



DUNNAIR
(Aust) Pty Ltd

R410a Refrigerant

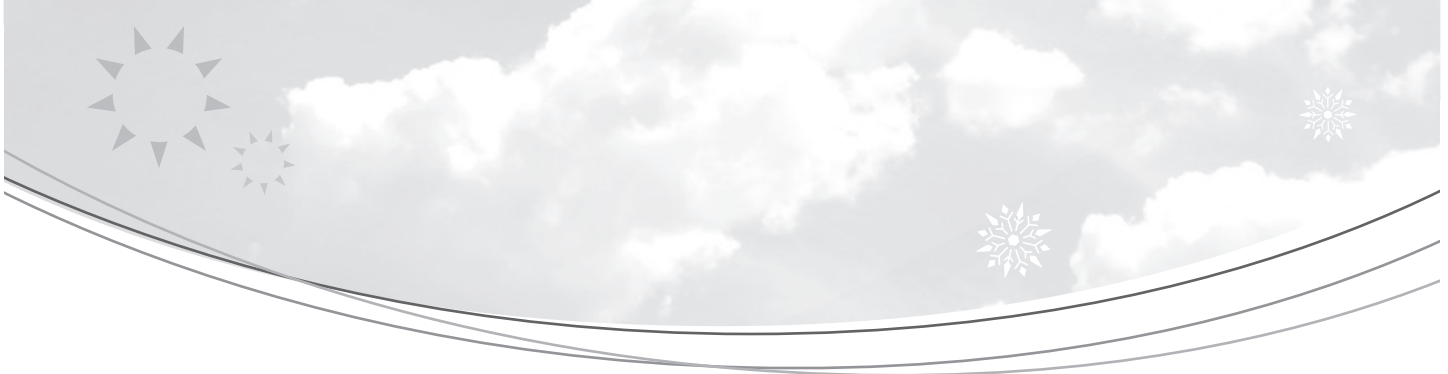
SHS12

Split Ducted Model

Performance Data

| INDOOR COIL ENTERING AIR TEMP °C | | OUTDOOR COIL ENTERING AIR TEMPERATURE °C | | | | | | | | | | | |
|----------------------------------|-------|--|-------------|--------|------------|-------------|--------|------------|-------------|--------|------------|-------------|--------|
| | | 30°C | | | 35°C | | | 40°C | | | 45°C | | |
| | | Tot Cap KW | Sens Cap KW | LWB °C | Tot Cap KW | Sens Cap KW | LWB °C | Tot Cap KW | Sens Cap KW | LWB °C | Tot Cap KW | Sens Cap KW | LWB °C |
| DB °C | WB °C | | | | | | | | | | | | |
| 21 | 17 | 11.5 | 6.8 | 12.2 | 10.9 | 6.5 | 12.6 | 10.2 | 6.2 | 13.5 | 9.7 | 6.2 | 13.0 |
| | 18 | 12.0 | 6.0 | 13 | 11.3 | 5.7 | 13.8 | 10.7 | 5.4 | 14.0 | 10.2 | 5.2 | 14.3 |
| | 19 | 12.5 | 5.2 | 14.5 | 11.8 | 4.9 | 14.8 | 11.1 | 4.6 | 15.1 | 10.6 | 4.4 | 15.3 |
| | 20 | 13.0 | 4.4 | 15.5 | 12.3 | 4.1 | 15.6 | 11.5 | 3.8 | 16.1 | 11.1 | 3.6 | 16.4 |
| 23 | 17 | 11.6 | 8.3 | 12.3 | 10.9 | 8.0 | 12.6 | 10.2 | 7.7 | 13.0 | 10.6 | 7.5 | 13.2 |
| | 18 | 12.0 | 7.6 | 13.4 | 11.3 | 7.3 | 13.8 | 10.6 | 7.0 | 14.0 | 11.1 | 6.8 | 14.4 |
| | 19 | 12.5 | 6.7 | 14.5 | 11.8 | 6.4 | 14.8 | 11.1 | 6.1 | 15.1 | 11.5 | 5.9 | 15.5 |
| | 20 | 13.0 | 5.9 | 15.6 | 12.3 | 5.6 | 15.8 | 11.5 | 5.3 | 16.2 | 11.1 | 5.2 | 16.5 |
| | 21 | 13.4 | 5.0 | 16.6 | 12.7 | 4.7 | 16.7 | 12.0 | 4.4 | 17.1 | 11.5 | 4.2 | 17.0 |
| 25 | 17 | 11.6 | 9.9 | 12.2 | 11.0 | 9.7 | 12.5 | 10.3 | 9.3 | 12.8 | 9.8 | 9.1 | 13.2 |
| | 18 | 12.0 | 9.4 | 13.4 | 11.3 | 8.8 | 13.8 | 10.6 | 8.6 | 14.1 | 10.1 | 8.3 | 14.4 |
| | 19 | 12.5 | 8.8 | 14.4 | 11.8 | 8.0 | 14.7 | 11.1 | 7.7 | 15.1 | 10.6 | 7.5 | 15.3 |
| | 20 | 13.0 | 8.2 | 15.6 | 12.2 | 7.2 | 15.8 | 11.5 | 6.8 | 16.3 | 11.0 | 6.7 | 16.5 |
| | 21 | 13.4 | 7.6 | 16.6 | 11.5 | 5.7 | 17.4 | 11.9 | 5.9 | 17.3 | 11.5 | 5.7 | 17.5 |
| 27 | 17 | 11.9 | 11.0 | 12.0 | 11.2 | 10.7 | 12.1 | 10.6 | 10.3 | 12.8 | 11.0 | 10.1 | 12.9 |
| | 18 | 12.1 | 10.7 | 13.3 | 11.4 | 10.4 | 13.5 | 10.7 | 10.1 | 14.0 | 10.2 | 9.9 | 14.2 |
