



## Performance Data

| INDOOR COIL<br>ENTERING AIR<br>TEMP °C |       | OUTDOOR COIL ENTERING AIR TEMPERATURE °C |                |           |               |                |           |               |                |           |               |                |           |
|--|-------|--|----------------|-----------|---------------|----------------|-----------|---------------|----------------|-----------|---------------|----------------|-----------|
|  |       | 30°C                                     |                |           | 35°C          |                |           | 40°C          |                |           | 45°C          |                |           |
|  |       | Tot Cap<br>KW                            | Sens Cap<br>KW | LWB<br>°C | Tot Cap<br>KW | Sens Cap<br>KW | LWB<br>°C | Tot Cap<br>KW | Sens Cap<br>KW | LWB<br>°C | Tot Cap<br>KW | Sens Cap<br>KW | LWB<br>°C |
| DB °C                                  | WB °C |  |                |           |               |                |           |               |                |           |               |                |           |
| 21                                     | 17    | 14.0                                     | 9.1            | 9.8       | 13.2          | 8.8            | 9.0       | 12.6          | 8.5            | 12.9      | 11.7          | 8.5            | 13.3      |
|  | 18    | 14.7                                     | 8.1            | 9.0       | 13.7          | 7.8            | 13.6      | 13.0          | 7.5            | 14.0      | 12.2          | 7.0            | 14.3      |
|  | 19    | 15.0                                     | 7.1            | 7.8       | 14.4          | 6.8            | 14.8      | 13.7          | 6.5            | 15.0      | 12.7          | 6.0            | 15.3      |
|  | 20    | 16.0                                     | 6.0            | 6.7       | 15.0          | 5.7            | 15.8      | 14.3          | 5.5            | 16.0      | 13.3          | 5.0            | 16.3      |
| 23                                     | 17    | 14.0                                     | 11.1           | 12.3      | 13.3          | 11.0           | 12.6      | 12.8          | 10.6           | 13.0      | 11.7          | 10.2           | 13.1      |
|  | 18    | 14.4                                     | 9.1            | 13.4      | 13.7          | 10.8           | 13.7      | 13.4          | 9.5            | 14.0      | 12.2          | 9.0            | 14.1      |
|  | 19    | 15.0                                     | 9.1            | 15.4      | 14.3          | 9.8            | 14.7      | 13.6          | 8.5            | 15.0      | 12.8          | 8.1            | 15.2      |
|  | 20    | 15.7                                     | 8.0            | 15.4      | 14.7          | 8.8            | 15.8      | 14.4          | 7.5            | 16.0      | 13.3          | 7.3            | 16.2      |
|  | 21    | 16.3                                     | 7.0            | 16.4      | 15.4          | 7.7            | 16.8      | 15.0          | 6.4            | 17.0      | 14.0          | 6.0            | 17.1      |
| 25                                     | 17    | 14.2                                     | 12.8           | 12.4      | 13.5          | 12.7           | 12.4      | 13.0          | 12.2           | 12.8      | 12            | 11.7           | 13.0      |
|  | 18    | 14.5                                     | 12.5           | 13.4      | 14.0          | 12.5           | 13.7      | 13.3          | 11.7           | 13.9      | 12.2          | 11.0           | 14.1      |
|  | 19    | 15.0                                     | 12.0           | 14.4      | 14.3          | 11.9           | 14.7      | 13.6          | 10.5           | 15.0      | 12.8          | 10.1           | 15.2      |
