 80                       | 6                | 2.1                 | 75/63                        | 46.8                   | 38.5                      | 55.2                      | 2.8              | 16.5 |
|                          |                  |                     | 80/67                        | 49.9                   | 39.8                      | 58.5                      | 2.9              | 17.4 |
|                          |                  |                     | 85/71                        | 53.0                   | 41.2                      | 61.8                      | 2.9              | 18.4 |
|                          | 9                | 4.4                 | 75/63                        | 48.2                   | 38.9                      | 56.1                      | 2.7              | 17.9 |
|                          |                  |                     | 80/67                        | 51.3                   | 40.5                      | 59.4                      | 2.7              | 19.0 |
|                          |                  |                     | 85/71                        | 54.9                   | 41.4                      | 63.0                      | 2.7              | 20.2 |
|                          | 12               | 7.4                 | 75/63                        | 48.7                   | 39.5                      | 56.5                      | 2.6              | 18.5 |
|                          |                  |                     | 80/67                        | 52.2                   | 40.7                      | 60.1                      | 2.6              | 19.7 |
|                          |                  |                     | 85/71                        | 55.7                   | 41.9                      | 63.6                      | 2.7              | 21.0 |
| 90                       | 6                | 2.1                 | 75/63                        | 44.4                   | 37.6                      | 54.1                      | 3.2              | 13.9 |
|                          |                  |                     | 80/67                        | 47.6                   | 38.7                      | 57.3                      | 3.2              | 14.7 |
|                          |                  |                     | 85/71                        | 50.6                   | 39.9                      | 60.6                      | 3.3              | 15.5 |
|                          | 9                | 4.3                 | 75/63                        | 45.7                   | 38.2                      | 54.9                      | 3.0              | 15.0 |
|                          |                  |                     | 80/67                        | 48.9                   | 39.3                      | 58.1                      | 3.1              | 16.0 |
|                          |                  |                     | 85/71                        | 52.1                   | 40.7                      | 61.5                      | 3.1              | 16.9 |
|                          | 12               | 7.2                 | 75/63                        | 46.4                   | 38.2                      | 55.4                      | 3.0              | 15.5 |
|                          |                  |                     | 80/67                        | 49.7                   | 39.5                      | 58.7                      | 3.0              | 16.5 |
|                          |                  |                     | 85/71                        | 52.9                   | 40.9                      | 62.0                      | 3.0              | 17.6 |
| 100                      | 6                | 2.0                 | 75/63                        | 40.6                   | 37.1                      | 52.0                      | 3.6              | 11.4 |
|                          |                  |                     | 80/67                        | 46.4                   | 33.5                      | 56.6                      | 3.6              | 12.8 |
|                          |                  |                     | 85/71                        | 50.1                   | 31.9                      | 60.0                      | 3.7              | 13.6 |
|                          | 9                | 4.2                 | 75/63                        | 43.2                   | 36.9                      | 53.5                      | 3.4              | 12.6 |
|                          |                  |                     | 80/67                        | 46.2                   | 38.3                      | 56.6                      | 3.4              | 13.4 |
|                          |                  |                     | 85/71                        | 49.4                   | 39.6                      | 60.0                      | 3.5              | 14.3 |
|                          | 12               | 7.0                 | 75/63                        | 43.8                   | 37.1                      | 53.9                      | 3.4              | 13.0 |
|                          |                  |                     | 80/67                        | 46.7                   | 38.8                      | 57.0                      | 3.4              | 13.9 |
|                          |                  |                     | 85/71                        | 50.2                   | 39.7                      | 60.5                      | 3.4              | 14.8 |
| 110                      | 6                | 2.0                 | 75/63                        | 40.6                   | 32.5                      | 52.3                      | 4.0              | 10.0 |
|                          |                  |                     | 80/67                        | 40.3                   | 37.5                      | 53.6                      | 4.1              | 9.9  |
|                          |                  |                     | 85/71                        | 47.1                   | 31.8                      | 58.5                      | 4.1              | 11.4 |
|                          | 9                | 4.1                 | 75/63                        | 39.2                   | 36.5                      | 51.5                      | 3.8              | 10.2 |
|                          |                  |                     | 80/67                        | 41.8                   | 38.1                      | 54.4                      | 3.9              | 10.8 |
|                          |                  |                     | 85/71                        | 43.9                   | 39.5                      | 57.0                      | 3.9              | 11.3 |
|                          | 12               | 6.8                 | 75/63                        | 39.7                   | 36.7                      | 51.8                      | 3.8              | 10.5 |
|                          |                  |                     | 80/67                        | 42.4                   | 38.3                      | 54.7                      | 3.8              | 11.2 |
|                          |                  |                     | 85/71                        | 44.9                   | 39.8                      | 57.5                      | 3.8              | 11.8 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM048 VT Full Load Heating Performance Data - 1600 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 20                       | 2.8                 | 60                     | 31.0                   | 24.4                       | 2.1              | 4.29 |
|                          |                     | 70                     | 30.6                   | 22.7                       | 2.4              | 3.71 |
|                          |                     | 80                     | 29.9                   | 21.3                       | 2.7              | 3.21 |
|                          | 5.7                 | 60                     | 32.2                   | 25.6                       | 2.2              | 4.35 |
|                          |                     | 70                     | 31.9                   | 24.6                       | 2.5              | 3.79 |
|                          |                     | 80                     | 32.0                   | 22.9                       | 2.8              | 3.35 |
|                          | 9.5                 | 60                     | 33.7                   | 26.5                       | 2.2              | 4.42 |
|                          |                     | 70                     | 33.2                   | 25.6                       | 2.5              | 3.84 |
|                          |                     | 80                     | 32.8                   | 23.8                       | 2.9              | 3.37 |
| 30                       | 2.7                 | 60                     | 36.1                   | 29.1                       | 2.2              | 4.74 |
|                          |                     | 70                     | 35.4                   | 27.5                       | 2.5              | 4.11 |
|                          |                     | 80                     | 34.8                   | 25.8                       | 2.8              | 3.59 |
|                          | 5.5                 | 60                     | 37.8                   | 30.6                       | 2.3              | 4.84 |
|                          |                     | 70                     | 36.9                   | 28.9                       | 2.6              | 4.19 |
|                          |                     | 80                     | 36.0                   | 26.9                       | 2.9              | 3.65 |
|                          | 9.1                 | 60                     | 38.9                   | 31.4                       | 2.3              | 4.85 |
|                          |                     | 70                     | 37.6                   | 29.7                       | 2.6              | 4.19 |
|                          |                     | 80                     | 37.4                   | 28.0                       | 2.9              | 3.72 |
| 40                       | 2.6                 | 60                     | 41.7                   | 34.3                       | 2.4              | 5.18 |
|                          |                     | 70                     | 40.8                   | 32.5                       | 2.6              | 4.53 |
|                          |                     | 80                     | 40.1                   | 30.7                       | 2.9              | 3.99 |
|                          | 5.3                 | 60                     | 43.8                   | 36.3                       | 2.4              | 5.29 |
|                          |                     | 70                     | 42.7                   | 34.4                       | 2.7              | 4.64 |
|                          |                     | 80                     | 41.7                   | 32.4                       | 3.0              | 4.08 |
|                          | 8.7                 | 60                     | 44.9                   | 37.5                       | 2.5              | 5.30 |
|                          |                     | 70                     | 43.8                   | 35.3                       | 2.8              | 4.66 |
|                          |                     | 80                     | 42.8                   | 32.8                       | 3.1              | 4.12 |
| 50                       | 2.5                 | 60                     | 47.0                   | 39.5                       | 2.5              | 5.62 |
|                          |                     | 70                     | 46.1                   | 37.4                       | 2.7              | 4.95 |
|                          |                     | 80                     | 45.1                   | 35.8                       | 3.0              | 4.35 |
|                          | 5.1                 | 60                     | 49.7                   | 41.9                       | 2.5              | 5.77 |
|                          |                     | 70                     | 48.4                   | 39.7                       | 2.8              | 5.08 |
|                          |                     | 80                     | 47.3                   | 37.6                       | 3.1              | 4.48 |
|                          | 8.4                 | 60                     | 51.0                   | 43.3                       | 2.6              | 5.79 |
|                          |                     | 70                     | 49.7                   | 41.1                       | 2.9              | 5.10 |
|                          |                     | 80                     | 48.6                   | 38.1                       | 3.2              | 4.52 |
| 60                       | 2.4                 | 60                     | 52.7                   | 44.6                       | 2.6              | 5.96 |
|                          |                     | 70                     | 51.6                   | 42.6                       | 2.9              | 5.26 |
|                          |                     | 80                     | 50.6                   | 40.4                       | 3.2              | 4.65 |
|                          | 4.9                 | 60                     | 55.8                   | 47.5                       | 2.7              | 6.13 |
|                          |                     | 70                     | 54.4                   | 45.2                       | 2.9              | 5.41 |
|                          |                     | 80                     | 53.1                   | 42.9                       | 3.3              | 4.77 |
|                          | 8.1                 | 60                     | 57.3                   | 49.1                       | 2.7              | 6.15 |
|                          |                     | 70                     | 55.8                   | 46.7                       | 3.0              | 5.43 |
|                          |                     | 80                     | 54.4                   | 44.2                       | 3.3              | 4.79 |
| 70                       | 2.3                 | 60                     | 59.2                   | 50.8                       | 2.7              | 6.40 |
|                          |                     | 70                     | 58.0                   | 48.6                       | 3.0              | 5.66 |
|                          |                     | 80                     | 56.8                   | 46.4                       | 3.3              | 5.00 |
|                          | 4.7                 | 60                     | 62.9                   | 54.2                       | 2.8              | 6.59 |
|                          |                     | 70                     | 61.3                   | 51.7                       | 3.1              | 5.82 |
|                          |                     | 80                     | 59.8                   | 49.2                       | 3.4              | 5.13 |
|                          | 7.9                 | 60                     | 64.7                   | 56.1                       | 2.9              | 6.62 |
|                          |                     | 70                     | 63.0                   | 53.4                       | 3.2              | 5.85 |
|                          |                     | 80                     | 61.4                   | 50.7                       | 3.5              | 5.16 |
| 80                       | 2.3                 | 60                     | 66.1                   | 57.3                       | 2.8              | 6.82 |
|                          |                     | 70                     | 64.6                   | 54.9                       | 3.1              | 6.03 |
|                          |                     | 80                     | 63.3                   | 52.4                       | 3.5              | 5.33 |
|                          | 4.6                 | 60                     | 70.3                   | 61.2                       | 2.9              | 7.01 |
|                          |                     | 70                     | 68.5                   | 58.5                       | 3.2              | 6.19 |
|                          |                     | 80                     | 66.9                   | 55.7                       | 3.6              | 5.46 |
|                          | 7.6                 | 60                     | 72.4                   | 63.3                       | 3.0              | 7.05 |
|                          |                     | 70                     | 70.6                   | 60.4                       | 3.3              | 6.23 |
|                          |                     | 80                     | 68.8                   | 57.4                       | 3.7              | 5.50 |

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Bosch Thermotechnology Corp.  
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL



# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM048 VT Part Load Cooling Performance Data - 1300 CFM**

