



## Multi-Room Ductless heat-pump systems 24000 BTU

| Submittal Data: SC-27Z-HH-M3                                                                                                                                                                                                                                                                                                                                                         |                           |                                                                                    | Heat Pump System                   |                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------|
| Job Name                                                                                                                                                                                                                                                                                                                                                                             |                           | Location                                                                           |                                    | Date                                                                    |
| Purchaser                                                                                                                                                                                                                                                                                                                                                                            |                           | Engineer                                                                           |                                    |                                                                         |
| Submitted To                                                                                                                                                                                                                                                                                                                                                                         |                           | For                                                                                | <input type="checkbox"/> Reference | <input type="checkbox"/> Approval <input type="checkbox"/> Construction |
| Unit Designation                                                                                                                                                                                                                                                                                                                                                                     |                           | Schedule No.                                                                       |                                    |                                                                         |
| <b>GENERAL FEATURES</b> <ul style="list-style-type: none"><li>-Up to 3 Indoor Units (3-Port)</li><li>-G10 DC Inverter Technology R410A</li><li>-Automatic Defrosting</li><li>-Compressor/Chassis Heaters</li><li>-Copper Tubing w/ Acrylic/Resin Coated Aluminum Fins</li><li>-Intelligent Defrost</li><li>-Auto Restart on Power Outages</li><li>-Multi-point Diagnostics</li></ul> |                           |  |                                    |                                                                         |
| <b>System Ratings</b>                                                                                                                                                                                                                                                                                                                                                                |                           | <b>Outdoor Unit Data</b>                                                           |                                    |                                                                         |
| Rated Cooling Capacity 22,000 BTUH                                                                                                                                                                                                                                                                                                                                                   |                           | <b>Compressor</b>                                                                  | Type                               | DC Inverter Driven Rotary                                               |
| Cooling Capacity (min-max) 7,500-33,000 BTUH                                                                                                                                                                                                                                                                                                                                         |                           |                                                                                    | RLA                                | 17.0 A                                                                  |
| Rated Heating Capacity 26,000 BTUH                                                                                                                                                                                                                                                                                                                                                   |                           |                                                                                    | Starting Current                   | 5.0 A                                                                   |
| Heating Capacity (min-max) 7,500-31,000 BTUH                                                                                                                                                                                                                                                                                                                                         |                           | <b>Fan Motor</b>                                                                   | Output Power                       | 90 W                                                                    |
| SEER/EER 23.0 / 12.5                                                                                                                                                                                                                                                                                                                                                                 |                           |                                                                                    | FLA                                | 0.4 A                                                                   |
| HSPF/COP 10.5 / 3.7                                                                                                                                                                                                                                                                                                                                                                  |                           |                                                                                    | Air Flow (Max)                     | 2531 CFM                                                                |
| <b>Operating Range</b>                                                                                                                                                                                                                                                                                                                                                               |                           | <b>Sound Pressure Level</b>                                                        |                                    |                                                                         |
| Cooling - Low/High Ambient (min-max)                                                                                                                                                                                                                                                                                                                                                 | 0 - 118°F                 | Cooling                                                                            | 60 dB(A)                           |                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                      | -18 - 48°C                | Heating                                                                            | 60 dB(A)                           |                                                                         |
| Heating - Low Ambient (ULTRA) (min-max)                                                                                                                                                                                                                                                                                                                                              | -31 - 75°F                | <b>Dimensions &amp; Weights</b>                                                    |                                    |                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                      | -35 - 24°C                | Unit Dimensions Overall (WxDxH)* 39.5 x 16.8 x 31.1-in                             |                                    |                                                                         |
| <b>Power Supply</b>                                                                                                                                                                                                                                                                                                                                                                  |                           | * including Valve Covers and Grilles                                               |                                    |                                                                         |
| Normal Operational Voltage                                                                                                                                                                                                                                                                                                                                                           | 208/230 V, 1 Phase, 60 Hz | Weight (Net/Shipping) 174/185-lbs                                                  |                                    |                                                                         |
| Voltage Range                                                                                                                                                                                                                                                                                                                                                                        | 187 - 253 V               | Min. Number of Indoor Units 2                                                      |                                    |                                                                         |
| Main Power Wire Size                                                                                                                                                                                                                                                                                                                                                                 | 10-2 AWG                  | Max. Number of Indoor Units 3                                                      |                                    |                                                                         |
| Interconnecting Cable Wire Size                                                                                                                                                                                                                                                                                                                                                      | 14-4 AWG                  | <b>Refrigerant Piping Data</b>                                                     |                                    |                                                                         |
| MCA                                                                                                                                                                                                                                                                                                                                                                                  | 23.0 A                    | Refrigerant Type R410A                                                             |                                    |                                                                         |
| MOCP/Breaker Size                                                                                                                                                                                                                                                                                                                                                                    | 40 A                      | Refrigerant Charge 95.2 oz                                                         |                                    |                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                      |                           | Additional Charge Per Line Length 0.2-oz/ft                                        |                                    |                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                      |                           | Connection Method-Flared 1/4x3/8-in                                                |                                    |                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                      |                           | Factory Charge for Total Line Length 98-ft                                         |                                    |                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                      |                           | Total Refrigerant Pipe Length 230-ft                                               |                                    |                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                      |                           | Max Refrigerant Piping Length to any Indoor Unit 82-ft                             |                                    |                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                      |                           | Min Refrigerant Piping Length to any Indoor Unit 10-ft                             |                                    |                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                      |                           | Max Elevation between Indoor Units 26-ft                                           |                                    |                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                      |                           | Max Lift from Outdoor to Indoor Unit 26-ft                                         |                                    |                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                      |                           | Max Drop from Outdoor to Indoor Unit 26-ft                                         |                                    |                                                                         |