|  | 20    | 15.6                                     | 11.3           | 15.4      | 14.9          | 10.8           | 15.7      | 14.2          | 9.5            | 16.0      | 13.7          | 8.8            | 16.1      |
|  | 21    | 16.3                                     | 10.7           | 16.6      | 15.6          | 10.0           | 17.3      | 15.0          | 8.2            | 17.0      | 14.0          | 7.3            | 17.1      |
| 27                                     | 17    | 14.5                                     | 14.1           | 12.0      | 14.0          | 13.8           | 12.4      | 13.3          | 12.8           | 12.5      | 12.6          | 12.6           | 12.8      |
|  | 18    | 14.7                                     | 13.8           | 13.2      | 14.1          | 13.5           | 13.5      | 13.4          | 11.7           | 13.9      | 12.6          | 12.6           | 13.9      |
|  | 19    | 15.1                                     | 13.6           | 14.3      | 14.3          | 13.0           | 14.8      | 13.7          | 10.9           | 15.0      | 12.7          | 12.1           | 15.2      |
|  | 20    | 15.6                                     | 12.7           | 15.4      | 15.0          | 11.6           | 15.3      | 14.2          | 10.5           | 16.0      | 13.4          | 9.7            | 16.2      |
|  | 21    | 16.3                                     | 11.6           | 16.5      | 15.8          | 10.7           | 16.0      | 15.0          | 9.4            | 17.0      | 14.0          | 8.6            | 17.2      |
| 29                                     | 17    | 15.0                                     | 14.3           | 12.0      | 14.4          | 14.2           | 12.0      | 14.0          | 14.0           | 12.1      | 13.2          | 13.2           | 12.5      |
|  | 18    | 15.1                                     | 14.0           | 13.0      | 14.5          | 13.9           | 13.3      | 14.0          | 14.0           | 13.5      | 13.2          | 13.2           | 14.0      |
|  | 19    | 15.2                                     | 13.7           | 14.4      | 14.5          | 13.5           | 15.0      | 14.0          | 14.0           | 15.0      | 13.2          | 13.2           | 15.2      |
|  | 20    | 15.7                                     | 13.1           | 15.6      | 14.9          | 13.0           | 16.1      | 14.4          | 13.5           | 16.0      | 13.6          | 11.4           | 16.3      |
|  | 21    | 16.3                                     | 12.7           | 16.5      | 15.8          | 12.7           | 17.0      | 15.0          | 12.0           | 17.0      | 14.0          | 9.9            | 17.3      |
| 31                                     | 17    | 15.6                                     | 15.2           | 11.5      | 15.0          | 15.0           | 12.0      | 14.6          | 14.6           | 13.5      | 14.0          | 14.0           | 12.5      |
|  | 18    | 15.7                                     | 15.1           | 12.9      | 15.0          | 15.0           | 13.0      | 14.6          | 14.6           | 14.0      | 14.1          | 14.0           | 13.9      |
|  | 19    | 15.7                                     | 14.9           | 13.9      | 15.0          | 15.0           | 15.4      | 14.6          | 14.6           | 15.0      | 14.2          | 14.1           | 15.0      |
|  | 20    | 15.8                                     | 14.8           | 15.4      | 15.0          | 15.0           | 16.6      | 14.8          | 14.3           | 15.9      | 14.2          | 13.9           | 16.1      |
|  | 21    | 16.3                                     | 14.5           | 16.4      | 15.8          | 14.6           | 16.7      | 15.4          | 14.0           | 17.1      | 14.2          | 13.6           | 17.4      |