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 6                | 2.4                 | 75/63                        | 40.7                   | 32.5                      | 43.6                      | 1.1              | 36.0 |
|                          |                  |                     | 80/67                        | 43.3                   | 33.4                      | 46.2                      | 1.1              | 39.2 |
|                          |                  |                     | 85/71                        | 46.0                   | 34.5                      | 48.9                      | 1.1              | 42.6 |
|                          | 9                | 4.9                 | 75/63                        | 41.7                   | 32.9                      | 44.4                      | 1.1              | 39.4 |
|                          |                  |                     | 80/67                        | 44.6                   | 33.8                      | 47.2                      | 1.0              | 43.5 |
|                          |                  |                     | 85/71                        | 47.5                   | 34.8                      | 50.0                      | 1.0              | 47.9 |
|                          | 12               | 8.2                 | 75/63                        | 42.3                   | 33.1                      | 45.0                      | 1.0              | 40.5 |
|                          |                  |                     | 80/67                        | 45.2                   | 34.1                      | 47.8                      | 1.0              | 44.9 |
|                          |                  |                     | 85/71                        | 48.1                   | 35.1                      | 50.6                      | 1.0              | 49.7 |
| 60                       | 6                | 2.3                 | 75/63                        | 38.5                   | 31.6                      | 42.1                      | 1.3              | 29.1 |
|                          |                  |                     | 80/67                        | 41.0                   | 32.7                      | 44.6                      | 1.3              | 31.5 |
|                          |                  |                     | 85/71                        | 43.8                   | 33.7                      | 47.3                      | 1.3              | 34.2 |
|                          | 9                | 4.7                 | 75/63                        | 39.5                   | 32.0                      | 42.8                      | 1.2              | 31.6 |
|                          |                  |                     | 80/67                        | 42.2                   | 33.1                      | 45.5                      | 1.2              | 34.6 |
|                          |                  |                     | 85/71                        | 45.1                   | 33.9                      | 48.3                      | 1.2              | 38.0 |
|                          | 12               | 7.9                 | 75/63                        | 40.1                   | 32.2                      | 43.4                      | 1.2              | 32.5 |
|                          |                  |                     | 80/67                        | 42.9                   | 33.2                      | 46.1                      | 1.2              | 35.7 |
|                          |                  |                     | 85/71                        | 45.7                   | 34.4                      | 48.8                      | 1.2              | 39.2 |
| 70                       | 6                | 2.2                 | 75/63                        | 36.8                   | 30.9                      | 41.1                      | 1.6              | 23.6 |
|                          |                  |                     | 80/67                        | 39.2                   | 32.0                      | 43.6                      | 1.5              | 25.4 |
|                          |                  |                     | 85/71                        | 41.9                   | 33.0                      | 46.2                      | 1.5              | 27.6 |
|                          | 9                | 4.6                 | 75/63                        | 37.7                   | 31.3                      | 41.8                      | 1.5              | 25.5 |
|                          |                  |                     | 80/67                        | 40.4                   | 32.3                      | 44.4                      | 1.5              | 27.8 |
|                          |                  |                     | 85/71                        | 43.1                   | 33.5                      | 47.1                      | 1.4              | 30.3 |
|                          | 12               | 7.7                 | 75/63                        | 38.3                   | 31.5                      | 42.3                      | 1.5              | 26.2 |
|                          |                  |                     | 80/67                        | 40.9                   | 32.6                      | 44.9                      | 1.4              | 28.6 |
|                          |                  |                     | 85/71                        | 43.8                   | 33.6                      | 47.7                      | 1.4              | 31.4 |
| 80                       | 6                | 2.2                 | 75/63                        | 34.5                   | 29.9                      | 39.6                      | 1.8              | 19.1 |
|                          |                  |                     | 80/67                        | 35.9                   | 31.7                      | 41.3                      | 1.8              | 20.0 |
|                          |                  |                     | 85/71                        | 40.9                   | 28.6                      | 45.3                      | 1.8              | 23.2 |
|                          | 9                | 4.5                 | 75/63                        | 35.4                   | 30.4                      | 40.3                      | 1.7              | 20.6 |
|                          |                  |                     | 80/67                        | 38.0                   | 31.3                      | 42.8                      | 1.7              | 22.4 |
|                          |                  |                     | 85/71                        | 40.5                   | 32.8                      | 45.3                      | 1.7              | 24.3 |
|                          | 12               | 7.4                 | 75/63                        | 35.9                   | 30.5                      | 40.7                      | 1.7              | 21.1 |
|                          |                  |                     | 80/67                        | 38.5                   | 31.7                      | 43.2                      | 1.7              | 23.0 |
|                          |                  |                     | 85/71                        | 41.3                   | 32.6                      | 45.9                      | 1.6              | 25.2 |
| 90                       | 6                | 2.1                 | 75/63                        | 33.8                   | 28.7                      | 39.9                      | 2.2              | 15.7 |
|                          |                  |                     | 80/67                        | 34.9                   | 31.3                      | 41.5                      | 2.2              | 16.2 |
|                          |                  |                     | 85/71                        | 37.1                   | 32.6                      | 43.9                      | 2.1              | 17.4 |
|                          | 9                | 4.3                 | 75/63                        | 34.3                   | 29.8                      | 40.3                      | 2.1              | 16.6 |
|                          |                  |                     | 80/67                        | 36.7                   | 31.2                      | 42.7                      | 2.0              | 18.0 |
|                          |                  |                     | 85/71                        | 37.8                   | 32.8                      | 44.4                      | 2.0              | 18.7 |
|                          | 12               | 7.2                 | 75/63                        | 34.8                   | 30.0                      | 40.7                      | 2.0              | 17.1 |
|                          |                  |                     | 80/67                        | 37.4                   | 31.2                      | 43.2                      | 2.0              | 18.6 |
|                          |                  |                     | 85/71                        | 38.4                   | 33.0                      | 44.8                      | 2.0              | 19.3 |
| 100                      | 6                | 2.0                 | 75/63                        | 31.1                   | 28.5                      | 38.4                      | 2.5              | 12.6 |
|                          |                  |                     | 80/67                        | 33.8                   | 29.0                      | 40.9                      | 2.5              | 13.7 |
|                          |                  |                     | 85/71                        | 34.5                   | 31.7                      | 42.4                      | 2.5              | 14.1 |
|                          | 9                | 4.2                 | 75/63                        | 31.8                   | 28.9                      | 38.8                      | 2.4              | 13.4 |
|                          |                  |                     | 80/67                        | 34.8                   | 29.0                      | 41.5                      | 2.4              | 14.8 |
|                          |                  |                     | 85/71                        | 35.9                   | 32.2                      | 43.3                      | 2.3              | 15.4 |
|                          | 12               | 7.0                 | 75/63                        | 32.1                   | 29.3                      | 39.1                      | 2.4              | 13.6 |
|                          |                  |                     | 80/67                        | 34.2                   | 31.1                      | 41.3                      | 2.3              | 14.7 |
|                          |                  |                     | 85/71                        | 36.4                   | 32.3                      | 43.6                      | 2.3              | 15.8 |
| 110                      | 6                | 2.0                 | 75/63                        | 28.7                   | 27.6                      | 37.1                      | 2.8              | 10.2 |
|                          |                  |                     | 80/67                        | 31.0                   | 28.9                      | 39.4                      | 2.8              | 11.1 |
|                          |                  |                     | 85/71                        | 32.5                   | 31.0                      | 41.4                      | 2.8              | 11.6 |
|                          | 9                | 4.1                 | 75/63                        | 29.5                   | 27.9                      | 37.6                      | 2.7              | 10.8 |
|                          |                  |                     | 80/67                        | 31.9                   | 29.2                      | 40.0                      | 2.7              | 11.8 |
|                          |                  |                     | 85/71                        | 33.2                   | 31.2                      | 41.8                      | 2.7              | 12.4 |
|                          | 12               | 6.9                 | 75/63                        | 29.8                   | 28.1                      | 37.9                      | 2.7              | 11.1 |
|                          |                  |                     | 80/67                        | 32.3                   | 29.2                      | 40.2                      | 2.7              | 12.1 |
|                          |                  |                     | 85/71                        | 33.6                   | 31.4                      | 42.1                      | 2.7              | 12.7 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM048 VT Part Load Heating Performance Data - 1300 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 20                       | 2.8                 | 60                     | 23.4                   | 18.4                       | 1.6              | 4.19 |
|                          |                     | 70                     | 22.3                   | 16.8                       | 1.8              | 3.54 |
|                          |                     | 80                     | 21.3                   | 15.1                       | 2.1              | 3.00 |
|                          | 5.7                 | 60                     | 24.2                   | 19.2                       | 1.7              | 4.27 |
|                          |                     | 70                     | 23.1                   | 17.4                       | 1.9              | 3.62 |
|                          |                     | 80                     | 22.0                   | 15.7                       | 2.1              | 3.05 |
|                          | 9.4                 | 60                     | 24.6                   | 19.6                       | 1.7              | 4.24 |
|                          |                     | 70                     | 23.5                   | 17.8                       | 1.9              | 3.60 |
|                          |                     | 80                     | 22.4                   | 16.1                       | 2.2              | 3.04 |
| 30                       | 2.7                 | 60                     | 27.0                   | 21.7                       | 1.7              | 4.78 |
|                          |                     | 70                     | 26.0                   | 20.3                       | 1.9              | 4.06 |
|                          |                     | 80                     | 25.0                   | 18.5                       | 2.1              | 3.45 |
|                          | 5.4                 | 60                     | 28.1                   | 23.1                       | 1.7              | 4.89 |
|                          |                     | 70                     | 26.9                   | 21.2                       | 1.9              | 4.15 |
|                          |                     | 80                     | 25.8                   | 19.4                       | 2.2              | 3.52 |
|                          | 9.0                 | 60                     | 28.7                   | 23.7                       | 1.7              | 4.88 |
|                          |                     | 70                     | 27.5                   | 21.8                       | 1.9              | 4.14 |
|                          |                     | 80                     | 26.3                   | 19.8                       | 2.2              | 3.52 |
| 40                       | 2.6                 | 60                     | 30.4                   | 26.5                       | 1.7              | 5.32 |
|                          |                     | 70                     | 29.6                   | 24.0                       | 1.9              | 4.56 |
|                          |                     | 80                     | 28.8                   | 22.3                       | 2.2              | 3.90 |
|                          | 5.2                 | 60                     | 32.4                   | 27.4                       | 1.7              | 5.57 |
|                          |                     | 70                     | 31.2                   | 25.4                       | 1.9              | 4.72 |
|                          |                     | 80                     | 30.0                   | 23.4                       | 2.2              | 4.01 |
|                          | 8.7                 | 60                     | 33.1                   | 28.1                       | 1.7              | 5.56 |
|                          |                     | 70                     | 31.9                   | 26.0                       | 2.0              | 4.72 |
|                          |                     | 80                     | 30.6                   | 24.0                       | 2.2              | 4.02 |
| 50                       | 2.5                 | 60                     | 34.5                   | 29.5                       | 1.7              | 6.00 |
|                          |                     | 70                     | 33.3                   | 27.2                       | 1.9              | 5.08 |
|                          |                     | 80                     | 33.0                   | 26.1                       | 2.2              | 4.42 |
|                          | 5.0                 | 60                     | 36.7                   | 31.4                       | 1.7              | 6.27 |
|                          |                     | 70                     | 35.6                   | 29.9                       | 2.0              | 5.33 |
|                          |                     | 80                     | 34.6                   | 27.7                       | 2.2              | 4.57 |
|                          | 8.4                 | 60                     | 37.9                   | 32.8                       | 1.8              | 6.31 |
|                          |                     | 70                     | 36.6                   | 30.5                       | 2.0              | 5.37 |
|                          |                     | 80                     | 35.3                   | 28.4                       | 2.3              | 4.59 |
| 60                       | 2.4                 | 60                     | 39.8                   | 34.6                       | 1.7              | 6.72 |
|                          |                     | 70                     | 38.5                   | 32.3                       | 2.0              | 5.73 |
|                          |                     | 80                     | 37.2                   | 30.5                       | 2.2              | 4.88 |
|                          | 4.9                 | 60                     | 41.4                   | 36.1                       | 1.8              | 6.89 |
|                          |                     | 70                     | 39.9                   | 33.7                       | 2.0              | 5.84 |
|                          |                     | 80                     | 39.7                   | 32.4                       | 2.3              | 5.12 |
|                          | 8.1                 | 60                     | 43.1                   | 38.1                       | 1.8              | 7.01 |
|                          |                     | 70                     | 42.3                   | 36.2                       | 2.0              | 6.05 |
|                          |                     | 80                     | 40.9                   | 33.8                       | 2.3              | 5.18 |
| 70                       | 2.3                 | 60                     | 45.0                   | 39.7                       | 1.8              | 7.50 |
|                          |                     | 70                     | 43.6                   | 37.5                       | 2.0              | 6.38 |
|                          |                     | 80                     | 42.3                   | 35.1                       | 2.3              | 5.45 |
|                          | 4.7                 | 60                     | 46.9                   | 41.9                       | 1.8              | 7.71 |
|                          |                     | 70                     | 45.1                   | 39.2                       | 2.0              | 6.50 |
|                          |                     | 80                     | 44.9                   | 37.8                       | 2.3              | 5.70 |
|                          | 7.8                 | 60                     | 48.1                   | 44.1                       | 1.8              | 7.73 |
|                          |                     | 70                     | 47.4                   | 41.3                       | 2.1              | 6.70 |
|                          |                     | 80                     | 46.1                   | 39.3                       | 2.4              | 5.75 |
| 80                       | 2.2                 | 60                     | 50.3                   | 45.0                       | 1.8              | 8.29 |
|                          |                     | 70                     | 48.9                   | 42.6                       | 2.0              | 7.04 |
|                          |                     | 80                     | 47.4                   | 40.3                       | 2.3              | 6.02 |
|                          | 4.6                 | 60                     | 52.6                   | 47.5                       | 1.8              | 8.53 |
|                          |                     | 70                     | 50.9                   | 45.0                       | 2.1              | 7.23 |
|                          |                     | 80                     | 49.3                   | 42.5                       | 2.3              | 6.16 |
|                          | 7.6                 | 60                     | 51.7                   | 48.4                       | 1.8              | 8.40 |
|                          |                     | 70                     | 52.0                   | 44.7                       | 2.1              | 7.26 |
|                          |                     | 80                     | 50.3                   | 42.8                       | 2.4              | 6.19 |