| | 19 | 12.5 | 9.8 | 14.4 | 11.5 | 9.7 | 14.3 | 11.1 | 9.2 | 15.1 | 10.6 | 9.0 | 15.3 |
| | 20 | 12.9 | 9.0 | 15.5 | 12.2 | 8.7 | 16.0 | 11.5 | 8.4 | 16.3 | 11.0 | 8.2 | 16.5 |
| | 21 | 13.4 | 8.1 | 16.5 | 12.7 | 7.8 | 16.8 | 11.9 | 7.5 | 17.1 | 11.5 | 7.3 | 17.5 |
| 29 | 17 | 12.2 | 12.0 | 11.9 | 11.6 | 11.2 | 12.3 | 10.9 | 10.6 | 12.6 | 10.5 | 10.5 | 12.8 |
| | 18 | 12.3 | 11.9 | 13.1 | 11.6 | 11.2 | 13.4 | 10.9 | 10.6 | 13.8 | 10.5 | 10.5 | 14.0 |
| | 19 | 12.5 | 11.4 | 14.3 | 11.9 | 11.1 | 14.7 | 11.1 | 10.8 | 15.0 | 10.7 | 10.6 | 15.3 |
| | 20 | 12.9 | 10.5 | 15.5 | 12.2 | 10.2 | 15.8 | 11.4 | 9.9 | 16.3 | 11.0 | 9.7 | 16.5 |
| | 21 | 13.4 | 9.6 | 16.5 | 12.7 | 9.3 | 16.6 | 11.9 | 9.0 | 17.2 | 11.5 | 8.8 | 17.4 |
| 31 | 17 | 12.7 | 12.7 | 11.7 | 12.0 | 12.0 | 12.1 | 11.0 | 11.0 | 12.5 | 10.9 | 10.9 | 12.7 |
| | 18 | 12.7 | 12.7 | 13.0 | 12.0 | 12.0 | 13.3 | 11.3 | 11.3 | 13.6 | 10.9 | 10.9 | 13.9 |
| | 19 | 12.7 | 12.7 | 14.2 | 12.0 | 12.0 | 14.6 | 11.3 | 11.2 | 14.8 | 10.8 | 10.8 | 15.2 |
| | 20 | 13.0 | 12.0 | 15.4 | 12.3 | 11.7 | 15.8 | 11.5 | 10.6 | 16.2 | 11.1 | 11.1 | 16.4 |
| | 21 | 13.4 | 11.1 | 16.5 | 12.7 | 10.9 | 16.5 | 11.9 | 10.5 | 17.2 | 11.5 | 10.4 | 17.3 |

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



Technical Specification SHS12 Split Ducted Model

| | | | |
|---------------------------------|--------|------------------------------------|---------|
| Indoor Unit Model Number | SHS12N | Nominal Evaporator Air Flow (l/s) | 695 |
| Outdoor Unit Model Number | SHS12W | Number of Compressors | 1 |
| Total Cooling Capacity (kW)* | 11.5 | Power Requirements (Volt / Phase) | 415 / 3 |
| Sensible Cooling Capacity (kW)* | 9.7 | Normal Max. Current (Amps / Phase) | 11.6 |
| Heating Capacity (kW)** | 12.1 | | |

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

Air Quantity Multiplying Factors

| % Rated Air Quantity-Nominal 695 l/s | | | | | |
|--------------------------------------|------|------|------|------|------|
| Capacity | 80 | 90 | 100 | 110 | 120 |
| Total | 0.95 | 0.98 | 1.00 | 1.02 | 1.04 |
| Sensible | 0.89 | 0.95 | 1.00 | 1.05 | 1.09 |