| SYSTEM FEATURES                                     |                          |
|-----------------------------------------------------|--------------------------|
| Compressor Type                                     | Inverter Rotary          |
| Core Technology Three Cylinder Two Stage Compressor | G10                      |
| Ultra Low Frequency Torque Control                  | YES                      |
| Power Factor Correction                             | YES                      |
| Refrigerant Type                                    | R410A                    |
| Electronic Expansion Valve (EEV)                    | 3                        |
| Basepan With Electric Heater                        | YES                      |
| Compressor Preheat                                  | YES                      |
| Compressor With Electric Heater (-40°F)             | YES                      |
| -40°F Wiring UL Approved                            | YES                      |
| Multi "Independent" Port Design                     | YES                      |
| Condenser Fan                                       | Axial                    |
| Condenser Motor Type                                | DC                       |
| Condenser Motor Drive                               | Direct                   |
| Condenser Coil                                      | Aluminum Fin/Copper Tube |
| Outdoor Fin Coating (Blue)                          | Acrylic Resin            |
| Intelligent Defrosting                              | YES                      |
| Low Voltage Startup                                 | YES                      |
| Memory/Power Failure Recovery                       | YES                      |
| Self Diagnosis                                      | YES                      |
| Ultra Heating (-31°F - 75°F)                        | YES                      |
| Ultra Cooling (0°F - 118°F)                         | YES                      |
| Wired Controller Interface                          | YES                      |

|                                          |                                                     |
|------------------------------------------|-----------------------------------------------------|
| REMOTE CONTROLLER FUNCTIONS <sup>1</sup> | See individual Indoor Unit<br>Controllers Functions |
|------------------------------------------|-----------------------------------------------------|

<sup>1</sup> Not all Remote Controller functions are supported.

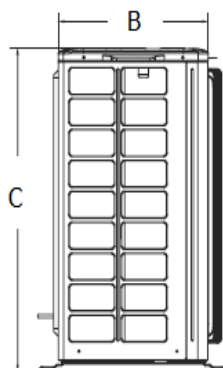
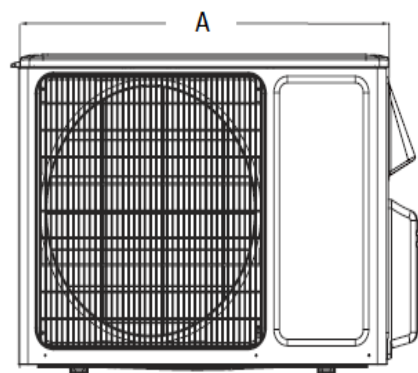
| WIRED CONTROLLER FUNCTIONS <sup>2</sup> |     |
|-----------------------------------------|-----|
| On/Off                                  | YES |
| Operating Mode                          | YES |
| Fan Speed                               | YES |
| Room Setpoint                           | YES |
| Model Numbers                           | YES |
| Timer Mode                              | YES |
| Sleep Mode                              | YES |
| Turbo Mode                              | YES |
| X-Fan Mode                              | YES |
| Privacy Lock                            | YES |