Capacity multipliers should be applied to the above capacities to adjust for reduced or increased air flow.



## Technical Specification PHSE15 Economy Cycle Rooftop Package

|                                   |      |                                    |         |
|-----------------------------------|------|------------------------------------|---------|
| Total Cooling Capacity (kW)*      | 14.3 | Number of Compressors              | 1       |
| Sensible Cooling Capacity (kW)*   | 13   | Power Requirements (Volt / Phase)  | 415 / 3 |
| Heating Capacity (kW)**           | 14.2 | Normal Max. Current (Amps / Phase) | 11.8    |
| Nominal Evaporator Air Flow (l/s) | 850  |                                    |         |

\*Entering air @ 27/19°C and ambient 35°C      \*\* Entering air @ 21°C DB and 7°C ambient

### Air Quantity Multiplying Factors

| Capacity         | % Rated Air Quantity-Nominal 850 l/s |      |      |      |      |
|------------------|--------------------------------------|------|------|------|------|
|                  | 80                                   | 90   | 100  | 110  | 120  |
| Total Cooling    | 0.95                                 | 0.98 | 1.00 | 1.02 | 1.04 |
| Sensible Cooling | 0.89                                 | 0.95 | 1.00 | 1.05 | 1.09 |

### Heating Performance Data

| Heating Capacity kW | Outdoor Coil Entering DB temp |    |    |      |      |
|---------------------|-------------------------------|----|----|------|------|
|                     | 0                             | 4  | 8  | 12   | 18   |
|                     | 11                            | 13 | 15 | 16.1 | 18.2 |

### Heating Performance Correction

| % Rated Air Quality | Multiplier | Return Air Temp °C | Multiplier | Outdoor Air Temp °C | Approx. Defrost Factor |
|---------------------|------------|--------------------|------------|---------------------|------------------------|
| 80                  | 0.93       | 15                 | 1.05       | 0                   | 0.80                   |
| 90                  | 0.97       | 18                 | 1.03       | 2                   | 0.78                   |
| 100                 | 1.00       | 21                 | 1.00       | 4-6                 | 0.75                   |
| 110                 | 1.03       | 24                 | 0.97       | 7                   | 0.87                   |
| 120                 | 1.05       | 27                 | 0.95       | 8                   | 1.00                   |

### Compressor

|                                     |        |
|-------------------------------------|--------|
| Number Per Unit                     | 1      |
| Type                                | Scroll |
| RPM (Nom)                           | 2900   |
| Normal Max. Current (Amps / Phase)  | 9.4    |
| Locked Rotor Current (Amps / Phase) | 65.8   |
| Displacement (m <sup>3</sup> /h)    | 17.5   |

### Electrical Controls and Safeties

|                                    |          |                                  |    |
|------------------------------------|----------|----------------------------------|----|
| High Pressure Switch (Setting kPa) | 2800     | Defrost                          |    |
| Low Pressure Switch (Setting kPa)  | 100      | Initiation Temperature (°C)      | -4 |
| Indoor Fan Overload                | Internal | Termination Temperature (°C)     | 10 |
| Outdoor Fan Overload               | Internal | Min. Period Between De-Ice (min) | 33 |
| Compressor Delay Timer             | 300 sec  | Max. De-Ice Period (min)         | 4  |

### Standard Features

|  |                                 |
|--|---------------------------------|
| Manual reset high pressure and auto reset low pressure cutouts |                                 |
| Thermal overload protection on all motors                      | Suction line accumulator        |
| Compressor crankcase heater                                    | Automatic de-ice system         |
| Limit start timer (anti short cycling)                         | Thermally insulated indoor unit |

### Evaporator

|                    |                              |
|--------------------|------------------------------|
| Type               | Copper Tube / Aluminium Fins |
| Face Area (m)      | 0.38                         |
| Air Quantity (l/s) | 850                          |

### Evaporator (Indoor)

|                                   |              |
|-----------------------------------|--------------|
| Number of Fans                    | 1            |
| Type                              | Centrifugal  |
| Drive                             | Direct       |
| Motor Voltage / Phase / Frequency | 415 / 3 / 50 |
| Motor (kW) Standard               | 0.55         |
| Maximum Fan Speed (rpm)           | 1045         |

### Electrical

|                                    |                       |
|------------------------------------|-----------------------|
| Power Requirements                 | 3 Phase / 415V / 50Hz |
| Normal Max. Current (Amps / Phase) | 11.8                  |