Heating Performance Data

| Outdoor Coil Entering DB temp | | | | | |
|-------------------------------|------|------|------|------|------|
| | 0 | 4 | 8 | 12 | 18 |
| Heating Capacity kW | 10.5 | 11.8 | 12.5 | 13.6 | 15.1 |

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) | 7.0 |
| Locked Rotor Current (Amps / Phase) | 53.5 |
| Displacement (m³/h) | 14.2 |

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 |

Indoor Coil

| | |
|--------------------|------------------------------|
| Type | Copper Tube / Aluminium Fins |
| Face Area (m) | 0.36 |
| Air Quantity (l/s) | 695 |

Indoor Fan

| | |
|-----------------------------------|--------------|
| Number of Fans | 2 |
| Type | Centrifugal |
| Drive | Direct |
| Motor Voltage / Phase / Frequency | 240 / 1 / 50 |
| Motor (kW) Standard | 2 × 0.37 |
| Max. Fan Speed (rpm) | 1330 |

Electrical

| | |
|------------------------------------|-----------------------|
| Power Requirements | 3 Phase / 415V / 50Hz |
| Normal Max. Current (Amps / Phase) | 11.6 |

Outdoor Coil

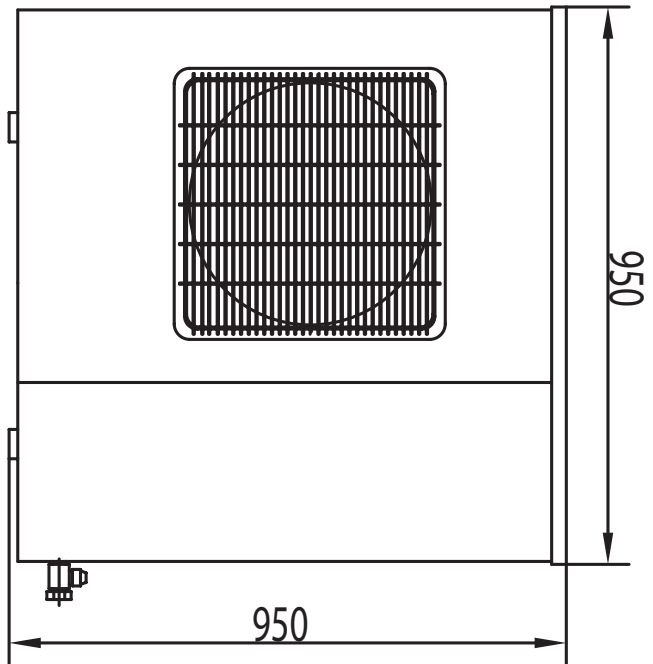
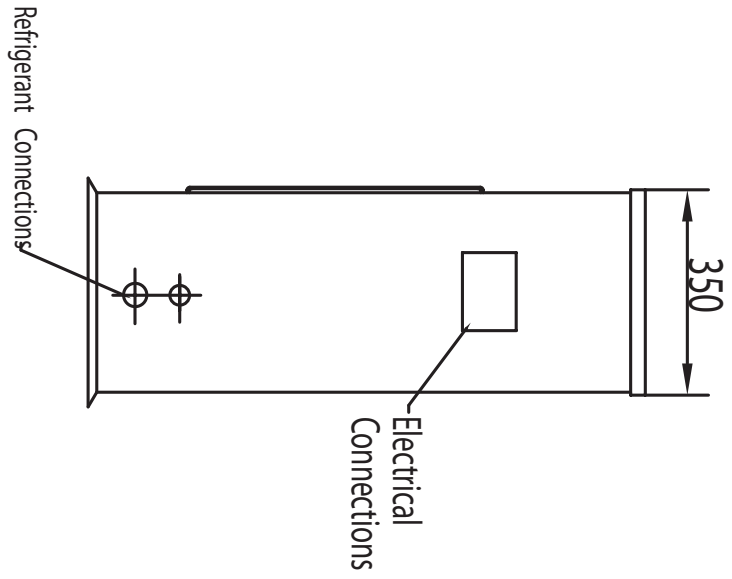
| | |
|-----------|------------------------------|
| Type | Copper Tube / Aluminium Fins |
| Face Area | 0.97 |

Outdoor Fan

| | |
|-----------------------------------|---------------|
| Number of Fans | 2 |
| Type | Axial |
| Drive | Direct |
| Motor Watts / rpm | 2 × 240 / 950 |
| Motor Voltage / Phase / Frequency | 240 / 1 / 50 |

Refrigerant System

| | |
|-------------------------------------|------------------|
| Refrigerant Type | R410a |
| Charge (kg) | 3.6 |
| Line Size (mm) | |
| Liquid 0-10 metres | 13 |
| Gas 0-10 metres | 19 |
| Liquid 10-20 metres | - |
| Gas 10-20 metres | - |
| Service Connections | Rotor Lock Valve |
| Expansion Control – in outdoor unit | Capillary |