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Bosch Thermotechnology Corp.  
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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM060 VT Full Load Cooling Performance Data - 1950 CFM**

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 7.5              | 2.7                 | 75/63                        | 66.3                   | 50.7                      | 73.8                      | 2.6              | 25.4 |
|                          |                  |                     | 80/67                        | 70.6                   | 52.2                      | 78.3                      | 2.7              | 26.5 |
|                          |                  |                     | 85/71                        | 75.1                   | 53.5                      | 83.0                      | 2.7              | 27.6 |
|                          | 11.25            | 5.7                 | 75/63                        | 68.0                   | 51.3                      | 75.1                      | 2.5              | 27.2 |
|                          |                  |                     | 80/67                        | 72.5                   | 52.7                      | 79.8                      | 2.5              | 28.5 |
|                          |                  |                     | 85/71                        | 77.1                   | 54.2                      | 84.7                      | 2.6              | 29.7 |
|                          | 15               | 9.6                 | 75/63                        | 68.7                   | 51.6                      | 75.8                      | 2.5              | 27.6 |
|                          |                  |                     | 80/67                        | 73.3                   | 53.3                      | 80.6                      | 2.5              | 29.0 |
|                          |                  |                     | 85/71                        | 78.5                   | 54.3                      | 85.9                      | 2.6              | 30.5 |
| 60                       | 7.5              | 2.7                 | 75/63                        | 63.7                   | 49.6                      | 72.0                      | 2.9              | 22.3 |
|                          |                  |                     | 80/67                        | 67.8                   | 51.0                      | 76.3                      | 2.9              | 23.4 |
|                          |                  |                     | 85/71                        | 72.0                   | 52.9                      | 80.8                      | 2.9              | 24.4 |
|                          | 11.25            | 5.5                 | 75/63                        | 65.1                   | 50.5                      | 73.1                      | 2.7              | 23.9 |
|                          |                  |                     | 80/67                        | 69.7                   | 51.8                      | 77.8                      | 2.8              | 25.2 |
|                          |                  |                     | 85/71                        | 74.3                   | 52.9                      | 82.5                      | 2.8              | 26.4 |
|                          | 15               | 9.2                 | 75/63                        | 66.1                   | 50.5                      | 73.9                      | 2.7              | 24.4 |
|                          |                  |                     | 80/67                        | 70.6                   | 52.1                      | 78.6                      | 2.7              | 25.7 |
|                          |                  |                     | 85/71                        | 75.3                   | 53.2                      | 83.4                      | 2.8              | 27.0 |
| 70                       | 7.5              | 2.6                 | 75/63                        | 60.6                   | 48.4                      | 70.0                      | 3.2              | 19.1 |
|                          |                  |                     | 80/67                        | 64.7                   | 49.9                      | 74.3                      | 3.2              | 20.1 |
|                          |                  |                     | 85/71                        | 68.8                   | 51.2                      | 78.6                      | 3.3              | 21.1 |
|                          | 11.25            | 5.3                 | 75/63                        | 62.3                   | 48.7                      | 71.2                      | 3.0              | 20.5 |
|                          |                  |                     | 80/67                        | 66.4                   | 50.4                      | 75.5                      | 3.1              | 21.6 |
|                          |                  |                     | 85/71                        | 70.8                   | 51.6                      | 80.0                      | 3.1              | 22.8 |
|                          | 15               | 9.0                 | 75/63                        | 63.0                   | 49.0                      | 71.8                      | 3.0              | 20.9 |
|                          |                  |                     | 80/67                        | 67.3                   | 50.5                      | 76.2                      | 3.0              | 22.1 |
|                          |                  |                     | 85/71                        | 71.7                   | 52.2                      | 80.8                      | 3.1              | 23.4 |
| 80                       | 7.5              | 2.5                 | 75/63                        | 58.0                   | 47.2                      | 68.4                      | 3.5              | 16.5 |
|                          |                  |                     | 80/67                        | 61.8                   | 48.6                      | 72.4                      | 3.5              | 17.4 |
|                          |                  |                     | 85/71                        | 65.8                   | 49.9                      | 76.6                      | 3.6              | 18.3 |
|                          | 11.25            | 5.2                 | 75/63                        | 59.3                   | 47.8                      | 69.3                      | 3.4              | 17.7 |
|                          |                  |                     | 80/67                        | 63.3                   | 49.3                      | 73.5                      | 3.4              | 18.7 |
|                          |                  |                     | 85/71                        | 67.6                   | 50.8                      | 77.9                      | 3.4              | 19.8 |
|                          | 15               | 8.7                 | 75/63                        | 60.0                   | 47.7                      | 69.9                      | 3.3              | 18.0 |
|                          |                  |                     | 80/67                        | 64.0                   | 49.8                      | 74.1                      | 3.3              | 19.2 |
|                          |                  |                     | 85/71                        | 68.5                   | 51.1                      | 78.6                      | 3.4              | 20.3 |
| 90                       | 7.5              | 2.4                 | 75/63                        | 55.1                   | 46.0                      | 67.0                      | 3.9              | 14.0 |
|                          |                  |                     | 80/67                        | 58.8                   | 47.4                      | 70.8                      | 4.0              | 14.8 |
|                          |                  |                     | 85/71                        | 62.6                   | 49.2                      | 74.9                      | 4.0              | 15.6 |
|                          | 11.25            | 5.0                 | 75/63                        | 56.3                   | 46.8                      | 67.7                      | 3.8              | 15.0 |
|                          |                  |                     | 80/67                        | 60.3                   | 48.2                      | 71.8                      | 3.8              | 15.9 |
|                          |                  |                     | 85/71                        | 64.4                   | 49.5                      | 75.9                      | 3.8              | 16.8 |
|                          | 15               | 8.5                 | 75/63                        | 56.9                   | 46.6                      | 68.2                      | 3.7              | 15.2 |
|                          |                  |                     | 80/67                        | 61.0                   | 48.5                      | 72.3                      | 3.7              | 16.3 |
|                          |                  |                     | 85/71                        | 65.2                   | 49.6                      | 76.6                      | 3.8              | 17.3 |
| 100                      | 7.5              | 2.4                 | 75/63                        | 52.1                   | 44.8                      | 65.5                      | 4.4              | 11.9 |
|                          |                  |                     | 80/67                        | 55.7                   | 46.4                      | 69.3                      | 4.4              | 12.6 |
|                          |                  |                     | 85/71                        | 58.5                   | 49.6                      | 72.6                      | 4.4              | 13.2 |
|                          | 11.25            | 4.9                 | 75/63                        | 53.1                   | 45.7                      | 66.0                      | 4.2              | 12.6 |
|                          |                  |                     | 80/67                        | 57.2                   | 46.6                      | 70.1                      | 4.2              | 13.5 |
|                          |                  |                     | 85/71                        | 60.8                   | 48.6                      | 73.9                      | 4.2              | 14.3 |
|                          | 15               | 8.2                 | 75/63                        | 53.5                   | 46.4                      | 66.3                      | 4.1              | 12.9 |
|                          |                  |                     | 80/67                        | 57.0                   | 48.6                      | 70.1                      | 4.2              | 13.7 |
|                          |                  |                     | 85/71                        | 60.8                   | 50.6                      | 74.0                      | 4.2              | 14.6 |
| 110                      | 7.5              | 2.3                 | 75/63                        | 49.0                   | 43.7                      | 64.1                      | 4.9              | 10.1 |
|                          |                  |                     | 80/67                        | 50.2                   | 46.2                      | 66.2                      | 4.9              | 10.3 |
|                          |                  |                     | 85/71                        | 53.2                   | 48.0                      | 69.6                      | 4.9              | 10.8 |
|                          | 11.25            | 4.8                 | 75/63                        | 49.7                   | 44.9                      | 64.4                      | 4.7              | 10.6 |
|                          |                  |                     | 80/67                        | 51.4                   | 46.6                      | 66.8                      | 4.7              | 10.9 |
|                          |                  |                     | 85/71                        | 60.2                   | 37.6                      | 73.1                      | 4.8              | 12.5 |
|                          | 15               | 8.0                 | 75/63                        | 49.0                   | 44.9                      | 63.9                      | 4.6              | 10.5 |
|                          |                  |                     | 80/67                        | 52.0                   | 46.8                      | 67.3                      | 4.6              | 11.2 |
|                          |                  |                     | 85/71                        | 55.0                   | 48.6                      | 70.6                      | 4.6              | 11.8 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM060 VT Full Load Heating Performance Data - 1950 CFM**

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 20                       | 3.3                 | 60                     | 39.1                   | 30.7                       | 2.8              | 4.14 |
|                          |                     | 70                     | 38.2                   | 28.2                       | 3.1              | 3.63 |
|                          |                     | 80                     | 38.7                   | 27.4                       | 3.5              | 3.28 |
|                          | 6.7                 | 60                     | 42.4                   | 33.0                       | 2.9              | 4.34 |
|                          |                     | 70                     | 41.6                   | 31.3                       | 3.2              | 3.82 |
|                          |                     | 80                     | 40.7                   | 29.6                       | 3.5              | 3.36 |
|                          | 11.1                | 60                     | 43.5                   | 34.1                       | 2.9              | 4.33 |
|                          |                     | 70                     | 42.5                   | 32.1                       | 3.3              | 3.81 |
|                          |                     | 80                     | 41.6                   | 30.0                       | 3.6              | 3.37 |
| 30                       | 3.1                 | 60                     | 45.1                   | 36.1                       | 2.9              | 4.58 |
|                          |                     | 70                     | 44.4                   | 33.7                       | 3.2              | 4.05 |
|                          |                     | 80                     | 43.7                   | 32.0                       | 3.6              | 3.58 |
|                          | 6.4                 | 60                     | 46.5                   | 37.0                       | 2.9              | 4.63 |
|                          |                     | 70                     | 47.3                   | 36.9                       | 3.3              | 4.18 |
|                          |                     | 80                     | 47.0                   | 34.8                       | 3.7              | 3.75 |
|                          | 10.6                | 60                     | 50.1                   | 40.2                       | 3.1              | 4.78 |
|                          |                     | 70                     | 49.0                   | 38.4                       | 3.4              | 4.22 |
|                          |                     | 80                     | 48.0                   | 36.0                       | 3.8              | 3.75 |
| 40                       | 3.0                 | 60                     | 51.9                   | 42.1                       | 3.0              | 5.03 |
|                          |                     | 70                     | 50.7                   | 40.1                       | 3.4              | 4.43 |
|                          |                     | 80                     | 49.8                   | 38.1                       | 3.7              | 3.93 |
|                          | 6.2                 | 60                     | 54.1                   | 44.3                       | 3.1              | 5.11 |
|                          |                     | 70                     | 53.0                   | 42.4                       | 3.4              | 4.53 |
|                          |                     | 80                     | 51.4                   | 39.6                       | 3.8              | 3.98 |
|                          | 10.2                | 60                     | 56.5                   | 46.5                       | 3.2              | 5.19 |
|                          |                     | 70                     | 55.9                   | 43.5                       | 3.5              | 4.64 |
|                          |                     | 80                     | 55.2                   | 42.3                       | 3.9              | 4.14 |
| 50                       | 2.9                 | 60                     | 60.6                   | 50.4                       | 3.2              | 5.47 |
|                          |                     | 70                     | 59.5                   | 48.2                       | 3.6              | 4.86 |
|                          |                     | 80                     | 58.4                   | 45.7                       | 4.0              | 4.31 |
|                          | 5.9                 | 60                     | 63.7                   | 53.3                       | 3.3              | 5.59 |
|                          |                     | 70                     | 62.3                   | 50.8                       | 3.7              | 4.96 |
|                          |                     | 80                     | 61.0                   | 48.4                       | 4.1              | 4.40 |
|                          | 9.8                 | 60                     | 65.5                   | 55.0                       | 3.4              | 5.61 |
|                          |                     | 70                     | 63.8                   | 52.6                       | 3.8              | 4.96 |
|                          |                     | 80                     | 62.6                   | 49.5                       | 4.1              | 4.43 |
| 60                       | 2.8                 | 60                     | 68.2                   | 57.2                       | 3.5              | 5.77 |
|                          |                     | 70                     | 66.9                   | 54.9                       | 3.8              | 5.13 |
|                          |                     | 80                     | 65.8                   | 52.2                       | 4.2              | 4.57 |
|                          | 5.7                 | 60                     | 71.9                   | 60.7                       | 3.6              | 5.91 |
|                          |                     | 70                     | 70.4                   | 58.0                       | 3.9              | 5.25 |
|                          |                     | 80                     | 68.9                   | 55.3                       | 4.3              | 4.67 |
|                          | 9.5                 | 60                     | 73.8                   | 62.9                       | 3.7              | 5.91 |
|                          |                     | 70                     | 72.2                   | 60.0                       | 4.0              | 5.27 |
|                          |                     | 80                     | 70.7                   | 56.7                       | 4.4              | 4.69 |
| 70                       | 2.7                 | 60                     | 76.6                   | 65.1                       | 3.6              | 6.17 |
|                          |                     | 70                     | 75.1                   | 62.5                       | 4.0              | 5.50 |
|                          |                     | 80                     | 73.8                   | 59.8                       | 4.4              | 4.89 |
|                          | 5.6                 | 60                     | 81.1                   | 69.2                       | 3.8              | 6.32 |
|                          |                     | 70                     | 79.3                   | 66.2                       | 4.1              | 5.63 |
|                          |                     | 80                     | 77.6                   | 63.2                       | 4.5              | 5.01 |
|                          | 9.2                 | 60                     | 83.4                   | 71.6                       | 3.9              | 6.33 |
|                          |                     | 70                     | 81.4                   | 68.5                       | 4.2              | 5.64 |
|                          |                     | 80                     | 79.4                   | 65.3                       | 4.6              | 5.02 |
| 80                       | 2.7                 | 60                     | 85.3                   | 73.2                       | 3.8              | 6.53 |
|                          |                     | 70                     | 83.7                   | 70.3                       | 4.2              | 5.83 |
|                          |                     | 80                     | 82.1                   | 67.4                       | 4.6              | 5.19 |
|                          | 5.4                 | 60                     | 90.7                   | 78.1                       | 4.0              | 6.69 |
|                          |                     | 70                     | 88.6                   | 74.7                       | 4.4              | 5.96 |
|                          |                     | 80                     | 86.6                   | 71.4                       | 4.8              | 5.31 |
|                          | 8.9                 | 60                     | 93.3                   | 80.7                       | 4.1              | 6.69 |
|                          |                     | 70                     | 91.0                   | 77.2                       | 4.5              | 5.97 |
|                          |                     | 80                     | 88.7                   | 73.6                       | 4.9              | 5.32 |

