



CLIMATE CONTROL SOLUTIONS  
Bard Manufacturing Company, Inc.  
Bryan, Ohio 43506

## MODELS:

**S26H1D, S31H1D, S38H1D**

**S43H1D, S49H1D, S61H1D**

## MODEL FEATURES

This model provides a unique dehumidification circuit for periods of high indoor humidity conditions. Additionally an "energy recovery ventilator" may be provided to allow for outside ventilation air requirements by eliminating excessive sensible and latent loads as a result of the increased ventilation requirement.

Refer to Specification Sheet S3416 for the standard features of the base unit. Electrical data for the dehumidification models is different than the electrical data for the standard S\*\*H1 models. Refer to Page 6 for the Electrical data.

## SPECIAL FEATURES

### DEHUMIDIFICATION CIRCUIT

The dehumidification circuit incorporates an independent heat exchanger coil in the supply air stream in addition to the standard evaporator coil. This coil reheats the supply air after it passes over the cooling coil, and is sized to nominally match the sensible cooling capacity of the evaporator coil. Extended run times in dehumidification mode can be achieved using waste heat from the refrigeration cycle to achieve the reheat process, while at the same time large amounts of moisture can be extracted from the passing air stream. Models that also have electric heaters installed have the electric heat inhibited during dehumidification mode, although it remains available for additional reheat during certain conditions. See below for specific operating sequences, and see attached tables for performance on sensible and latent capacities, water removal ratings, and supply air delivery conditions.

The dehumidification refrigerant reheat circuit is controlled by a 3-way valve directing the refrigerant gas to the normal condenser during periods when standard air conditioning is required. During periods of time of low ambient temperature (approximately 65° to 75° outdoor) and high indoor humidity, a humidistat senses the need for mechanical dehumidification. It then energizes both the compressor circuit and the 3-way valve, thus directing the hot refrigerant discharge gas into a separate desuperheating condenser circuit which reheats the conditioned air before it is delivered to the room. The refrigerant gas is then routed from the desuperheating condenser to the system condenser for further heat transfer. A small orifice inserted between the reheat coil return line and suction line will prevent liquid from accumulating in the reheat coil when it is inactive. This drain does not affect the normal operation of the system. A check valve is located in the reheat coil return line. It has a soft spring to hold the ball on the seat. Refer to Page 2 for the location of the check valve and drain back orifice. When the humidistat is satisfied, the system automatically switches back to normal A/C mode and either continues to operate or turns off based on the signal from the wall thermostat. The result is separate humidity control at minimum operating cost.

### DEHUMIDIFICATION SEQUENCE OF OPERATION

Dehumidification is controlled through a humidistat and is independent of the temperature control. On a call for dehumidification mode of operation, the compressor and 3-way valve that feeds the reheat coil are energized through circuit R-W3. Dehumidification will continue until the humidistat is satisfied.

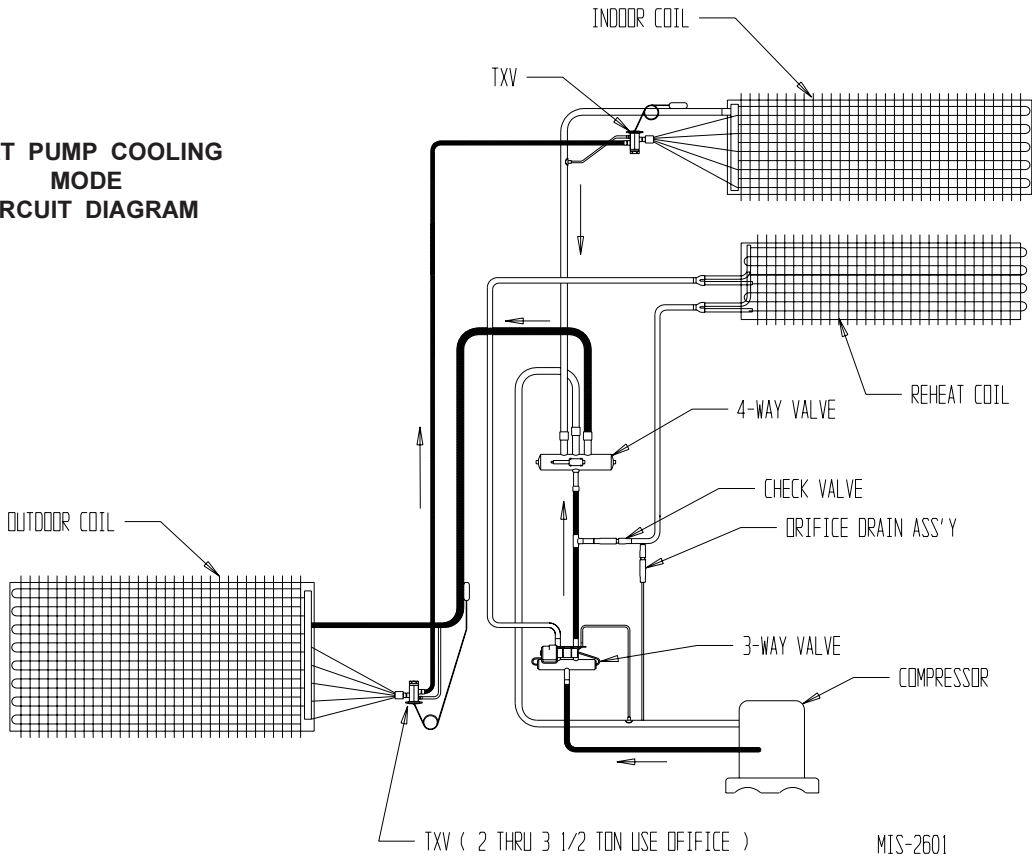
If the room temperature falls below 1<sup>st</sup> stage heating setpoint, electric heat will be energized by the room thermostat and cycle to maintain room temperature.