<sup>2</sup> Note: Some indoor models may not support specific system features or functions.

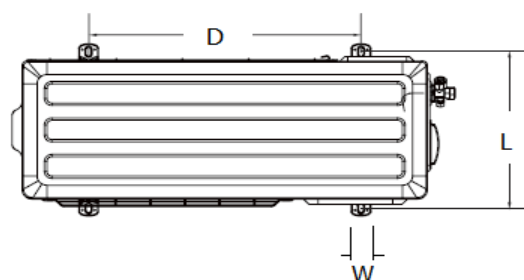
**24000 BTUH MODEL**

Model # SC-27Z-HH-M3 24000 BTUH 230V

Units: inch



|        |      |
|--------|------|
| A (in) | 36.2 |
| B (in) | 14.6 |
| C (in) | 31.1 |



|        |      |
|--------|------|
| D (in) | 24.0 |
| L (in) | 15.6 |
| W (in) | 2.4  |

|                       |             |
|-----------------------|-------------|
| Weight (Net/Shipping) | 174/185 lbs |
|-----------------------|-------------|

**Suction/Gas Line Port Size**

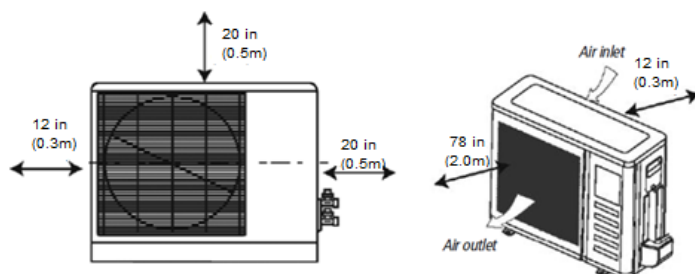
|         |                  |
|---------|------------------|
| Port #1 | 3/8-in OD Flared |
| Port #2 | 3/8-in OD Flared |
| Port #3 | 3/8-in OD Flared |

**Liquid Line Port Size**

|         |                  |
|---------|------------------|
| Port #1 | 1/4-in OD Flared |
| Port #2 | 1/4-in OD Flared |
| Port #3 | 1/4-in OD Flared |

**MINIMUM SPACING REQUIREMENTS**

Units: inch (mm)

**Notes:**

1. Recommended Interconnecting Cable Type Stranded Copper Conductors THHN 600V Unshielded Wire
2. Power wiring cable size must comply with applicable national and local codes.
3. Test conditions are based on AHRI 210/240.

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## COOLING PERFORMANCE (BtuH)\*

| Outdoor Ambient<br>Temperature (DB)<br>°F | Indoor Entering Air Temperatures |       |         |       |         |       |
|-------------------------------------------|----------------------------------|-------|---------|-------|---------|-------|
|                                           | 68°F DB                          |       | 73°F DB |       | 80°F DB |       |
|                                           | 57°F WB                          |       | 61°F WB |       | 67°F WB |       |
|                                           | TC                               | SHC   | TC      | SHC   | TC      | SHC   |
| 0°F                                       | 17067                            | 13385 | 18044   | 14137 | 19870   | 15590 |
| 5°F                                       | 17664                            | 13852 | 18674   | 14631 | 20564   | 16135 |
| 14°F                                      | 18502                            | 14511 | 19546   | 15324 | 22059   | 17302 |
| 23°F                                      | 20271                            | 15901 | 21682   | 17008 | 24843   | 19485 |
| 32°F                                      | 21541                            | 16894 | 22756   | 17847 | 25682   | 20137 |
| 41°F                                      | 22315                            | 17502 | 23566   | 18482 | 26931   | 21116 |
| 50°F                                      | 22704                            | 17806 | 24284   | 19045 | 27825   | 21817 |
| 59°F                                      | 24582                            | 19279 | 26293   | 20621 | 28797   | 22579 |
| 68°F                                      | 27840                            | 21835 | 29580   | 23196 | 31610   | 24792 |
| 77°F                                      | 27511                            | 21580 | 29261   | 22951 | 31320   | 24567 |
| 86°F                                      | 26158                            | 20513 | 27898   | 21884 | 30450   | 23882 |
| 95°F                                      | 24756                            | 19417 | 26487   | 20768 | 29000   | 22746 |
| 104°F                                     | 23558                            | 18477 | 25278   | 19828 | 28246   | 22158 |
| 113°F                                     | 22949                            | 17997 | 24679   | 19348 | 27647   | 21678 |