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Bosch Thermotechnology Corp.  
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM060 VT Part Load Cooling Performance Data - 1550 CFM

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 7.5              | 2.8                 | 75/63                        | 50.5                   | 39.3                      | 54.4                      | 1.5              | 34.0 |
|                          |                  |                     | 80/67                        | 53.7                   | 40.7                      | 57.6                      | 1.5              | 36.8 |
|                          |                  |                     | 85/71                        | 57.3                   | 41.6                      | 61.1                      | 1.4              | 40.1 |
|                          | 11.25            | 5.7                 | 75/63                        | 51.7                   | 40.0                      | 55.4                      | 1.4              | 36.5 |
|                          |                  |                     | 80/67                        | 55.2                   | 41.1                      | 58.9                      | 1.4              | 40.0 |
|                          |                  |                     | 85/71                        | 58.9                   | 42.3                      | 62.4                      | 1.3              | 43.8 |
|                          | 15               | 9.6                 | 75/63                        | 52.3                   | 40.2                      | 56.1                      | 1.4              | 36.9 |
|                          |                  |                     | 80/67                        | 56.0                   | 41.4                      | 59.7                      | 1.4              | 40.6 |
|                          |                  |                     | 85/71                        | 59.7                   | 42.6                      | 63.2                      | 1.3              | 44.5 |
| 60                       | 7.5              | 2.7                 | 75/63                        | 47.7                   | 38.1                      | 52.4                      | 1.7              | 27.9 |
|                          |                  |                     | 80/67                        | 51.0                   | 39.6                      | 55.7                      | 1.7              | 30.4 |
|                          |                  |                     | 85/71                        | 54.5                   | 40.6                      | 59.0                      | 1.7              | 33.0 |
|                          | 11.25            | 5.5                 | 75/63                        | 48.9                   | 38.8                      | 53.3                      | 1.6              | 30.0 |
|                          |                  |                     | 80/67                        | 52.3                   | 40.1                      | 56.7                      | 1.6              | 32.8 |
|                          |                  |                     | 85/71                        | 55.9                   | 41.2                      | 60.2                      | 1.6              | 35.8 |
|                          | 15               | 9.3                 | 75/63                        | 49.6                   | 39.1                      | 54.0                      | 1.6              | 30.5 |
|                          |                  |                     | 80/67                        | 53.0                   | 40.3                      | 57.4                      | 1.6              | 33.3 |
|                          |                  |                     | 85/71                        | 56.8                   | 41.4                      | 61.0                      | 1.6              | 36.6 |
| 70                       | 7.5              | 2.6                 | 75/63                        | 45.3                   | 37.2                      | 50.9                      | 2.0              | 22.8 |
|                          |                  |                     | 80/67                        | 48.6                   | 38.5                      | 54.1                      | 2.0              | 24.8 |
|                          |                  |                     | 85/71                        | 51.6                   | 40.2                      | 57.2                      | 1.9              | 26.7 |
|                          | 11.25            | 5.4                 | 75/63                        | 46.3                   | 37.8                      | 51.7                      | 1.9              | 24.3 |
|                          |                  |                     | 80/67                        | 49.7                   | 39.1                      | 55.0                      | 1.9              | 26.6 |
|                          |                  |                     | 85/71                        | 53.3                   | 40.2                      | 58.5                      | 1.8              | 29.2 |
|                          | 15               | 9.0                 | 75/63                        | 47.0                   | 38.0                      | 52.3                      | 1.9              | 24.8 |
|                          |                  |                     | 80/67                        | 50.7                   | 38.9                      | 55.8                      | 1.9              | 27.3 |
|                          |                  |                     | 85/71                        | 53.9                   | 40.6                      | 59.0                      | 1.8              | 29.7 |
| 80                       | 7.5              | 2.5                 | 75/63                        | 42.3                   | 36.1                      | 48.9                      | 2.3              | 18.6 |
|                          |                  |                     | 80/67                        | 44.8                   | 38.5                      | 51.6                      | 2.3              | 19.9 |
|                          |                  |                     | 85/71                        | 48.0                   | 40.1                      | 54.7                      | 2.2              | 21.5 |
|                          | 11.25            | 5.2                 | 75/63                        | 43.5                   | 36.4                      | 49.7                      | 2.2              | 19.9 |
|                          |                  |                     | 80/67                        | 46.8                   | 37.7                      | 52.9                      | 2.2              | 21.7 |
|                          |                  |                     | 85/71                        | 49.6                   | 40.1                      | 55.9                      | 2.1              | 23.4 |
|                          | 15               | 8.7                 | 75/63                        | 43.9                   | 36.8                      | 50.2                      | 2.2              | 20.1 |
|                          |                  |                     | 80/67                        | 47.3                   | 38.0                      | 53.4                      | 2.1              | 22.1 |
|                          |                  |                     | 85/71                        | 50.6                   | 39.9                      | 56.7                      | 2.1              | 24.1 |
| 90                       | 7.5              | 2.5                 | 75/63                        | 40.4                   | 36.0                      | 49.2                      | 2.9              | 13.8 |
|                          |                  |                     | 80/67                        | 45.5                   | 33.1                      | 53.4                      | 2.9              | 15.7 |
|                          |                  |                     | 85/71                        | 43.9                   | 38.7                      | 53.7                      | 2.9              | 15.2 |
|                          | 11.25            | 5.1                 | 75/63                        | 41.7                   | 35.9                      | 50.1                      | 2.8              | 14.8 |
|                          |                  |                     | 80/67                        | 44.4                   | 38.3                      | 52.9                      | 2.8              | 15.9 |
|                          |                  |                     | 85/71                        | 47.6                   | 40.0                      | 56.1                      | 2.7              | 17.3 |
|                          | 15               | 8.5                 | 75/63                        | 42.1                   | 36.3                      | 50.4                      | 2.8              | 15.0 |
|                          |                  |                     | 80/67                        | 45.6                   | 37.5                      | 53.9                      | 2.8              | 16.6 |
|                          |                  |                     | 85/71                        | 48.6                   | 39.8                      | 56.9                      | 2.7              | 17.9 |
| 100                      | 7.5              | 2.4                 | 75/63                        | 36.6                   | 34.8                      | 47.0                      | 3.3              | 11.0 |
|                          |                  |                     | 80/67                        | 42.6                   | 31.2                      | 51.7                      | 3.3              | 12.9 |
|                          |                  |                     | 85/71                        | 41.2                   | 37.8                      | 52.3                      | 3.3              | 12.5 |
|                          | 11.25            | 4.9                 | 75/63                        | 37.3                   | 35.0                      | 47.4                      | 3.2              | 11.6 |
|                          |                  |                     | 80/67                        | 40.1                   | 36.8                      | 50.4                      | 3.2              | 12.5 |
|                          |                  |                     | 85/71                        | 42.1                   | 38.1                      | 52.8                      | 3.2              | 13.3 |
|                          | 15               | 8.2                 | 75/63                        | 37.6                   | 35.2                      | 47.7                      | 3.2              | 11.7 |
|                          |                  |                     | 80/67                        | 43.7                   | 31.0                      | 52.5                      | 3.2              | 13.5 |
|                          |                  |                     | 85/71                        | 42.8                   | 38.3                      | 53.3                      | 3.1              | 13.6 |
| 110                      | 7.5              | 2.3                 | 75/63                        | 35.7                   | 31.5                      | 46.7                      | 3.8              | 9.5  |
|                          |                  |                     | 80/67                        | 36.6                   | 35.5                      | 48.6                      | 3.8              | 9.8  |
|                          |                  |                     | 85/71                        | 42.4                   | 31.4                      | 52.9                      | 3.7              | 11.4 |
|                          | 11.25            | 4.8                 | 75/63                        | 34.8                   | 34.1                      | 46.3                      | 3.7              | 9.5  |
|                          |                  |                     | 80/67                        | 39.9                   | 31.4                      | 50.4                      | 3.6              | 11.0 |
|                          |                  |                     | 85/71                        | 43.5                   | 31.0                      | 53.5                      | 3.6              | 12.1 |
|                          | 15               | 8.0                 | 75/63                        | 35.1                   | 34.2                      | 46.6                      | 3.6              | 9.6  |
|                          |                  |                     | 80/67                        | 37.6                   | 35.9                      | 49.3                      | 3.6              | 10.4 |
|                          |                  |                     | 85/71                        | 40.1                   | 37.4                      | 52.1                      | 3.6              | 11.2 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM060 VT Part Load Heating Performance Data - 1550 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 20                       | 3.3                 | 60                     | 29.1                   | 22.4                       | 2.1              | 4.08 |
|                          |                     | 70                     | 27.8                   | 20.4                       | 2.3              | 3.46 |
|                          |                     | 80                     | 26.5                   | 18.2                       | 2.6              | 2.94 |
|                          | 6.7                 | 60                     | 30.1                   | 23.5                       | 2.1              | 4.14 |
|                          |                     | 70                     | 28.7                   | 21.2                       | 2.4              | 3.51 |
|                          |                     | 80                     | 27.3                   | 19.0                       | 2.7              | 2.99 |
|                          | 11.1                | 60                     | 30.7                   | 24.0                       | 2.2              | 4.09 |
|                          |                     | 70                     | 29.2                   | 21.7                       | 2.5              | 3.49 |
|                          |                     | 80                     | 27.7                   | 19.3                       | 2.7              | 2.97 |
| 30                       | 3.1                 | 60                     | 33.2                   | 26.5                       | 2.1              | 4.58 |
|                          |                     | 70                     | 32.0                   | 24.6                       | 2.4              | 3.92 |
|                          |                     | 80                     | 31.0                   | 22.6                       | 2.7              | 3.37 |
|                          | 6.4                 | 60                     | 34.9                   | 28.4                       | 2.2              | 4.72 |
|                          |                     | 70                     | 33.4                   | 26.0                       | 2.4              | 4.02 |
|                          |                     | 80                     | 32.0                   | 23.6                       | 2.7              | 3.43 |
|                          | 10.6                | 60                     | 35.7                   | 29.1                       | 2.2              | 4.68 |
|                          |                     | 70                     | 34.1                   | 26.6                       | 2.5              | 3.99 |
|                          |                     | 80                     | 32.6                   | 24.2                       | 2.8              | 3.41 |
| 40                       | 3.0                 | 60                     | 37.7                   | 30.7                       | 2.2              | 5.10 |
|                          |                     | 70                     | 36.4                   | 30.9                       | 2.4              | 4.36 |
|                          |                     | 80                     | 35.6                   | 26.6                       | 2.7              | 3.79 |
|                          | 6.1                 | 60                     | 40.0                   | 33.1                       | 2.2              | 5.30 |
|                          |                     | 70                     | 38.8                   | 31.1                       | 2.5              | 4.55 |
|                          |                     | 80                     | 37.3                   | 28.7                       | 2.8              | 3.90 |
|                          | 10.2                | 60                     | 41.2                   | 34.5                       | 2.3              | 5.31 |
|                          |                     | 70                     | 39.6                   | 31.9                       | 2.6              | 4.54 |
|                          |                     | 80                     | 38.0                   | 29.4                       | 2.9              | 3.89 |
| 50                       | 2.9                 | 60                     | 43.7                   | 36.8                       | 2.2              | 5.75 |
|                          |                     | 70                     | 42.1                   | 34.3                       | 2.5              | 4.91 |
|                          |                     | 80                     | 40.5                   | 31.8                       | 2.8              | 4.21 |
|                          | 5.9                 | 60                     | 45.4                   | 37.4                       | 2.3              | 5.87 |
|                          |                     | 70                     | 44.7                   | 37.7                       | 2.6              | 5.11 |
|                          |                     | 80                     | 43.5                   | 34.2                       | 2.9              | 4.43 |
|                          | 9.8                 | 60                     | 47.6                   | 40.3                       | 2.3              | 5.98 |
|                          |                     | 70                     | 46.1                   | 37.9                       | 2.6              | 5.15 |
|                          |                     | 80                     | 44.5                   | 35.2                       | 2.9              | 4.44 |
| 60                       | 2.8                 | 60                     | 50.8                   | 43.5                       | 2.4              | 6.33 |
|                          |                     | 70                     | 49.2                   | 40.7                       | 2.6              | 5.45 |
|                          |                     | 80                     | 47.6                   | 38.0                       | 3.0              | 4.69 |
|                          | 5.7                 | 60                     | 52.9                   | 45.8                       | 2.4              | 6.48 |
|                          |                     | 70                     | 51.1                   | 42.3                       | 2.7              | 5.56 |
|                          |                     | 80                     | 49.4                   | 40.6                       | 3.0              | 4.78 |
|                          | 9.5                 | 60                     | 53.7                   | 46.4                       | 2.4              | 6.43 |
|                          |                     | 70                     | 52.9                   | 43.9                       | 2.8              | 5.63 |
|                          |                     | 80                     | 51.9                   | 42.0                       | 3.1              | 4.92 |
| 70                       | 2.7                 | 60                     | 57.3                   | 49.7                       | 2.4              | 7.01 |
|                          |                     | 70                     | 55.5                   | 46.9                       | 2.7              | 6.02 |
|                          |                     | 80                     | 53.8                   | 44.1                       | 3.0              | 5.19 |
|                          | 5.5                 | 60                     | 59.8                   | 52.4                       | 2.4              | 7.19 |
|                          |                     | 70                     | 57.7                   | 49.4                       | 2.7              | 6.16 |
|                          |                     | 80                     | 55.7                   | 46.5                       | 3.1              | 5.29 |
|                          | 9.2                 | 60                     | 61.2                   | 53.1                       | 2.5              | 7.20 |
|                          |                     | 70                     | 58.9                   | 49.9                       | 2.8              | 6.16 |
|                          |                     | 80                     | 57.6                   | 48.4                       | 3.2              | 5.36 |
| 80                       | 2.6                 | 60                     | 63.9                   | 56.3                       | 2.4              | 7.70 |
|                          |                     | 70                     | 62.1                   | 53.4                       | 2.8              | 6.61 |
|                          |                     | 80                     | 60.2                   | 50.4                       | 3.1              | 5.69 |
|                          | 5.4                 | 60                     | 66.9                   | 59.4                       | 2.5              | 7.92 |
|                          |                     | 70                     | 64.7                   | 56.2                       | 2.8              | 6.78 |
|                          |                     | 80                     | 62.6                   | 53.0                       | 3.1              | 5.83 |
|                          | 8.9                 | 60                     | 68.4                   | 61.1                       | 2.5              | 7.92 |
|                          |                     | 70                     | 66.1                   | 57.1                       | 2.9              | 6.80 |
|                          |                     | 80                     | 63.7                   | 54.1                       | 3.2              | 5.83 |