If 2<sup>nd</sup> stage heating setpoint is reached, dehumidification cycle is de-energized and heat pump heating is energized.

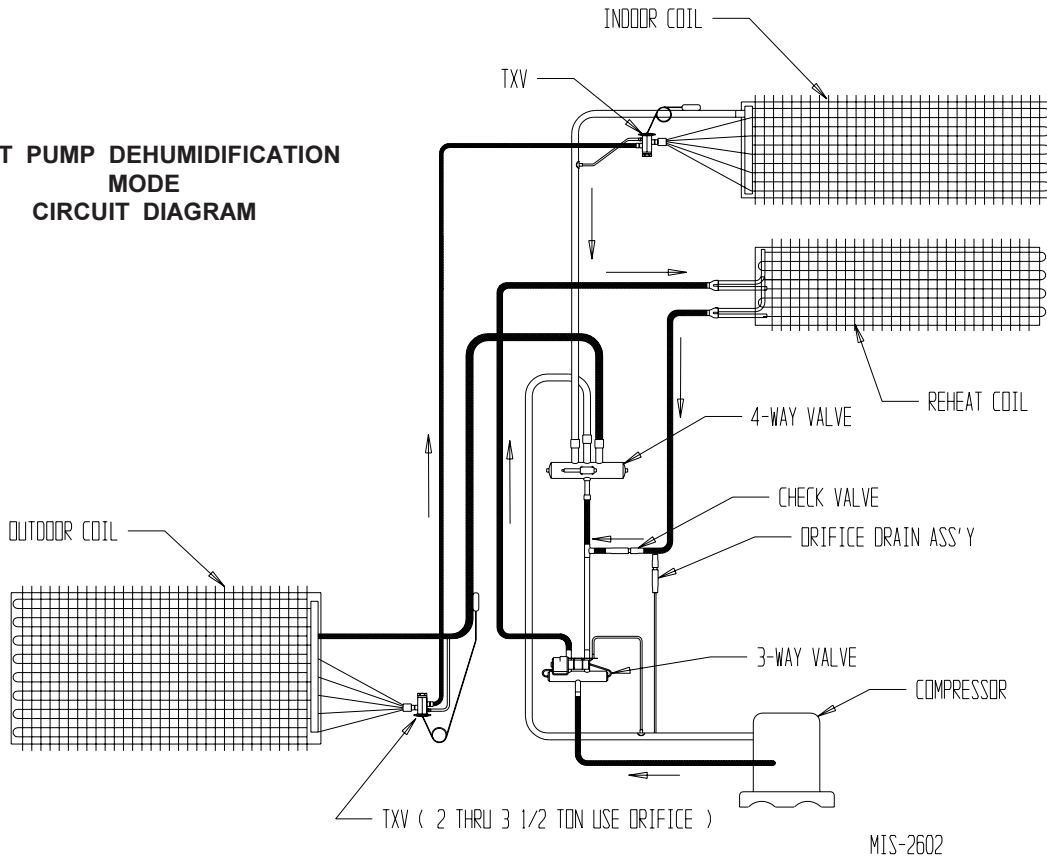
If the mixed air (return and ventilation, if used) temperature (measured at the internal filter location) drops below 65°F during dehumidification cycle, electric heat will cycle to help maintain room temperature to the 65°F condition.