### Condenser

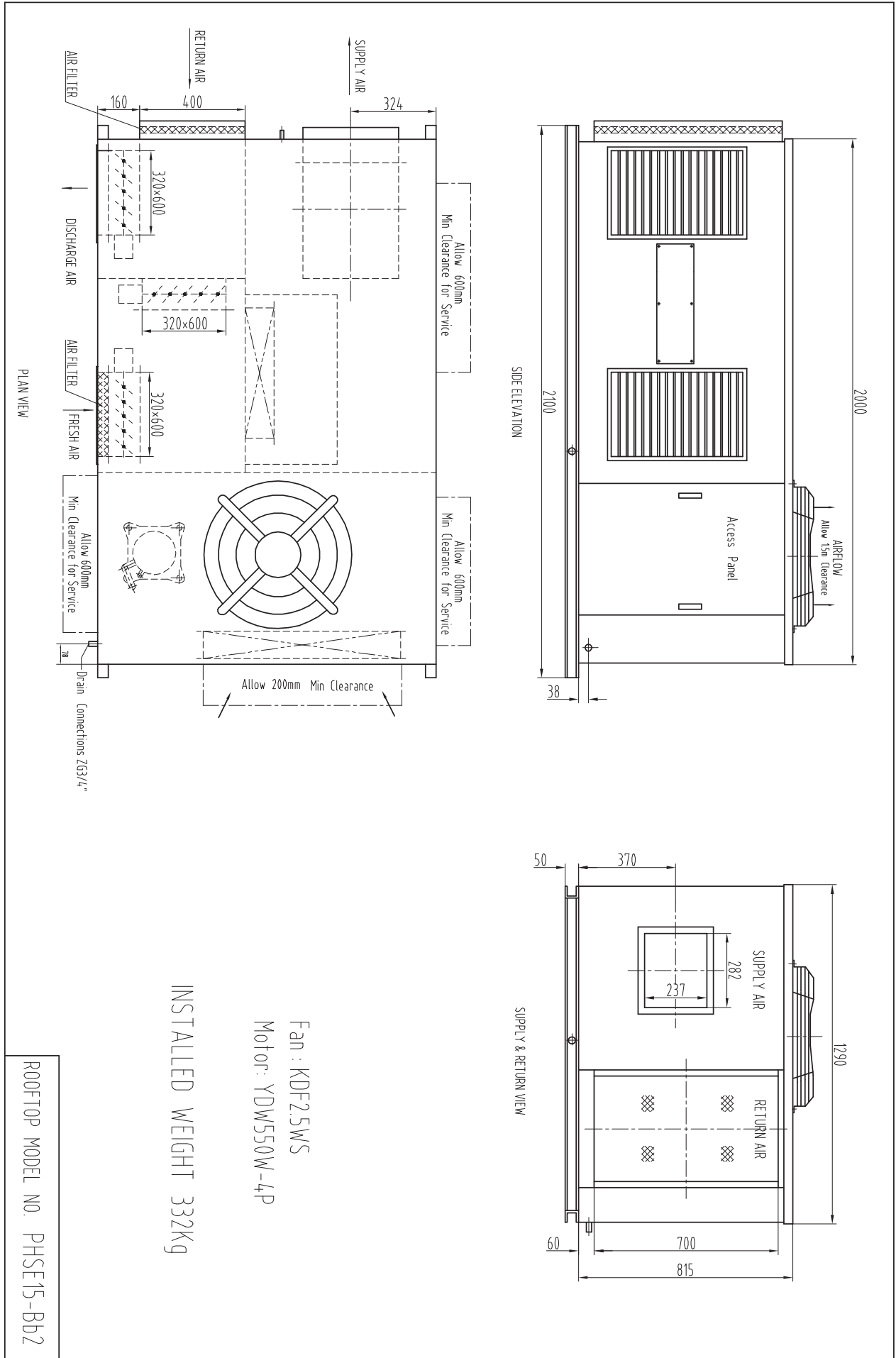
|           |                              |
|-----------|------------------------------|
| Type      | Copper Tube / Aluminium Fins |
| Face Area | 0.68                         |