## HEATING PERFORMANCE (BtuH)\*

| Outdoor Ambient<br>Temperature (DB) | Indoor Entering Air Temperatures |                        |      |         |                        |      |         |                        |      |
|-------------------------------------|----------------------------------|------------------------|------|---------|------------------------|------|---------|------------------------|------|
|                                     | 68°F DB                          |                        |      | 73°F DB |                        |      | 80°F DB |                        |      |
|                                     | 57°F WB                          |                        |      | 61°F WB |                        |      | 67°F WB |                        |      |
|                                     | TC                               | Power<br>Input<br>(KW) | COP  | TC      | Power<br>Input<br>(KW) | COP  | TC      | Power<br>Input<br>(KW) | COP  |
| -31°F                               | 21500                            | 5.45                   | 1.16 | 21000   | 5.50                   | 1.12 | 20500   | 5.70                   | 1.05 |
| -22°F                               | 24954                            | 5.50                   | 1.33 | 24292   | 5.57                   | 1.28 | 23801   | 5.74                   | 1.21 |
| -13°F                               | 27324                            | 5.58                   | 1.44 | 26614   | 5.64                   | 1.38 | 26089   | 5.82                   | 1.31 |
| -5°F                                | 31846                            | 5.42                   | 1.72 | 31034   | 5.48                   | 1.66 | 30433   | 5.66                   | 1.58 |
| 0°F                                 | 31376                            | 5.51                   | 1.67 | 30550   | 5.58                   | 1.61 | 29933   | 5.75                   | 1.52 |
| 5°F                                 | 31523                            | 5.24                   | 1.76 | 30703   | 5.30                   | 1.70 | 30097   | 5.46                   | 1.61 |
| 10°F                                | 31872                            | 5.29                   | 1.77 | 31044   | 5.35                   | 1.70 | 30423   | 5.52                   | 1.62 |
| 17°F                                | 31268                            | 5.25                   | 1.75 | 30448   | 5.31                   | 1.68 | 29825   | 5.48                   | 1.60 |
| 19°F                                | 30852                            | 4.91                   | 1.84 | 30427   | 4.96                   | 1.80 | 29802   | 5.12                   | 1.71 |
| 24°F                                | 29903                            | 5.08                   | 1.72 | 29546   | 5.14                   | 1.68 | 29011   | 5.30                   | 1.60 |
| 32°F                                | 29135                            | 4.86                   | 1.76 | 28814   | 4.92                   | 1.72 | 28344   | 5.07                   | 1.64 |
| 41°F                                | 30281                            | 4.50                   | 1.97 | 29984   | 4.55                   | 1.93 | 29535   | 4.69                   | 1.84 |
| 43°F                                | 31110                            | 3.52                   | 2.59 | 30813   | 3.56                   | 2.54 | 30373   | 3.67                   | 2.42 |
| 47°F                                | 34000                            | 3.60                   | 2.77 | 33065   | 3.64                   | 2.66 | 32366   | 3.76                   | 2.52 |
| 53°F                                | 34340                            | 3.27                   | 3.08 | 33394   | 3.31                   | 2.96 | 32695   | 3.41                   | 2.81 |
| 59°F                                | 31614                            | 3.30                   | 2.81 | 30734   | 3.34                   | 2.70 | 30085   | 3.45                   | 2.56 |
| 64°F                                | 32283                            | 3.03                   | 3.12 | 31394   | 3.06                   | 3.00 | 30734   | 3.16                   | 2.85 |
| 70°F                                | 32895                            | 3.08                   | 3.13 | 31987   | 3.11                   | 3.01 | 31308   | 3.21                   | 2.86 |
| 75°F                                | 33354                            | 2.81                   | 3.48 | 32436   | 2.84                   | 3.34 | 31757   | 2.93                   | 3.17 |
| 78°F                                | 33660                            | 2.84                   | 3.48 | 32732   | 2.87                   | 3.34 | 32044   | 2.96                   | 3.17 |