Anytime there is a R-Y call for cooling, dehumidification is canceled and the unit will operate in the cooling mode until satisfied. If dehumidification call is still present when cooling call is satisfied, the unit will continue to operate and revert to dehumidification mode.

**HEAT PUMP COOLING  
MODE  
CIRCUIT DIAGRAM**



**HEAT PUMP DEHUMIDIFICATION  
MODE  
CIRCUIT DIAGRAM**



### S26H1D Application Performance Data

| Indoor Conditions |      | Outdoor Conditions | System Capacity |          |        |       | Pounds of Water/Hour | Evaporator Airflow | Approximate Supply Air | Mode         |
|-------------------|------|--------------------|-----------------|----------|--------|-------|----------------------|--------------------|------------------------|--------------|
| DB/WB             | % RH | DB                 | Total           | Sensible | Latent | S/T   | Lbs.                 | CFM                | DB/WB                  | A/C vs Dehum |
| 65/63             | 90   | 65                 | 28,251          | 11,734   | 16,517 | 0.42  | 15.58                | 800                | 51.7 / 50.7            | A/C          |
| 65/63             | 90   | 65                 | 14,072          | (-1,146) | 15,218 | -0.08 | 14.36                | 800                | 66.3 / 57.3            | Dehum        |
| 75/62.5           | 50   | 75                 | 26,053          | 19,255   | 6,798  | 0.74  | 6.41                 | 800                | 53.2 / 51.1            | A/C          |
| 75/62.5           | 50   | 75                 | 9,007           | 3,374    | 5,633  | 0.37  | 5.31                 | 800                | 71.2 / 58.8            | Dehum        |
| 75/65.5           | 60   | 75                 | 28,204          | 17,207   | 10,997 | 0.61  | 10.37                | 800                | 55.6 / 53.9            | A/C          |
| 75/65.5           | 60   | 75                 | 11,173          | 1,935    | 9,238  | 0.17  | 8.72                 | 800                | 72.8 / 61.2            | Dehum        |
| 75/68             | 70   | 75                 | 29,806          | 14,952   | 14,854 | 0.50  | 14.01                | 800                | 57.8 / 56.5            | A/C          |
| 75/68             | 70   | 75                 | 13,599          | 513      | 13,086 | 0.04  | 12.35                | 800                | 74.4 / 63.2            | Dehum        |
| 80/67             | 50   | 95                 | 25,259          | 18,077   | 7,182  | 0.72  | 6.78                 | 800                | 59.6 / 57.2            | A/C          |
| 80/67             | 50   | 95                 | 1,709           | (-2,749) | 4,458  | -1.61 | 4.21                 | 800                | 83.2 / 66.3            | Dehum        |

### S31H1D Application Performance Data

| Indoor Conditions |      | Outdoor Conditions | System Capacity |          |        |       | Pounds of Water/Hour | Evaporator Airflow | Approximate Supply Air | Mode         |
|-------------------|------|--------------------|-----------------|----------|--------|-------|----------------------|--------------------|------------------------|--------------|
| DB/WB             | % RH | DB                 | Total           | Sensible | Latent | S/T   | Lbs.                 | CFM                | DB/WB                  | A/C vs Dehum |
| 65/63             | 90   | 65                 | 33,776          | 14,388   | 19,388 | 0.43  | 18.29                | 800                | 49.0 / 48.4            | A/C          |
| 65/63             | 90   | 65                 | 16,416          | (-955)   | 17,371 | -0.06 | 16.39                | 800                | 66.2 / 56.5            | Dehum        |
| 75/62.5           | 50   | 75                 | 30,792          | 21,774   | 9,018  | 0.71  | 8.51                 | 800                | 50.4 / 48.9            | A/C          |
| 75/62.5           | 50   | 75                 | 11,091          | 3,417    | 7,674  | 0.31  | 7.24                 | 800                | 71.1 / 58.0            | Dehum        |
| 75/65.5           | 60   | 75                 | 32,832          | 19,330   | 13,502 | 0.59  | 12.74                | 800                | 53.0 / 51.7            | A/C          |
| 75/65.5           | 60   | 75                 | 13,749          | 1,786    | 11,963 | 0.13  | 11.29                | 800                | 73.0 / 60.2            | Dehum        |
| 75/68             | 70   | 75                 | 34,904          | 17,292   | 17,612 | 0.50  | 16.62                | 800                | 55.2 / 54.2            | A/C          |
| 75/68             | 70   | 75                 | 15,477          | 163      | 15,314 | 0.01  | 14.45                | 800                | 74.9 / 62.5            | Dehum        |
| 80/67             | 50   | 95                 | 30,146          | 20,133   | 10,013 | 0.67  | 9.45                 | 800                | 56.2 / 54.5            | A/C          |
| 80/67             | 50   | 95                 | 5,726           | (-2,295) | 8,021  | -0.40 | 7.57                 | 800                | 82.6 / 64.9            | Dehum        |