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Bosch Thermotechnology Corp.  
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL

# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM070 VT Full Load Cooling Performance Data - 2250 CFM**

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 9                | 3.8                 | 75/63                        | 74.5                   | 57.4                      | 83.7                      | 3.2              | 23.4 |
|                          |                  |                     | 80/67                        | 79.3                   | 59.2                      | 88.7                      | 3.2              | 24.5 |
|                          |                  |                     | 85/71                        | 84.3                   | 60.6                      | 94.0                      | 3.3              | 25.6 |
|                          | 13.5             | 7.9                 | 75/63                        | 76.3                   | 58.1                      | 85.0                      | 3.0              | 25.1 |
|                          |                  |                     | 80/67                        | 81.3                   | 59.9                      | 90.2                      | 3.1              | 26.4 |
|                          |                  |                     | 85/71                        | 86.6                   | 61.4                      | 95.7                      | 3.1              | 27.7 |
|                          | 18               | 13.2                | 75/63                        | 77.1                   | 58.5                      | 85.8                      | 3.0              | 25.5 |
|                          |                  |                     | 80/67                        | 82.2                   | 60.4                      | 91.1                      | 3.1              | 26.9 |
|                          |                  |                     | 85/71                        | 87.7                   | 61.9                      | 96.7                      | 3.1              | 28.3 |
| 60                       | 9                | 3.7                 | 75/63                        | 71.6                   | 56.4                      | 81.9                      | 3.5              | 20.4 |
|                          |                  |                     | 80/67                        | 76.2                   | 58.2                      | 86.8                      | 3.6              | 21.4 |
|                          |                  |                     | 85/71                        | 81.0                   | 59.8                      | 91.8                      | 3.6              | 22.4 |
|                          | 13.5             | 7.6                 | 75/63                        | 73.3                   | 57.0                      | 83.1                      | 3.4              | 21.8 |
|                          |                  |                     | 80/67                        | 78.1                   | 58.9                      | 88.1                      | 3.4              | 23.0 |
|                          |                  |                     | 85/71                        | 83.2                   | 60.5                      | 93.4                      | 3.4              | 24.2 |
|                          | 18               | 12.8                | 75/63                        | 74.1                   | 57.4                      | 83.9                      | 3.3              | 22.2 |
|                          |                  |                     | 80/67                        | 79.1                   | 59.2                      | 89.0                      | 3.4              | 23.4 |
|                          |                  |                     | 85/71                        | 84.4                   | 60.6                      | 94.4                      | 3.4              | 24.7 |
| 70                       | 9                | 3.6                 | 75/63                        | 67.6                   | 54.5                      | 77.9                      | 3.5              | 19.1 |
|                          |                  |                     | 80/67                        | 71.9                   | 56.4                      | 82.4                      | 3.6              | 20.1 |
|                          |                  |                     | 85/71                        | 76.4                   | 58.1                      | 87.2                      | 3.6              | 21.1 |
|                          | 13.5             | 7.4                 | 75/63                        | 69.1                   | 55.1                      | 79.0                      | 3.4              | 20.3 |
|                          |                  |                     | 80/67                        | 73.7                   | 56.8                      | 83.8                      | 3.4              | 21.5 |
|                          |                  |                     | 85/71                        | 78.6                   | 58.5                      | 88.7                      | 3.5              | 22.7 |
|                          | 18               | 12.4                | 75/63                        | 69.8                   | 55.6                      | 79.7                      | 3.4              | 20.6 |
|                          |                  |                     | 80/67                        | 74.5                   | 57.4                      | 84.5                      | 3.4              | 21.8 |
|                          |                  |                     | 85/71                        | 79.4                   | 59.2                      | 89.6                      | 3.4              | 23.1 |
| 80                       | 9                | 3.5                 | 75/63                        | 64.5                   | 53.2                      | 76.1                      | 3.9              | 16.5 |
|                          |                  |                     | 80/67                        | 68.7                   | 55.2                      | 80.4                      | 3.9              | 17.4 |
|                          |                  |                     | 85/71                        | 73.1                   | 56.6                      | 85.0                      | 4.0              | 18.4 |
|                          | 13.5             | 7.2                 | 75/63                        | 66.0                   | 53.8                      | 77.1                      | 3.8              | 17.5 |
|                          |                  |                     | 80/67                        | 70.4                   | 55.6                      | 81.7                      | 3.8              | 18.6 |
|                          |                  |                     | 85/71                        | 75.1                   | 57.2                      | 86.4                      | 3.8              | 19.7 |
|                          | 18               | 12.0                | 75/63                        | 66.6                   | 54.4                      | 77.7                      | 3.7              | 17.8 |
|                          |                  |                     | 80/67                        | 71.1                   | 56.1                      | 82.3                      | 3.8              | 18.9 |
|                          |                  |                     | 85/71                        | 75.8                   | 57.9                      | 87.2                      | 3.8              | 20.0 |
| 90                       | 9                | 3.4                 | 75/63                        | 61.1                   | 52.0                      | 75.2                      | 4.7              | 13.1 |
|                          |                  |                     | 80/67                        | 64.9                   | 54.4                      | 79.3                      | 4.7              | 13.8 |
|                          |                  |                     | 85/71                        | 69.9                   | 54.2                      | 84.2                      | 4.8              | 14.7 |
|                          | 13.5             | 7.0                 | 75/63                        | 62.8                   | 51.9                      | 76.3                      | 4.5              | 14.0 |
|                          |                  |                     | 80/67                        | 66.9                   | 54.3                      | 80.6                      | 4.5              | 14.8 |
|                          |                  |                     | 85/71                        | 71.1                   | 56.6                      | 85.0                      | 4.5              | 15.7 |
|                          | 18               | 11.7                | 75/63                        | 63.2                   | 53.2                      | 76.7                      | 4.5              | 14.1 |
|                          |                  |                     | 80/67                        | 67.6                   | 54.5                      | 81.2                      | 4.5              | 15.0 |
|                          |                  |                     | 85/71                        | 72.1                   | 56.4                      | 85.8                      | 4.5              | 16.0 |
| 100                      | 9                | 3.3                 | 75/63                        | 55.8                   | 51.5                      | 72.4                      | 5.2              | 10.8 |
|                          |                  |                     | 80/67                        | 61.7                   | 52.6                      | 77.8                      | 5.2              | 11.8 |
|                          |                  |                     | 85/71                        | 65.8                   | 54.0                      | 82.0                      | 5.3              | 12.5 |
|                          | 13.5             | 6.8                 | 75/63                        | 59.1                   | 51.2                      | 74.4                      | 5.0              | 11.8 |
|                          |                  |                     | 80/67                        | 63.2                   | 52.8                      | 78.7                      | 5.0              | 12.6 |
|                          |                  |                     | 85/71                        | 67.2                   | 55.4                      | 82.8                      | 5.0              | 13.3 |
|                          | 18               | 11.4                | 75/63                        | 59.6                   | 51.6                      | 74.9                      | 5.0              | 11.9 |
|                          |                  |                     | 80/67                        | 63.9                   | 53.0                      | 79.2                      | 5.0              | 12.7 |
|                          |                  |                     | 85/71                        | 68.0                   | 55.4                      | 83.5                      | 5.0              | 13.6 |
| 110                      | 9                | 3.2                 | 75/63                        | 56.0                   | 45.1                      | 73.1                      | 5.8              | 9.6  |
|                          |                  |                     | 80/67                        | 55.8                   | 52.5                      | 74.9                      | 5.8              | 9.6  |
|                          |                  |                     | 85/71                        | 58.6                   | 54.5                      | 78.3                      | 5.8              | 10.0 |
|                          | 13.5             | 6.6                 | 75/63                        | 53.7                   | 50.7                      | 71.7                      | 5.6              | 9.6  |
|                          |                  |                     | 80/67                        | 61.4                   | 44.8                      | 77.7                      | 5.7              | 10.7 |
|                          |                  |                     | 85/71                        | 60.6                   | 55.1                      | 79.3                      | 5.6              | 10.8 |
|                          | 18               | 11.1                | 75/63                        | 54.0                   | 50.8                      | 72.0                      | 5.5              | 9.7  |
|                          |                  |                     | 80/67                        | 57.5                   | 53.1                      | 75.8                      | 5.5              | 10.4 |
|                          |                  |                     | 85/71                        | 66.7                   | 44.4                      | 82.4                      | 5.7              | 11.7 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM070 VT Full Load Heating Performance Data - 2250 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 20                       | 4.5                 | 60                     | 46.8                   | 35.4                       | 3.5              | 3.91 |
|                          |                     | 70                     | 46.3                   | 33.6                       | 3.9              | 3.47 |
|                          |                     | 80                     | 45.7                   | 31.5                       | 4.4              | 3.07 |
|                          | 9.2                 | 60                     | 48.5                   | 37.0                       | 3.6              | 3.96 |
|                          |                     | 70                     | 47.9                   | 35.0                       | 4.0              | 3.50 |
|                          |                     | 80                     | 47.3                   | 33.0                       | 4.5              | 3.11 |
|                          | 15.3                | 60                     | 49.5                   | 37.9                       | 3.7              | 3.91 |
|                          |                     | 70                     | 48.8                   | 35.8                       | 4.1              | 3.47 |
|                          |                     | 80                     | 48.1                   | 33.8                       | 4.6              | 3.09 |
| 30                       | 4.3                 | 60                     | 53.4                   | 41.8                       | 3.7              | 4.28 |
|                          |                     | 70                     | 52.7                   | 39.4                       | 4.1              | 3.79 |
|                          |                     | 80                     | 52.3                   | 37.6                       | 4.5              | 3.39 |
|                          | 8.8                 | 60                     | 55.7                   | 43.7                       | 3.8              | 4.34 |
|                          |                     | 70                     | 54.7                   | 41.2                       | 4.2              | 3.85 |
|                          |                     | 80                     | 54.3                   | 39.3                       | 4.6              | 3.44 |
|                          | 14.7                | 60                     | 57.0                   | 44.9                       | 3.9              | 4.31 |
|                          |                     | 70                     | 56.1                   | 42.6                       | 4.3              | 3.83 |
|                          |                     | 80                     | 55.3                   | 40.3                       | 4.7              | 3.42 |
| 40                       | 4.2                 | 60                     | 61.0                   | 48.8                       | 3.8              | 4.68 |
|                          |                     | 70                     | 60.2                   | 46.4                       | 4.2              | 4.16 |
|                          |                     | 80                     | 59.4                   | 43.9                       | 4.7              | 3.70 |
|                          | 8.5                 | 60                     | 63.9                   | 51.3                       | 3.9              | 4.77 |
|                          |                     | 70                     | 63.0                   | 49.1                       | 4.4              | 4.24 |
|                          |                     | 80                     | 61.8                   | 46.0                       | 4.8              | 3.76 |
|                          | 14.1                | 60                     | 65.6                   | 52.8                       | 4.1              | 4.74 |
|                          |                     | 70                     | 64.4                   | 50.2                       | 4.5              | 4.22 |
|                          |                     | 80                     | 63.4                   | 47.9                       | 5.0              | 3.75 |
| 50                       | 4.0                 | 60                     | 69.1                   | 56.0                       | 4.0              | 5.03 |
|                          |                     | 70                     | 68.2                   | 53.6                       | 4.5              | 4.47 |
|                          |                     | 80                     | 67.3                   | 51.1                       | 5.0              | 3.98 |
|                          | 8.2                 | 60                     | 72.8                   | 59.6                       | 4.2              | 5.14 |
|                          |                     | 70                     | 71.5                   | 56.4                       | 4.6              | 4.56 |
|                          |                     | 80                     | 70.4                   | 53.9                       | 5.1              | 4.06 |
|                          | 13.6                | 60                     | 74.9                   | 61.4                       | 4.3              | 5.13 |
|                          |                     | 70                     | 73.2                   | 58.0                       | 4.7              | 4.55 |
|                          |                     | 80                     | 72.1                   | 55.3                       | 5.2              | 4.05 |
| 60                       | 3.9                 | 60                     | 77.4                   | 63.5                       | 4.3              | 5.33 |
|                          |                     | 70                     | 76.2                   | 60.8                       | 4.7              | 4.74 |
|                          |                     | 80                     | 75.2                   | 58.1                       | 5.2              | 4.22 |
|                          | 7.9                 | 60                     | 81.7                   | 67.7                       | 4.4              | 5.44 |
|                          |                     | 70                     | 80.2                   | 64.7                       | 4.9              | 4.84 |
|                          |                     | 80                     | 78.8                   | 61.3                       | 5.4              | 4.30 |
|                          | 13.1                | 60                     | 84.1                   | 69.8                       | 4.5              | 5.44 |
|                          |                     | 70                     | 82.4                   | 66.6                       | 5.0              | 4.84 |
|                          |                     | 80                     | 80.6                   | 62.8                       | 5.5              | 4.30 |
| 70                       | 3.8                 | 60                     | 86.8                   | 72.2                       | 4.5              | 5.69 |
|                          |                     | 70                     | 85.4                   | 69.3                       | 4.9              | 5.07 |
|                          |                     | 80                     | 84.1                   | 66.2                       | 5.5              | 4.51 |
|                          | 7.7                 | 60                     | 91.8                   | 77.1                       | 4.6              | 5.81 |
|                          |                     | 70                     | 90.0                   | 73.7                       | 5.1              | 5.17 |
|                          |                     | 80                     | 88.3                   | 70.3                       | 5.6              | 4.60 |
|                          | 12.7                | 60                     | 94.7                   | 79.5                       | 4.8              | 5.81 |
|                          |                     | 70                     | 92.6                   | 75.9                       | 5.2              | 5.18 |
|                          |                     | 80                     | 90.7                   | 72.2                       | 5.8              | 4.61 |
| 80                       | 3.7                 | 60                     | 96.6                   | 81.5                       | 4.7              | 6.02 |
|                          |                     | 70                     | 94.9                   | 78.0                       | 5.2              | 5.37 |
|                          |                     | 80                     | 93.4                   | 74.7                       | 5.7              | 4.79 |
|                          | 7.4                 | 60                     | 102.4                  | 86.9                       | 4.9              | 6.15 |
|                          |                     | 70                     | 100.3                  | 83.1                       | 5.4              | 5.48 |
|                          |                     | 80                     | 98.2                   | 79.3                       | 5.9              | 4.89 |
|                          | 12.3                | 60                     | 105.7                  | 89.7                       | 5.0              | 6.15 |
|                          |                     | 70                     | 103.3                  | 85.6                       | 5.5              | 5.49 |
|                          |                     | 80                     | 101.0                  | 81.6                       | 6.0              | 4.90 |