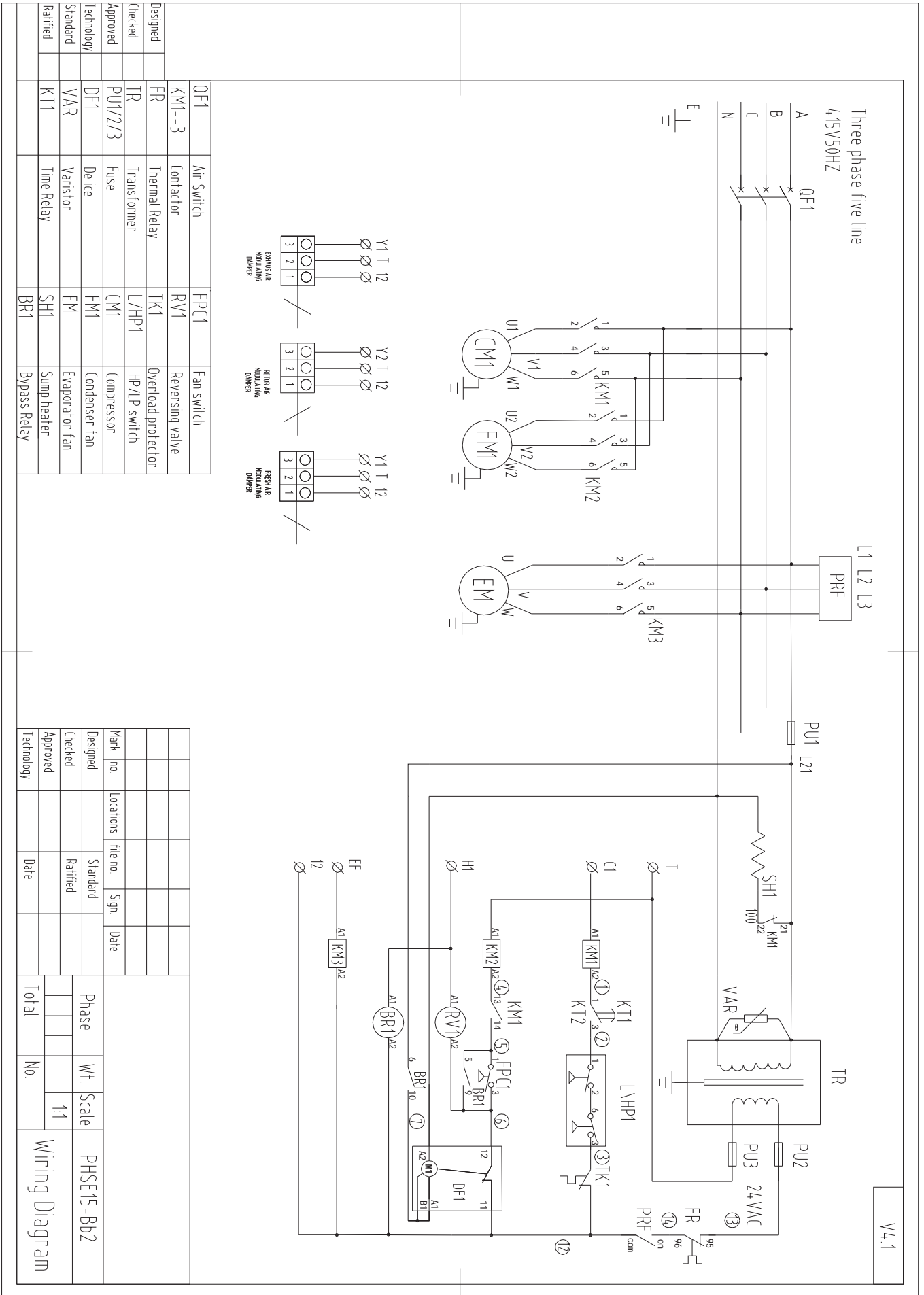
### Condenser (Outdoor)