### S38H1D Application Performance Data

| Indoor Conditions |      | Outdoor Conditions | System Capacity |          |        |       | Pounds of Water/Hour | Evaporator Airflow | Approximate Supply Air | Mode         |
|-------------------|------|--------------------|-----------------|----------|--------|-------|----------------------|--------------------|------------------------|--------------|
| DB/WB             | % RH | DB                 | Total           | Sensible | Latent | S/T   | Lbs.                 | CFM                | DB/WB                  | A/C vs Dehum |
| 65/63             | 90   | 65                 | 43,890          | 18,417   | 25,473 | 0.42  | 24.03                | 1100               | 49.8 / 49.3            | A/C          |
| 65/63             | 90   | 65                 | 21,542          | (-2,129) | 23,671 | -0.10 | 22.33                | 1100               | 66.8 / 56.7            | Dehum        |
| 75/62.5           | 50   | 75                 | 39,738          | 29,684   | 10,054 | 0.75  | 9.48                 | 1100               | 62.5 / 50.7            | A/C          |
| 75/62.5           | 50   | 75                 | 14,834          | 5,768    | 9,066  | 0.39  | 8.55                 | 1100               | 70.2 / 58.1            | Dehum        |
| 75/65.5           | 60   | 75                 | 43,191          | 26,502   | 16,689 | 0.61  | 15.74                | 1100               | 53.3 / 52.5            | A/C          |
| 75/65.5           | 60   | 75                 | 17,766          | 2,871    | 14,895 | 0.16  | 14.05                | 1100               | 72.7 / 60.6            | Dehum        |
| 75/68             | 70   | 75                 | 45,834          | 23,390   | 22,444 | 0.51  | 21.17                | 1100               | 55.8 / 55.0            | A/C          |
| 75/68             | 70   | 75                 | 20,248          | 273      | 19,975 | 0.01  | 18.84                | 1100               | 74.8 / 62.8            | Dehum        |
| 80/67             | 50   | 95                 | 38,172          | 27,724   | 10,448 | 0.73  | 9.86                 | 1100               | 56.8 / 55.7            | A/C          |
| 80/67             | 50   | 95                 | 4,545           | (-1,570) | 6,115  | -0.35 | 5.77                 | 1100               | 81.3 / 65.7            | Dehum        |

Values shown in ( ) are BTUH of heat available at these conditions

### S43H1D Application Performance Data

| Indoor Conditions |      | Outdoor Conditions | System Capacity |          |        |       | Pounds of Water/Hour | Evaporator Airflow | Approximate Supply Air | Mode         |
|-------------------|------|--------------------|-----------------|----------|--------|-------|----------------------|--------------------|------------------------|--------------|
| DB/WB             | % RH | DB                 | Total           | Sensible | Latent | S/T   | Lbs.                 | CFM                | DB/WB                  | A/C vs Dehum |
| 65/63             | 90   | 65                 | 48,763          | 20,914   | 27,849 | 0.43  | 26.27                | 1250               | 49.9 / 49.4            | A/C          |
| 65/63             | 90   | 65                 | 26,525          | (-612)   | 27,137 | -0.02 | 25.60                | 1250               | 65.6 / 57.2            | Dehum        |
| 75/62.5           | 50   | 75                 | 44,513          | 33,094   | 11,419 | 0.74  | 10.77                | 1250               | 50.7 / 49.7            | A/C          |
| 75/62.5           | 50   | 75                 | 17,860          | 7,686    | 10,174 | 0.43  | 9.60                 | 1250               | 69.3 / 57.7            | Dehum        |
| 75/65.5           | 60   | 75                 | 47,938          | 29,365   | 18,573 | 0.61  | 17.52                | 1250               | 53.5 / 52.6            | A/C          |
| 75/65.5           | 60   | 75                 | 21,664          | 4,529    | 17,135 | 0.21  | 16.17                | 1250               | 71.7 / 60.1            | Dehum        |
| 75/68             | 70   | 75                 | 50,345          | 25,837   | 24,508 | 0.51  | 23.12                | 1250               | 56.0 / 55.2            | A/C          |
| 75/68             | 70   | 75                 | 25,029          | 1,667    | 23,362 | 0.07  | 22.04                | 1250               | 73.8 / 62.2            | Dehum        |
| 80/67             | 50   | 95                 | 42,695          | 31,302   | 11,393 | 0.73  | 10.75                | 1250               | 57.1 / 56.0            | A/C          |
| 80/67             | 50   | 95                 | 8,863           | (-255)   | 9,118  | -0.03 | 8.60                 | 1250               | 80.2 / 65.0            | Dehum        |