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Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL



# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

**SM070 VT Part Load Cooling Performance Data - 1800 CFM**

| Entering Fluid Temp (°F) | Water Flow (GPM) | Pressure Drop (PSI) | Entering Air Temp (db/wb) °F | Total Capacity (MBTUH) | Sensible Capacity (MBTUH) | Heat of Rejection (MBTUH) | Power Input (kW) | EER  |
|--------------------------|------------------|---------------------|------------------------------|------------------------|---------------------------|---------------------------|------------------|------|
| 50                       | 9                | 3.8                 | 75/63                        | 58.3                   | 45.7                      | 63.7                      | 2.0              | 29.7 |
|                          |                  |                     | 80/67                        | 62.1                   | 47.3                      | 67.5                      | 1.9              | 32.2 |
|                          |                  |                     | 85/71                        | 66.2                   | 48.4                      | 71.4                      | 1.9              | 34.9 |
|                          | 13.5             | 7.9                 | 75/63                        | 59.6                   | 46.3                      | 64.7                      | 1.9              | 31.8 |
|                          |                  |                     | 80/67                        | 63.6                   | 47.6                      | 68.6                      | 1.8              | 34.8 |
|                          |                  |                     | 85/71                        | 67.7                   | 49.2                      | 72.6                      | 1.8              | 38.0 |
|                          | 18               | 13.2                | 75/63                        | 60.1                   | 46.7                      | 65.3                      | 1.9              | 31.8 |
|                          |                  |                     | 80/67                        | 64.3                   | 47.9                      | 69.3                      | 1.8              | 35.0 |
|                          |                  |                     | 85/71                        | 68.5                   | 49.5                      | 73.4                      | 1.8              | 38.4 |
| 60                       | 9                | 3.7                 | 75/63                        | 55.5                   | 44.9                      | 62.0                      | 2.3              | 24.5 |
|                          |                  |                     | 80/67                        | 59.3                   | 46.3                      | 65.7                      | 2.2              | 26.5 |
|                          |                  |                     | 85/71                        | 63.1                   | 47.7                      | 69.5                      | 2.2              | 28.6 |
|                          | 13.5             | 7.7                 | 75/63                        | 56.9                   | 45.1                      | 63.0                      | 2.2              | 26.2 |
|                          |                  |                     | 80/67                        | 60.7                   | 46.7                      | 66.7                      | 2.1              | 28.5 |
|                          |                  |                     | 85/71                        | 64.7                   | 48.1                      | 70.7                      | 2.1              | 31.0 |
|                          | 18               | 12.8                | 75/63                        | 57.5                   | 45.6                      | 63.6                      | 2.2              | 26.4 |
|                          |                  |                     | 80/67                        | 61.5                   | 46.8                      | 67.5                      | 2.1              | 28.8 |
|                          |                  |                     | 85/71                        | 65.6                   | 48.2                      | 71.5                      | 2.1              | 31.5 |
| 70                       | 9                | 3.6                 | 75/63                        | 52.8                   | 43.6                      | 60.3                      | 2.6              | 20.3 |
|                          |                  |                     | 80/67                        | 56.4                   | 45.1                      | 63.9                      | 2.6              | 21.9 |
|                          |                  |                     | 85/71                        | 60.1                   | 46.4                      | 67.6                      | 2.6              | 23.5 |
|                          | 13.5             | 7.4                 | 75/63                        | 53.9                   | 44.1                      | 61.1                      | 2.5              | 21.6 |
|                          |                  |                     | 80/67                        | 57.6                   | 45.5                      | 64.7                      | 2.5              | 23.4 |
|                          |                  |                     | 85/71                        | 61.5                   | 47.0                      | 68.5                      | 2.4              | 25.4 |
|                          | 18               | 12.4                | 75/63                        | 54.5                   | 44.3                      | 61.7                      | 2.5              | 21.8 |
|                          |                  |                     | 80/67                        | 58.4                   | 45.6                      | 65.4                      | 2.5              | 23.7 |
|                          |                  |                     | 85/71                        | 62.3                   | 47.0                      | 69.3                      | 2.4              | 25.8 |
| 80                       | 9                | 3.5                 | 75/63                        | 50.0                   | 42.5                      | 58.9                      | 3.0              | 16.7 |
|                          |                  |                     | 80/67                        | 53.5                   | 44.0                      | 62.3                      | 3.0              | 18.0 |
|                          |                  |                     | 85/71                        | 57.2                   | 45.2                      | 65.9                      | 3.0              | 19.4 |
|                          | 13.5             | 7.2                 | 75/63                        | 51.2                   | 42.8                      | 59.6                      | 2.9              | 17.8 |
|                          |                  |                     | 80/67                        | 54.8                   | 44.2                      | 63.1                      | 2.8              | 19.2 |
|                          |                  |                     | 85/71                        | 58.5                   | 45.8                      | 66.8                      | 2.8              | 20.8 |
|                          | 18               | 12.0                | 75/63                        | 51.7                   | 43.0                      | 60.1                      | 2.9              | 18.0 |
|                          |                  |                     | 80/67                        | 55.4                   | 44.5                      | 63.7                      | 2.8              | 19.5 |
|                          |                  |                     | 85/71                        | 59.1                   | 46.2                      | 67.4                      | 2.8              | 21.2 |
| 90                       | 9                | 3.4                 | 75/63                        | 45.1                   | 41.4                      | 55.4                      | 3.4              | 13.5 |
|                          |                  |                     | 80/67                        | 48.2                   | 43.3                      | 58.5                      | 3.3              | 14.5 |
|                          |                  |                     | 85/71                        | 51.3                   | 45.1                      | 61.7                      | 3.3              | 15.5 |
|                          | 13.5             | 7.0                 | 75/63                        | 46.0                   | 41.9                      | 55.9                      | 3.2              | 14.2 |
|                          |                  |                     | 80/67                        | 49.2                   | 43.7                      | 59.2                      | 3.2              | 15.4 |
|                          |                  |                     | 85/71                        | 55.0                   | 41.0                      | 63.8                      | 3.2              | 17.4 |
|                          | 18               | 11.7                | 75/63                        | 46.5                   | 42.0                      | 56.4                      | 3.2              | 14.4 |
|                          |                  |                     | 80/67                        | 50.7                   | 43.3                      | 60.3                      | 3.2              | 15.9 |
|                          |                  |                     | 85/71                        | 54.5                   | 44.5                      | 63.9                      | 3.1              | 17.3 |
| 100                      | 9                | 3.3                 | 75/63                        | 42.9                   | 39.7                      | 54.6                      | 3.8              | 11.2 |
|                          |                  |                     | 80/67                        | 46.1                   | 41.0                      | 57.7                      | 3.8              | 12.1 |
|                          |                  |                     | 85/71                        | 47.9                   | 43.9                      | 60.2                      | 3.8              | 12.6 |
|                          | 13.5             | 6.8                 | 75/63                        | 43.8                   | 40.0                      | 55.0                      | 3.7              | 11.7 |
|                          |                  |                     | 80/67                        | 47.0                   | 41.5                      | 58.2                      | 3.7              | 12.7 |
|                          |                  |                     | 85/71                        | 49.4                   | 44.4                      | 61.0                      | 3.7              | 13.5 |
|                          | 18               | 11.4                | 75/63                        | 44.2                   | 40.0                      | 55.4                      | 3.7              | 11.9 |
|                          |                  |                     | 80/67                        | 46.8                   | 42.8                      | 58.3                      | 3.7              | 12.7 |
|                          |                  |                     | 85/71                        | 52.5                   | 39.7                      | 62.8                      | 3.6              | 14.5 |
| 110                      | 9                | 3.2                 | 75/63                        | 40.4                   | 38.3                      | 53.7                      | 4.4              | 9.2  |
|                          |                  |                     | 80/67                        | 43.2                   | 40.2                      | 56.6                      | 4.4              | 9.9  |
|                          |                  |                     | 85/71                        | 47.9                   | 37.5                      | 60.3                      | 4.3              | 11.1 |
|                          | 13.5             | 6.7                 | 75/63                        | 41.0                   | 38.8                      | 54.0                      | 4.3              | 9.6  |
|                          |                  |                     | 80/67                        | 44.1                   | 40.4                      | 57.0                      | 4.2              | 10.4 |
|                          |                  |                     | 85/71                        | 45.9                   | 43.2                      | 59.5                      | 4.2              | 10.9 |
|                          | 18               | 11.1                | 75/63                        | 41.5                   | 38.8                      | 54.4                      | 4.3              | 9.7  |
|                          |                  |                     | 80/67                        | 44.5                   | 40.6                      | 57.4                      | 4.2              | 10.5 |
|                          |                  |                     | 85/71                        | 49.5                   | 37.3                      | 61.3                      | 4.2              | 11.9 |