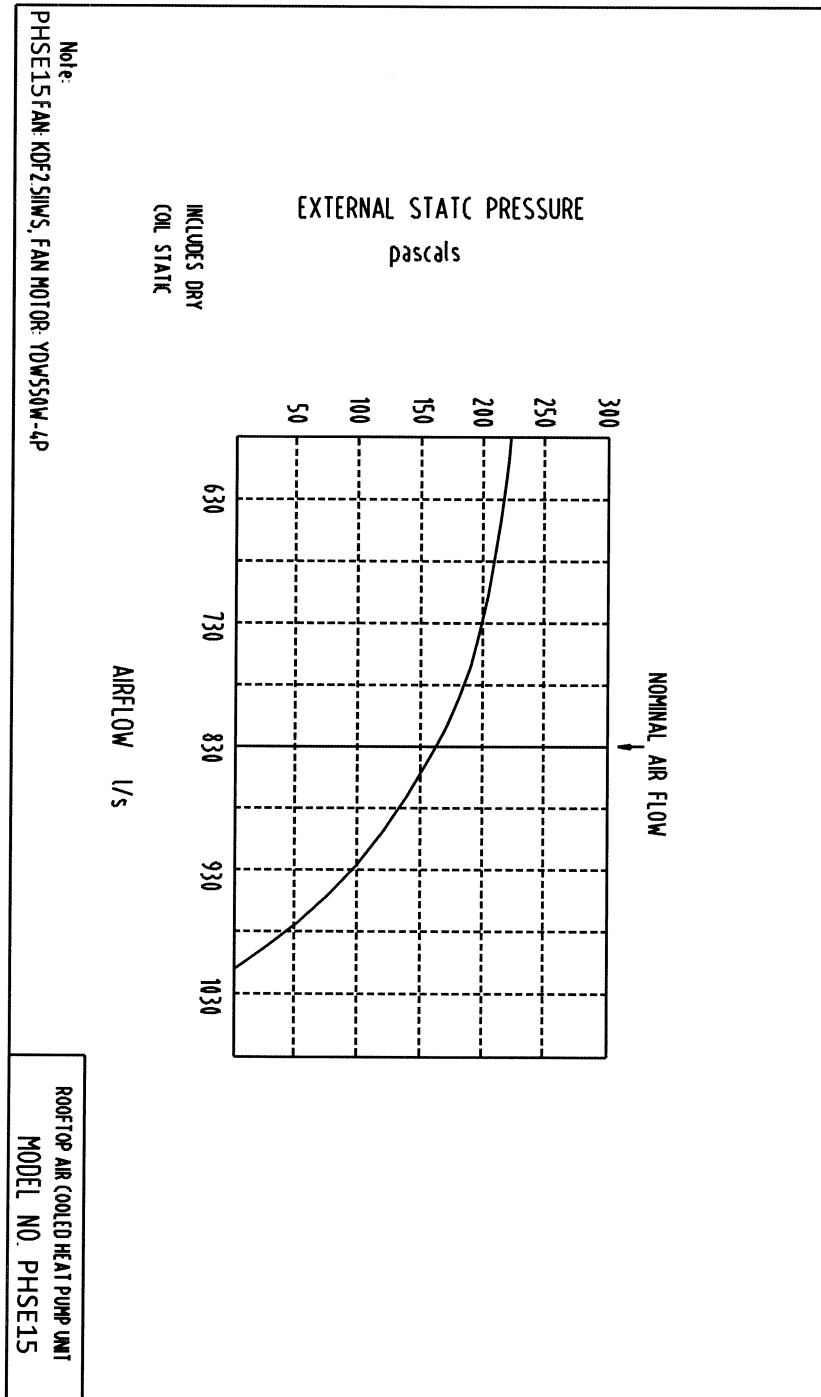
|                                   |              |
|-----------------------------------|--------------|
| Number of Fans                    | 1            |
| Type                              | Axial        |
| Drive                             | Direct       |
| Motor Type                        | Enclosed     |
| Motor Watts / rpm                 | 300 / 950    |
| Motor Voltage / Phase / Frequency | 415 / 3 / 50 |

### Refrigeration System

|                                     |                   |
|-------------------------------------|-------------------|
| Refrigerant Type                    | R410a             |
| Charge (kg)                         | 4.6               |
| Service Connections                 | Rotor Lock Valves |
| Expansion Control – in outdoor unit | TX Valve          |







PHSE15 Noise rate analysing chart

A Class: 70.6dB

| Hz     | dB   |
|--------|------|
| 64Hz   | 76.5 |
| 125Hz  | 72.9 |
| 250Hz  | 68.9 |
| 500Hz  | 67.0 |
| 1000Hz | 66.7 |
| 2000Hz | 60.9 |
| 4000Hz | 55.3 |
| 8000Hz | 48.0 |

Noise rate analysing chart ( A Class: 70.6dB) dB