### S49H1D Application Performance Data

| Indoor Conditions |      | Outdoor Conditions | System Capacity |          |        |       | Pounds of Water/Hour | Evaporator Airflow | Approximate Supply Air | Mode         |
|-------------------|------|--------------------|-----------------|----------|--------|-------|----------------------|--------------------|------------------------|--------------|
| DB/WB             | % RH | DB                 | Total           | Sensible | Latent | S/T   | Lbs.                 | CFM                | DB/WB                  | A/C vs Dehum |
| 65/63             | 90   | 65                 | 52,439          | 22,196   | 30,243 | 0.42  | 28.53                | 1400               | 50.5 / 49.9            | A/C          |
| 65/63             | 90   | 65                 | 27,565          | (-1,084) | 28,649 | -0.04 | 27.03                | 1400               | 65.9 / 56.7            | Dehum        |
| 75/62.5           | 50   | 75                 | 49,881          | 36,912   | 12,969 | 0.74  | 12.23                | 1400               | 50.9 / 49.8            | A/C          |
| 75/62.5           | 50   | 75                 | 19,994          | 8,311    | 11,683 | 0.42  | 11.02                | 1400               | 69.4 / 57.8            | Dehum        |
| 75/65.5           | 60   | 75                 | 52,915          | 32,538   | 20,377 | 0.61  | 19.22                | 1400               | 53.7 / 52.8            | A/C          |
| 75/65.5           | 60   | 75                 | 23,403          | 4,886    | 18,517 | 0.21  | 17.47                | 1400               | 71.8 / 60.3            | Dehum        |
| 75/68             | 70   | 75                 | 55,471          | 28,618   | 26,853 | 0.52  | 25.33                | 1400               | 56.3 / 55.5            | A/C          |
| 75/68             | 70   | 75                 | 26,489          | 1,861    | 24,628 | 0.07  | 23.23                | 1400               | 73.8 / 62.4            | Dehum        |
| 80/67             | 50   | 95                 | 47,735          | 34,996   | 12,739 | 0.73  | 12.02                | 1400               | 57.1 / 55.9            | A/C          |
| 80/67             | 50   | 95                 | 11,634          | 700      | 10,934 | 0.06  | 10.32                | 1400               | 79.5 / 64.5            | Dehum        |

### S61H1D Application Performance Data

| Indoor Conditions |      | Outdoor Conditions | System Capacity |          |        |       | Pounds of Water/Hour | Evaporator Airflow | Approximate Supply Air | Mode         |
|-------------------|------|--------------------|-----------------|----------|--------|-------|----------------------|--------------------|------------------------|--------------|
| DB/WB             | % RH | DB                 | Total           | Sensible | Latent | S/T   | Lbs.                 | CFM                | DB/WB                  | A/C vs Dehum |
| 65/63             | 90   | 65                 | 65,363          | 27,927   | 37,436 | 0.43  | 35.32                | 1450               | 47.5 / 47.0            | A/C          |
| 65/63             | 90   | 65                 | 35,121          | (-1,253) | 36,374 | -0.04 | 34.32                | 1450               | 65.8 / 55.1            | Dehum        |
| 75/62.5           | 50   | 75                 | 60,382          | 42,614   | 17,768 | 0.71  | 16.76                | 1450               | 48.4 / 47.4            | A/C          |
| 75/62.5           | 50   | 75                 | 25,778          | 8,723    | 17,055 | 0.34  | 16.09                | 1450               | 69.5 / 56.7            | Dehum        |
| 75/65.5           | 60   | 75                 | 64,508          | 37,887   | 26,621 | 0.59  | 25.11                | 1450               | 51.4 / 50.5            | A/C          |
| 75/65.5           | 60   | 75                 | 30,297          | 5,060    | 25,237 | 0.17  | 23.81                | 1450               | 71.9 / 59.1            | Dehum        |
| 75/68             | 70   | 75                 | 67,580          | 34,029   | 33,551 | 0.50  | 31.65                | 1450               | 53.8 / 53.1            | A/C          |
| 75/68             | 70   | 75                 | 33,839          | 1,563    | 32,276 | 0.05  | 30.45                | 1450               | 74.1 / 61.2            | Dehum        |
| 80/67             | 50   | 95                 | 58,720          | 40,074   | 18,646 | 0.68  | 17.59                | 1450               | 55.0 / 53.9            | A/C          |
| 80/67             | 50   | 95                 | 16,900          | (-3,099) | 16,931 | 0     | 15.97                | 1450               | 80.0 / 63.6            | Dehum        |