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# GreenSource SM Rev A/B Series - Residential Geothermal Heat Pumps



# BOSCH

## SM070 VT Part Load Heating Performance Data - 1800 CFM

| Entering Fluid Temp (°F) | Pressure Drop (PSI) | Entering Air Temp (°F) | Total Capacity (MBTUH) | Heat of Absorption (MBTUH) | Power Input (kW) | COP  |
|--------------------------|---------------------|------------------------|------------------------|----------------------------|------------------|------|
| 20                       | 4.5                 | 60                     | 34.6                   | 26.2                       | 2.7              | 3.80 |
|                          |                     | 70                     | 33.9                   | 24.4                       | 3.0              | 3.29 |
|                          |                     | 80                     | 33.2                   | 22.7                       | 3.4              | 2.84 |
|                          | 9.2                 | 60                     | 35.6                   | 27.2                       | 2.7              | 3.82 |
|                          |                     | 70                     | 34.8                   | 25.3                       | 3.1              | 3.31 |
|                          |                     | 80                     | 33.9                   | 23.5                       | 3.5              | 2.85 |
|                          | 15.3                | 60                     | 36.2                   | 27.7                       | 2.8              | 3.74 |
|                          |                     | 70                     | 35.2                   | 25.7                       | 3.2              | 3.24 |
|                          |                     | 80                     | 34.8                   | 23.4                       | 3.6              | 2.84 |
| 30                       | 4.3                 | 60                     | 39.8                   | 31.5                       | 2.7              | 4.28 |
|                          |                     | 70                     | 39.1                   | 29.3                       | 3.1              | 3.72 |
|                          |                     | 80                     | 38.5                   | 27.2                       | 3.5              | 3.23 |
|                          | 8.8                 | 60                     | 41.2                   | 32.9                       | 2.8              | 4.33 |
|                          |                     | 70                     | 40.3                   | 30.4                       | 3.2              | 3.75 |
|                          |                     | 80                     | 39.5                   | 28.5                       | 3.6              | 3.25 |
|                          | 14.6                | 60                     | 42.0                   | 33.3                       | 2.9              | 4.26 |
|                          |                     | 70                     | 40.9                   | 31.3                       | 3.3              | 3.69 |
|                          |                     | 80                     | 40.1                   | 28.9                       | 3.7              | 3.21 |
| 40                       | 4.1                 | 60                     | 45.7                   | 37.1                       | 2.8              | 4.80 |
|                          |                     | 70                     | 44.7                   | 34.9                       | 3.2              | 4.14 |
|                          |                     | 80                     | 44.1                   | 32.5                       | 3.6              | 3.61 |
|                          | 8.5                 | 60                     | 47.5                   | 38.9                       | 2.9              | 4.87 |
|                          |                     | 70                     | 46.4                   | 36.5                       | 3.2              | 4.20 |
|                          |                     | 80                     | 45.4                   | 34.2                       | 3.6              | 3.65 |
|                          | 14.1                | 60                     | 48.4                   | 39.9                       | 3.0              | 4.81 |
|                          |                     | 70                     | 47.3                   | 37.4                       | 3.3              | 4.16 |
|                          |                     | 80                     | 46.2                   | 35.0                       | 3.7              | 3.61 |
| 50                       | 4.0                 | 60                     | 52.5                   | 43.2                       | 2.9              | 5.33 |
|                          |                     | 70                     | 51.5                   | 40.8                       | 3.3              | 4.62 |
|                          |                     | 80                     | 50.5                   | 38.5                       | 3.7              | 4.01 |
|                          | 8.2                 | 60                     | 54.6                   | 45.8                       | 3.0              | 5.42 |
|                          |                     | 70                     | 53.4                   | 42.9                       | 3.3              | 4.69 |
|                          |                     | 80                     | 52.3                   | 40.5                       | 3.8              | 4.07 |
|                          | 13.5                | 60                     | 55.8                   | 47.0                       | 3.1              | 5.36 |
|                          |                     | 70                     | 54.5                   | 44.1                       | 3.4              | 4.65 |
|                          |                     | 80                     | 53.4                   | 41.3                       | 3.9              | 4.04 |
| 60                       | 3.9                 | 60                     | 59.9                   | 50.7                       | 3.0              | 5.88 |
|                          |                     | 70                     | 58.8                   | 47.9                       | 3.4              | 5.09 |
|                          |                     | 80                     | 57.7                   | 45.2                       | 3.8              | 4.42 |
|                          | 7.9                 | 60                     | 62.6                   | 53.5                       | 3.1              | 6.00 |
|                          |                     | 70                     | 61.2                   | 50.7                       | 3.5              | 5.18 |
|                          |                     | 80                     | 59.9                   | 47.5                       | 3.9              | 4.50 |
|                          | 13.1                | 60                     | 64.1                   | 55.0                       | 3.2              | 5.96 |
|                          |                     | 70                     | 62.5                   | 52.1                       | 3.6              | 5.15 |
|                          |                     | 80                     | 61.1                   | 48.9                       | 4.0              | 4.47 |
| 70                       | 3.7                 | 60                     | 67.4                   | 57.9                       | 3.1              | 6.45 |
|                          |                     | 70                     | 66.0                   | 55.2                       | 3.5              | 5.57 |
|                          |                     | 80                     | 64.8                   | 52.0                       | 3.9              | 4.84 |
|                          | 7.6                 | 60                     | 70.7                   | 61.2                       | 3.1              | 6.59 |
|                          |                     | 70                     | 69.0                   | 58.2                       | 3.6              | 5.68 |
|                          |                     | 80                     | 67.4                   | 55.1                       | 4.0              | 4.92 |
|                          | 12.7                | 60                     | 72.4                   | 63.1                       | 3.2              | 6.54 |
|                          |                     | 70                     | 70.6                   | 59.9                       | 3.7              | 5.65 |
|                          |                     | 80                     | 68.9                   | 56.7                       | 4.1              | 4.91 |
| 80                       | 3.6                 | 60                     | 75.3                   | 65.5                       | 3.2              | 7.00 |
|                          |                     | 70                     | 73.7                   | 62.5                       | 3.6              | 6.04 |
|                          |                     | 80                     | 72.2                   | 59.5                       | 4.0              | 5.24 |
|                          | 7.4                 | 60                     | 79.0                   | 69.3                       | 3.2              | 7.15 |
|                          |                     | 70                     | 77.2                   | 66.0                       | 3.7              | 6.17 |
|                          |                     | 80                     | 75.4                   | 62.7                       | 4.1              | 5.35 |
|                          | 12.3                | 60                     | 81.1                   | 71.5                       | 3.3              | 7.12 |
|                          |                     | 70                     | 79.0                   | 68.0                       | 3.8              | 6.15 |
|                          |                     | 80                     | 77.1                   | 64.5                       | 4.2              | 5.34 |

**DISCLAIMER:** The performance reported herein is based on testing by FHP. Variations in the installation and operational environment may alter performance. Bosch disclaims all warranties, express and implied, that the performance will be as reported, including the warranty of merchantability and fitness for purpose. In addition, continuous research and development may result in a change to an appliances design and specifications at the time of order, which Bosch may change without notice. Before purchase, confirm the design specifications of the appliance.

Bosch Thermotechnology Corp.  
Londonderry, NH • Watertown, MA • Ft. Lauderdale, FL



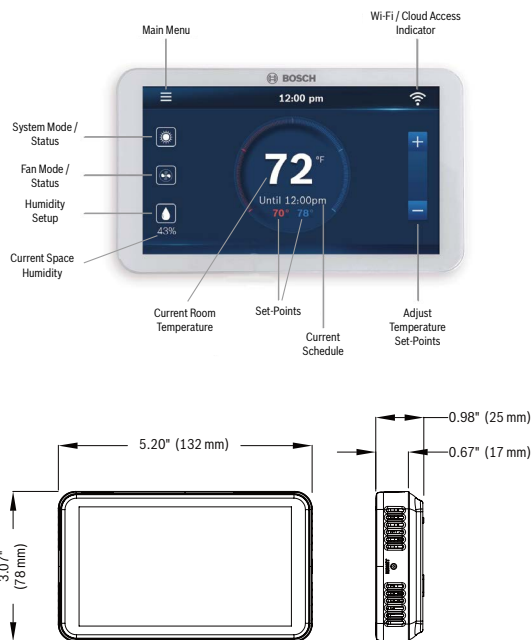
| Antifreeze Correction |              |              |           |       |               |       |                                    |
|-----------------------|--------------|--------------|-----------|-------|---------------|-------|------------------------------------|
| Antifreeze Type       | Antifreeze % | Cooling      |           |       | Heating       |       | WPD Correction<br>Factor EWT 30 °F |
|                       |              | EWT 90 Deg.F |           |       | EWT 30 Deg. F |       |                                    |
|                       |              | Total Cap.   | Sens. Cap | Power | Htg. Cap      | Power |                                    |
| Water                 | 0            | 1.000        | 1.000     | 1.000 | 1.000         | 1.000 | 1.000                              |
| Propylene Glycol      | 5            | 0.997        | 0.997     | 1.004 | 0.989         | 0.997 | 1.060                              |
|                       | 10           | 0.994        | 0.994     | 1.006 | 0.986         | 0.995 | 1.125                              |
|                       | 15           | 0.990        | 0.990     | 1.009 | 0.978         | 0.988 | 1.190                              |
|                       | 25           | 0.983        | 0.983     | 1.016 | 0.960         | 0.979 | 1.300                              |
| Methanol              | 5            | 0.997        | 0.997     | 1.003 | 0.990         | 0.997 | 1.060                              |
|                       | 10           | 0.996        | 0.996     | 1.005 | 0.979         | 0.993 | 1.100                              |
|                       | 15           | 0.994        | 0.994     | 1.008 | 0.970         | 0.990 | 1.140                              |
| Ethanol               | 5            | 0.998        | 0.998     | 1.002 | 0.981         | 0.994 | 1.160                              |
|                       | 10           | 0.996        | 0.996     | 1.004 | 0.960         | 0.988 | 1.230                              |
|                       | 15           | 0.992        | 0.992     | 1.006 | 0.944         | 0.983 | 1.280                              |
|                       | 25           | 0.986        | 0.986     | 1.009 | 0.917         | 0.974 | 1.400                              |
| Ethylene Glycol       | 5            | 0.997        | 0.997     | 1.003 | 0.993         | 0.998 | 1.060                              |
|                       | 10           | 0.995        | 0.995     | 1.004 | 0.986         | 0.996 | 1.120                              |
|                       | 15           | 0.992        | 0.992     | 1.005 | 0.980         | 0.993 | 1.190                              |
|                       | 25           | 0.988        | 0.988     | 1.009 | 0.970         | 0.990 | 1.330                              |
|                       | 30           | 0.985        | 0.985     | 1.012 | 0.965         | 0.987 | 1.400                              |

| Blower Performance Data |  |                             |                               |                               |   |                           |                  |
|-------------------------|--|-----------------------------|-------------------------------|-------------------------------|---|---------------------------|------------------|
| Model                   | Rated Airflow<br>at default<br>400 CFM/Ton | Fan Only<br>Ventilation 50% | DeHum<br>Reduction<br>Percent | Effective<br>DeHum<br>Airflow | Most efficient effec-<br>tive Airflow Config<br>SCT | Min Airflow/ton<br>Heater | Static<br>in. WC |
| SM024 Full Load         | 800  | 400                         | 15.00%                        | 680                           | 800   | 400                       | 0-0.8            |
| SM024 Part Load         | 704  | 352                         | 15.00%                        | 598                           | 704   | 400                       | 0-0.8            |
| SM036 Full Load         | 1200                                       | 600                         | 15.00%                        | 1020                          | 1350  | 400                       | 0-1.2            |
| SM036 Part Load         | 1056                                       | 528                         | 15.00%                        | 898                           | 1188  | 400                       | 0-1.2            |
| SM048 Full Load         | 1600                                       | 800                         | 15.00%                        | 1360                          | 1600  | 400                       | 0-1.2            |
| SM048 Part Load         | 1408                                       | 704                         | 15.00%                        | 1197                          | 1408  | 400                       | 0-1.2            |
| SM060 Full Load         | 2000                                       | 1000                        | 15.00%                        | 1700                          | 2050  | 400                       | 0-1.2            |
| SM060 Part Load         | 1760                                       | 880                         | 15.00%                        | 1496                          | 1804  | 400                       | 0-1.2            |
| SM070 Full Load         | 2400                                       | 1200                        | 15.00%                        | 2040                          | 2250  | 400                       | 0-1.2            |
| SM070 Part Load         | 2112                                       | 1056                        | 15.00%                        | 1795                          | 1980  | 400                       | 0-1.2            |