\* Maximum system capacity

TC- Total Capacity ( BtuH)

COP- Coefficient of Performance

**COOLING CAPACITY (BTUH)**

| Indoor Units Combinations | Rated System Capacity (BtuH) | Indoor Unit A (BtuH) | Indoor Unit B (BtuH) | Indoor Unit C (BtuH) | Indoor Unit D (BtuH) |
|---------------------------|------------------------------|----------------------|----------------------|----------------------|----------------------|
| 9K + 9K                   | 18,000                       | 9,000                | 9,000                | NA                   | NA                   |
| 9K + 12K                  | 21,000                       | 9,000                | 12,000               | NA                   | NA                   |
| 9K + 18K                  | 25,000                       | 8,400                | 16,600               | NA                   | NA                   |
| 12K + 12K                 | 24,000                       | 12,000               | 12,000               | NA                   | NA                   |
| 12K + 18K                 | 25,000                       | 10,000               | 15,000               | NA                   | NA                   |
| 18K + 18K                 | 26,000                       | 13,000               | 13,000               | NA                   | NA                   |
| 9K + 9K + 9K              | 26,001                       | 8,667                | 8,667                | 8,667                | NA                   |
| 9K + 9K + 12K             | 26,000                       | 8,000                | 8,000                | 10,000               | NA                   |
| 9K + 9K + 18K             | 29,000                       | 8,000                | 8,000                | 13,000               | NA                   |
| 9K + 12K + 12K            | 29,600                       | 8,000                | 10,800               | 10,800               | NA                   |
| 12K + 12K + 12K           | 30,000                       | 10,000               | 10,000               | 10,000               | NA                   |

**HEATING CAPACITY (BTUH)**

| Indoor Units Combinations | Rated System Capacity (BtuH) | Indoor Unit A (BtuH) | Indoor Unit B (BtuH) | Indoor Unit C (BtuH) | Indoor Unit D (BtuH) |
|---------------------------|------------------------------|----------------------|----------------------|----------------------|----------------------|
| 9K + 9K                   | 18,000                       | 9,000                | 9,000                | NA                   | NA                   |
| 9K + 12K                  | 21,000                       | 9,000                | 12,000               | NA                   | NA                   |
| 9K + 18K                  | 27,000                       | 9,000                | 18,000               | NA                   | NA                   |
| 12K + 12K                 | 26,000                       | 13,000               | 13,000               | NA                   | NA                   |
| 12K + 18K                 | 30,000                       | 12,000               | 18,000               | NA                   | NA                   |
| 18K + 18K                 | 31,000                       | 15,500               | 15,500               | NA                   | NA                   |
| 9K + 9K + 9K              | 27,000                       | 9,000                | 9,000                | 9,000                | NA                   |
| 9K + 9K + 12K             | 29,000                       | 9,000                | 9,000                | 11,000               | NA                   |
| 9K + 9K + 18K             | 31,000                       | 8,000                | 8,000                | 15,000               | NA                   |
| 9K + 12K + 12K            | 31,000                       | 9,000                | 11,000               | 11,000               | NA                   |
| 12K + 12K + 12K           | 31,050                       | 10,350               | 10,350               | 10,350               | NA                   |

Capacity data is based on the following conditions :

Cooling Nominal Test Conditions

Indoor: 80°F DB/67°F WB

Outdoor: 95°F DB/75°F WB

Heating Nominal Test Conditions

Indoor: 70°F DB/60°F WB

Outdoor: 47°F DB/43°F W