Values shown in ( ) are BTUH of heat available at these conditions

**TABLE 1  
DEHUMIDIFICATION RELAY LOGIC BOARD**

|                   | Inputs to Board |   |   |    |    |    |   |     |   |    | Outputs From Board |    |    |   |   |    |     |   |  |  |
|-------------------|-----------------|---|---|----|----|----|---|-----|---|----|--------------------|----|----|---|---|----|-----|---|--|--|
|                   | G               | Y | B | W2 | E1 | A1 | D | RAT | L | G1 | BK                 | YO | WV | W | E | A2 | TWV | L |  |  |
| Cooling Mode      | X               | X |   |    |    |    |   |     |   | X  | X                  | X  |    |   |   |    |     |   |  |  |
| Cooling Mode      | X               | X |   |    | X  |    |   |     |   | X  | X                  | X  |    |   |   | X  |     |   |  |  |
| Cooling Mode      | X               | X |   |    |    |    | X |     |   | X  | X                  | X  |    |   |   |    |     |   |  |  |
| 1st Stage Heating | X               | X | X |    |    |    |   |     |   | X  | X                  | X  | X  |   |   |    |     |   |  |  |
| 1st Stage Heating |                 |   |   |    |    | X  |   |     |   | X  | X                  | X  | X  |   |   | X  |     |   |  |  |
| 1st Stage Heating | X               | X | X |    |    |    | X |     |   | X  | X                  | X  |    | X |   |    | X   |   |  |  |
| 2nd Stage Heating | X               | X | X | X  |    |    |   |     |   | X  | X                  | X  | X  | X |   |    |     |   |  |  |
| 2nd Stage Heating | X               | X | X | X  |    | X  |   |     |   | X  | X                  | X  | X  | X |   | X  |     |   |  |  |
| 2nd Stage Heating | X               | X | X | X  |    |    | X |     |   | X  | X                  | X  | X  | X |   |    |     |   |  |  |
| Emergency Heat    |                 |   |   | X  | X  |    |   |     |   | X  | X                  |    | X  | X | X |    |     |   |  |  |
| Emergency Heat    |                 |   |   | X  | X  | X  |   |     |   | X  | X                  |    | X  | X | X | X  |     |   |  |  |
| Emergency Heat    |                 |   |   | X  | X  |    | X |     |   | X  |                    | X  |    |   | X |    | X   |   |  |  |
| Dehumidification  |                 |   |   |    |    |    | X |     |   | X  |                    |    |    |   |   |    | X   |   |  |  |
| Dehumidification  |                 |   |   |    |    |    | X | X   |   | X  | X                  |    | X  | X |   |    | X   | X |  |  |