**i** Min CFM/ton in cooling is 270 CFM/ton;  
If calculated values fall below this limit, the control will  
default to this minimum limit.



## Field Install Accessory - Bosch Connected Control Wi-Fi Thermostat



| Description                      | Part Number   | Heat | Cool | Humidity |
|----------------------------------|---------------|------|------|----------|
| Bosch Connected Control (BCC100) | 8-733-948-009 | 4    | 2    | Yes      |

### Specifications

- 5 Inch Touch Screen 854 x 480 Pixels
- 7 Relay Outputs (Terminals) G, Y1, Y2, W1, W2, O/B, H/dH
- 1 Data Input (Pulse signals from Bosch WSHP)
- Displays Bosch Water Source Heat Pump Fault Messages
- Wi-Fi (802.11a/b/g/n) 2.4GHz (not compatible with 5GHz)
- FCC and IC Certification
- 5 Year Limited Warranty (see website for details)

### Compatibility

- Conventional (Gas, Oil, Electric): Up to 2 Heat / 2 Cool
- Heat Pump (O/B to energize reversing valve in cool/heat): Up to 4 Heat / 2 Cool
- Supports up to 1 Accessory Unit: Humidifier or Dehumidifier (not provided by Bosch)
- Unit Modes: Heat, Cool, Auto, Off, Emergency Heat
- Fan Modes: Auto, On, Circulate
- Supports 2 Transformer Systems (Rh and Rc)
- C-Wire Required for Installation
- Supports Active and Passive Dehumidification without the need for external relays, such as Bosch Water Source Heat Pump products equipped with a Hot Gas Reheat Coil and/or ECM motor

## Field Install Accessory - SmartStart Assist Kit

| Part Number | SM024 |    | SM036 |    | SM048 |    | SM060 |    | SM070 |    |
|-------------|-------|----|-------|----|-------|----|-------|----|-------|----|
|             | VT    | HZ | VT    | HZ | VT    | HZ | VT    | HZ | VT    | HZ |
| 8733957159  | •     | •  | •     | •  |       |    |       |    |       |    |
| 8733957160  |       |    |       |    | •     | •  | •     | •  | •     | •  |

## Field Install Accessory - Internally Mounted Electric Heat Kits

| Part Number | Kilowatt Heater - 208/230V   | Availability per Unit |       |       |       |       |
|-------------|------------------------------|-----------------------|-------|-------|-------|-------|
|             |                              | SM024                 | SM036 | SM048 | SM060 | SM070 |
| 8733960682  | Electric Heat - 3.6/4.8 kW   | •                     | •     | •     | •     | •     |
| 8733960683  | Electric Heat - 7.8/9.6 kW   | •                     | •     | •     | •     | •     |
| 8733960684  | Electric Heat - 10.8/14.4 kW |                       | •     | •     | •     | •     |
| 8733960685  | Electric Heat - 14.4/19.2 kW |                       |       | •     | •     | •     |

## Field Install Accessory - Pump/Valve Relay Kit

| Part Number | SM024 |    | SM036 |    | SM048 |    | SM060 |    | SM070 |    |
|-------------|-------|----|-------|----|-------|----|-------|----|-------|----|
|             | VT    | HZ | VT    | HZ | VT    | HZ | VT    | HZ | VT    | HZ |
| 8733951906  | •     | •  | •     | •  | •     | •  | •     | •  | •     | •  |



**Field Install Accessory - Duct Mounted Electric Heaters 208/230V**

| Nominal<br>BTUH | Order #    |            |            |            | Nominal<br>CFM | Duct Flange Connection in<br>Inches | Nominal Dimension in Inches |
|-----------------|------------|------------|------------|------------|----------------|-------------------------------------|-----------------------------|
|                 | 5 kW       | 10 kW      | 15 kW      | 20 kW      |                |                                     |                             |
| 18000           | 7738002745 | N/A        | N/A        | N/A        | 600            | 13.75 x 13.75                       | 14 x 14                     |
| 24000           | 7738002746 | 7738002747 | N/A        | N/A        | 800            | 13.75 x 13.75                       | 14 x 14                     |
| 30000           | 7738002748 | 7738002749 | N/A        | N/A        | 1000           | 15.75 x 15.75                       | 16 x 16                     |
| 36000           | 7738002748 | 7738002749 | N/A        | N/A        | 1200           | 15.75 x 15.75                       | 16 x 16                     |
| 42000           | 7738002747 | 7738002751 | 7738002752 | N/A        | 1400           | 17.75 x 17.75                       | 18 x 18                     |
| 48000           | 7738002747 | 7738002751 | 7738002752 | N/A        | 1600           | 17.75 x 17.75                       | 18 x 18                     |
| 60000           | 7738002747 | 7738002751 | 7738002752 | 7738002753 | 2000           | 17.75 x 17.75                       | 18 x 18                     |
| 70000           | 7738002747 | 7738002751 | 7738002752 | 7738002753 | 2200           | 17.75 x 17.75                       | 18 x 18                     |



Duct mounted heaters are only available in single phase 208/230 V. Please refer to Manufacturer's Installation and Operation Manual for proper installation and guidelines. It is recommended to use a seven (7) conductor cables for thermostat interface. It is required for the duct mounted heater to have an independent power supply. In fiberglass duct systems, a metal sleeve **MUST** be used as an insert and support to the heater.

**Field Install Accessory - Swivel Connector Kit (two connectors shipped loose with each unit)**

| Order Number | Type and Size                      | SM024 |    | SM036 |    | SM048 |    | SM060 |    | SM070 |    |
|--------------|------------------------------------|-------|----|-------|----|-------|----|-------|----|-------|----|
|              |                                    | VT    | HZ | VT    | HZ | VT    | HZ | VT    | HZ | VT    | HZ |
| 8733927179   | Male 3/4" NPT MPT to 1" swivel FPT | ●     |    |       |    |       |    |       |    |       |    |
| 8733927180   | Male 1" NPT MPT to 1" swivel FPT   |       | ●  | ●     | ●  | ●     | ●  | ●     | ●  | ●     | ●  |



Swivel fittings are used in typical residential installations where water pressure ratings are below 125 psi. For higher pressure ratings which are typical to commercial installations, swivel fittings **MUST NOT** be used.

**Replacement Air Filter Information**

| Nominal Filter Size<br>(MERV8 filters recommended<br>MERV13 filters used only with<br>horizontal units) | SM024                  |    | SM036 |    | SM048 |    | SM060 |    | SM070 |    |
|---|------------------------|----|-------|----|-------|----|-------|----|-------|----|
|   | VT                     | HZ | VT    | HZ | VT    | HZ | VT    | HZ | VT    | HZ |
|   | Quantity Need per Unit |    |       |    |       |    |       |    |       |    |
| 16 X 30 X 2   |                        |    | 2     |    | 2     |    |       |    |       |    |
| 18 X 18 X 2   |                        | 2  |       |    |       |    |       |    |       |    |
| 18 X 20 X 2   |                        |    |       |    |       |    |       | 3  |       | 3  |
| 20 X 24 X 2   |                        |    |       | 2  |       | 2  |       |    |       |    |
| 20 X 30 X 2   |                        |    |       |    |       |    | 2     |    | 2     |    |
| 24 X 24 X 2   | 1                      |    |       |    |       |    |       |    |       |    |



**Field Install Accessory - Stainless Steel Hose Kits**

| Options                            | Option 1                  | Option 2  | Option 3**                                   | Option 4**,***   | Option 5**, ***                          | Option 6**, ***  |
|------------------------------------|---------------------------|---|--|--|--|--|
| Hose Size<br>(Length,<br>Diameter) | Hoses Only with<br>Swivel | Hose Kit Hoses with<br>Ported Ball Valves,<br>Swivel and One P/T* | Hose Kit with Automatic<br>Flow Valve (AFV)* | Hose kit with AFV,<br>Y-Strainer & Blow<br>Down Valve* | Hose Kit with AFV and<br>Electric Valve* | Hose Kit with AFV, Y-Strainer,<br>BDV and<br>Electric Valve* |
|                                    | Part #                    | Part #  | Part #                                       | Part #   | Part #                                   | Part #   |
| <b>12 Inch</b>                     |                           |   |  |  |  |  |
| 1/2" L                             | T111H02121                | T111H02122  | T111H02123                                   | T111H02124   | T111H02125                               | T111H02126   |
| <b>24 Inch</b>                     |                           |   |  |  |  |  |
| 3/4" S                             | T111H03241                | T111H03242  | T111H03243                                   | T111H03244   | T111H03245                               | T111H03246   |
| 1" L                               | T111H04241                | T111H04242  | T111H04243                                   | T111H04244   | T111H04245                               | T111H04246   |
| 1" S                               | T111H04241                | T111H04242  | T111H04247                                   | T111H04248   | T111H04249                               | T111H04240   |
| 1 - 1/4" S                         | T111H05241                | T111H05242  | T111H05243                                   | T111H05244   | T111H05245                               | T111H05246   |
| 1 - 1/2" L                         | T111H06241                | T111H06242  | T111H06243                                   | T111H06244   | T111H06245                               | T111H06246   |
| 1 - 1/2" S                         | T111H06241                | T111H06242  | T111H06247                                   | T111H06248   | T111H06249                               | T111H06240   |
| 2" S                               | T111H08241                | T111H08242  | T111H08243                                   | T111H08244   | T111H08245                               | T111H08246   |
| <b>36 Inch</b>                     |                           |   |  |  |  |  |
| 3/4" S                             | T111H03361                | T111H03362  | T111H03363                                   | T111H03364   | T111H03365                               | T111H03366   |
| 1" L                               | T111H04361                | T111H04362  | T111H04363                                   | T111H04364   | T111H04365                               | T111H04366   |
| 1" S                               | T111H04361                | T111H04362  | T111H04367                                   | T111H04368   | T111H04369                               | T111H04360   |
| 1 - 1/4" S                         | T111H05361                | T111H05362  | T111H05363                                   | T111H05364   | T111H05365                               | T111H05366   |
| 1 - 1/2" L                         | T111H06361                | T111H06362  | T111H06363                                   | T111H06364   | T111H06365                               | T111H06366   |
| 1 - 1/2" S                         | T111H06361                | T111H06362  | T111H06367                                   | T111H06368   | T111H06369                               | T111H06360   |
| 2" S                               | T111H08361                | T111H08362  | T111H08363                                   | T111H08364   | T111H08365                               | T111H08366   |

\* All Hose Kits include S/R ported ball valves with swivel and P/T port.

\*\* 'L' and 'S' only apply to kit options 3 through 6

\*\*\* GMP's are required for hose kits in options 3-6

**Hose Kit Flow Rates by Size**

Please see Technical Service Bulletin: Heat Pump Hose Kits – Water Flow Rates.

This document is located at [www.bosch-climate.us](http://www.bosch-climate.us) under Support Center > Downloads > Downloads for Bosch Products > Service Bulletins.