**TABLE 2  
ELECTRICAL SPECIFICATIONS**

| Models         | Rated Volts, HZ and Phase | No. of Field Power Circuits | Single Circuit                |   |                            |                       | Multiple Circuit       |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
|----------------|---------------------------|-----------------------------|-------------------------------|---|----------------------------|-----------------------|------------------------|--------|--------|--|--------|--------|------------------------|--------|--------|-------------------|--------|--------|--|--|----|--|
|                |                           |                             | Minimum Circuit Ampacity<br>① | Maximum External Fuse or Circuit Breaker<br>② | Field Power Wire Size<br>③ | Ground Wire Size<br>④ | Min. Circuit Ampacity⑤ |        |        | Max. Circuit Exterior Fuse or Crt. Bkr.⑥ |        |        | Field Power Wire Size⑦ |        |        | Ground Wire Size⑧ |        |        |  |  |    |  |
|                |                           |                             |                               |   |                            |                       | Ckt. A                 | Ckt. B | Ckt. C | Ckt. A                                   | Ckt. B | Ckt. C | Ckt. A                 | Ckt. B | Ckt. C | Ckt. A            | Ckt. B | Ckt. C |  |  |    |  |
| S26H1DA00, AOZ | 230/208-60-1              | 1                           | 23                            | 30  | 10                         | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DA04           |                           | 1                           | 44                            | 50  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| ④ DA08         |                           | 1                           | 47                            | 50  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| S26H1DB00, BOZ | 230/208-60-3              | 1                           | 17                            | 20  | 12                         | 12                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DB06           |                           | 1                           | 35                            | 40  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| S26H1DC00, COZ | 460-60-3                  | 1                           | 10                            | 15  | 14                         | 14                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DC06           |                           | 1                           | 19                            | 20  | 12                         | 12                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| S31H1DA00, AOZ | 230/208-60-1              | 1                           | 27                            | 35  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DA04           |                           | 1                           | 48                            | 50  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| ④ DA08         |                           | 1                           | 48                            | 50  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| S31H1DB00, BOZ | 230/208-60-3              | 1                           | 19                            | 25  | 10                         | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DB06           |                           | 1                           | 37                            | 40  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| S31H1DC00, COZ | 460-60-3                  | 1                           | 10                            | 15  | 14                         | 14                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DC06           |                           | 1                           | 19                            | 20  | 12                         | 12                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| S38H1DA00, AOZ | 230/208-60-1              | 1                           | 34                            | 45  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DA05           |                           | 1                           | 59                            | 60  | 6                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DA08           |                           | 1 or 2                      | 75                            | 80  | 4                          | 8                     | 34                     | 42     |        | 45                                       | 45     |        | 8                      | 8      |        | 10                | 10     |        |  |  |    |  |
| DA10           |                           | 1 or 2                      | 85                            | 90  | 4                          | 8                     | 34                     | 52     |        | 45                                       | 60     |        | 8                      | 6      |        | 10                | 10     |        |  |  |    |  |
| ⑤ DA15         |                           | 1 or 2                      | 87                            | 90  | 3                          | 8                     | 35                     | 52     |        | 45                                       | 60     |        | 8                      | 6      |        | 10                | 10     |        |  |  |    |  |
| S38H1DB00, BOZ | 230/208-60-3              | 1                           | 26                            | 35  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DB06           |                           | 1                           | 44                            | 50  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DB09           |                           | 1                           | 54                            | 60  | 6                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| ⑥ DB15         |                           | 1                           | 54                            | 60  | 6                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| S38H1DC0Z      | 460-60-3                  | 1                           | 14                            | 15  | 14                         | 14                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DC06           |                           | 1                           | 23                            | 25  | 10                         | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DC09           |                           | 1                           | 28                            | 30  | 10                         | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| ⑥ DC15         |                           | 1                           | 28                            | 30  | 10                         | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| S43H1DA00, AOZ | 230/208-60-1              | 1                           | 34                            | 50  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DA04           |                           | 1                           | 55                            | 60  | 6                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DA05           |                           | 1 or 2                      | 60                            | 70  | 6                          | 8                     | 34                     | 26     |        | 50                                       | 30     |        | 8                      | 10     |        | 10                | 10     |        |  |  |    |  |
| DA08           |                           | 1 or 2                      | 76                            | 80  | 4                          | 8                     | 34                     | 42     |        | 50                                       | 45     |        | 8                      | 8      |        | 10                | 10     |        |  |  |    |  |
| DA10           |                           | 1 or 2                      | 86                            | 90  | 3                          | 8                     | 34                     | 52     |        | 50                                       | 60     |        | 8                      | 6      |        | 10                | 10     |        |  |  |    |  |
| ⑤ DA15         |                           | 1 or 2                      | 87                            | 90  | 3                          | 8                     | 35                     | 52     |        | 50                                       | 60     |        | 8                      | 6      |        | 10                | 10     |        |  |  |    |  |
| S43H1DB00, BOZ | 230/208-60-3              | 1                           | 27                            | 35  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DB06           |                           | 1                           | 45                            | 50  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DB09           |                           | 1                           | 54                            | 60  | 6                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| ⑥ DB15         |                           | 1                           | 54                            | 60  | 6                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| S43H1DC0Z      | 460-60-3                  | 1                           | 14                            | 20  | 12                         | 12                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DC06           |                           | 1                           | 23                            | 25  | 10                         | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DC09           |                           | 1                           | 27                            | 30  | 10                         | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| ⑥ DC15         |                           | 1                           | 28                            | 30  | 10                         | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| S49H1DA00, AOZ | 230/208-60-1              | 1                           | 39                            | 50  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DA05           |                           | 1 or 2                      | 65                            | 70  | 6                          | 8                     | 39                     | 26     |        | 50                                       | 30     |        | 8                      | 10     |        | 10                | 10     |        |  |  |    |  |
| DA08           |                           | 1 or 2                      | 80                            | 90  | 4                          | 8                     | 39                     | 42     |        | 50                                       | 45     |        | 8                      | 8      |        | 10                | 10     |        |  |  |    |  |
| DA10           |                           | 1 or 2                      | 91                            | 100   | 3                          | 8                     | 39                     | 52     |        | 50                                       | 60     |        | 8                      | 6      |        | 10                | 10     |        |  |  |    |  |
| ⑤ DA15         |                           | 1 or 2                      | 91                            | 100   | 3                          | 8                     | 39                     | 52     |        | 50                                       | 60     |        | 8                      | 6      |        | 10                | 10     |        |  |  |    |  |
| S49H1DB00, BOZ | 230/208-60-3              | 1                           | 29                            | 40  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DB06           |                           | 1                           | 47                            | 50  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DB09           |                           | 1                           | 57                            | 60  | 6                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| ⑥ DB15         |                           | 1                           | 57                            | 60  | 6                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| S49H1DC0Z      | 460-60-3                  | 1                           | 15                            | 20  | 12                         | 12                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DC06           |                           | 1                           | 24                            | 25  | 10                         | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DC09           |                           | 1                           | 28                            | 30  | 10                         | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| ⑥ DC15         |                           | 1                           | 28                            | 30  | 10                         | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| S61H1DA00, AOZ | 230/208-60-1              | 1                           | 44                            | 60  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DA05           |                           | 1 or 2                      | 70                            | 80  | 4                          | 8                     | 44                     | 26     |        | 60                                       | 30     |        | 8                      | 10     |        | 10                | 10     |        |  |  |    |  |
| DA10           |                           | 1 or 2                      | 96                            | 100   | 3                          | 8                     | 44                     | 52     |        | 60                                       | 60     |        | 8                      | 6      |        | 10                | 10     |        |  |  |    |  |
| ⑤ DA15         |                           | 1 or 2                      | 96                            | 100   | 3                          | 8                     | 44                     | 52     |        | 60                                       | 60     |        | 8                      | 6      |        | 10                | 10     |        |  |  |    |  |
| ⑤ DA20         |                           | 1 or 3                      | 113                           | 125   | 2                          | 6                     | 44                     | 52     | 26     | 60                                       | 60     | 30     | 6                      | 6      | 10     | 10                | 10     | 10     |  |  | 10 |  |
| S61H1DB00, BOZ | 230/208-60-3              | 1                           | 30                            | 40  | 8                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DB09           |                           | 1                           | 57                            | 60  | 6                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| ⑥ DB15         |                           | 1                           | 57                            | 60  | 6                          | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| S61H1DC0Z      | 460-60-3                  | 1                           | 16                            | 20  | 12                         | 12                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| DC09           |                           | 1                           | 30                            | 30  | 10                         | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |
| ⑥ DC15         |                           | 1                           | 30                            | 30  | 10                         | 10                    |                        |        |        |  |        |        |                        |        |        |                   |        |        |  |  |    |  |

① These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors. Refer to the National Electrical Code (latest version), Article 310 for power conductor sizing. **Caution:** When more than one field power circuit is run through one conduit, the conductors must be derated. Pay special attention to note 8 of Table 310 regarding Ampacity Adjustment Factors when more than three (3) conductors are in a raceway.

② Maximum size of the time delay fuse or HACR type circuit breaker for protection of field wiring conductors.

③ Based on 75°C copper wire. All wiring must conform to the National Electrical Code and all local codes.

④ Maximum KW that can operate with the heat pump on is 4KW.

⑤ Maximum KW that can operate with the heat pump on is 10KW.

⑥ Maximum KW that can operate with the heat pump on is 9KW.