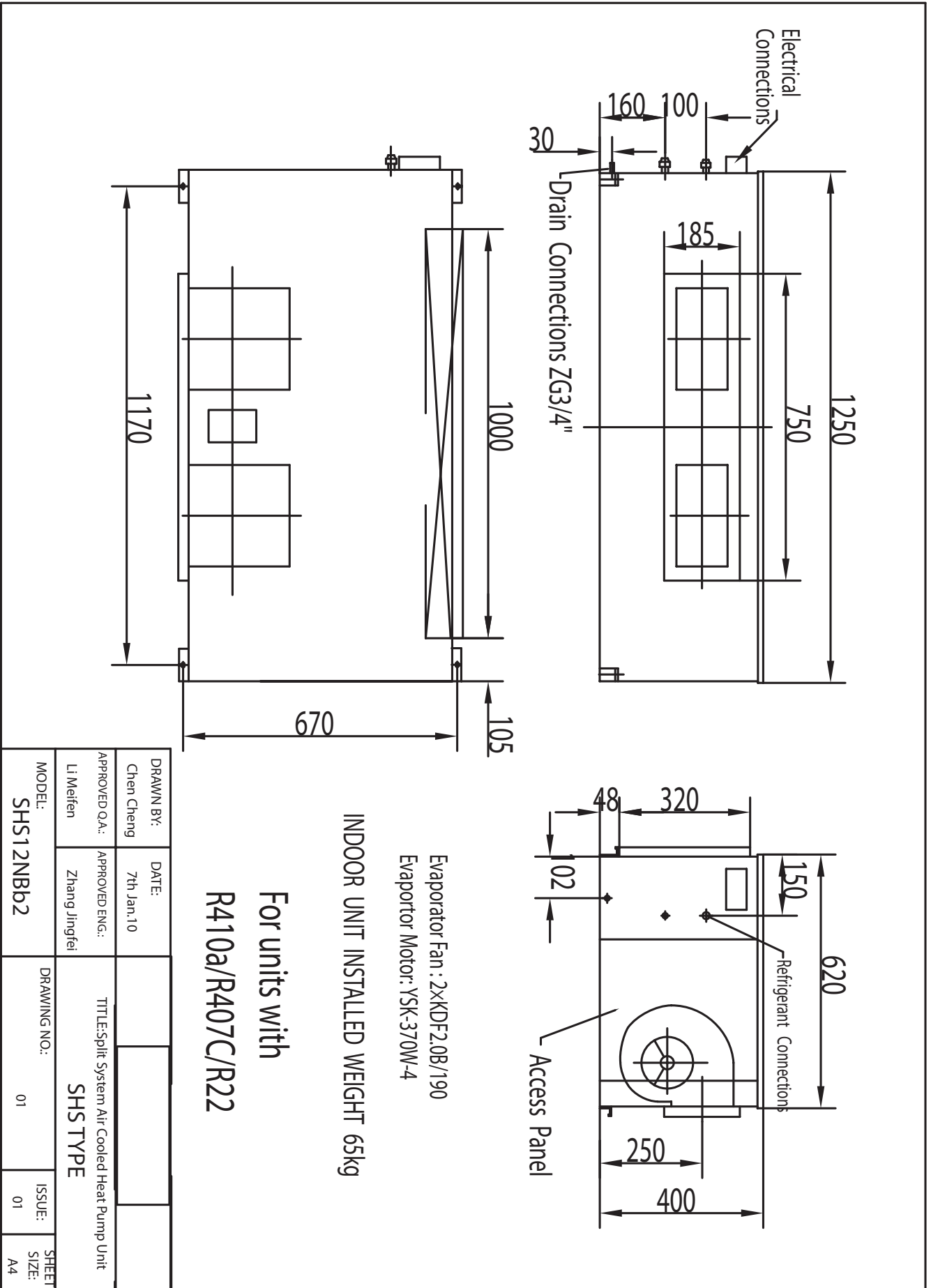


OUTDOOR UNIT INSTALLED WEIGHT 89 kg

For units with

R410a/R407C/R22

| | | | | | |
|-----------------------------|--|---------------------------------|--|---|--|
| DRAWN BY: Chen Cheng | | DATE: 7th Jan.10 | | TITLE: Split System Air Cooled Heat Pump Unit | |
| APPROVED Q.A.: Li Meifen | | APPROVED ENG.: Zhang Jingfei | | SHS TYPE | |
| MODEL: SHS12WBb2 | | DRAWING NO.: 01 | | ISSUE: 01 | |
| | | | | SHEET SIZE: 01 A4 | |

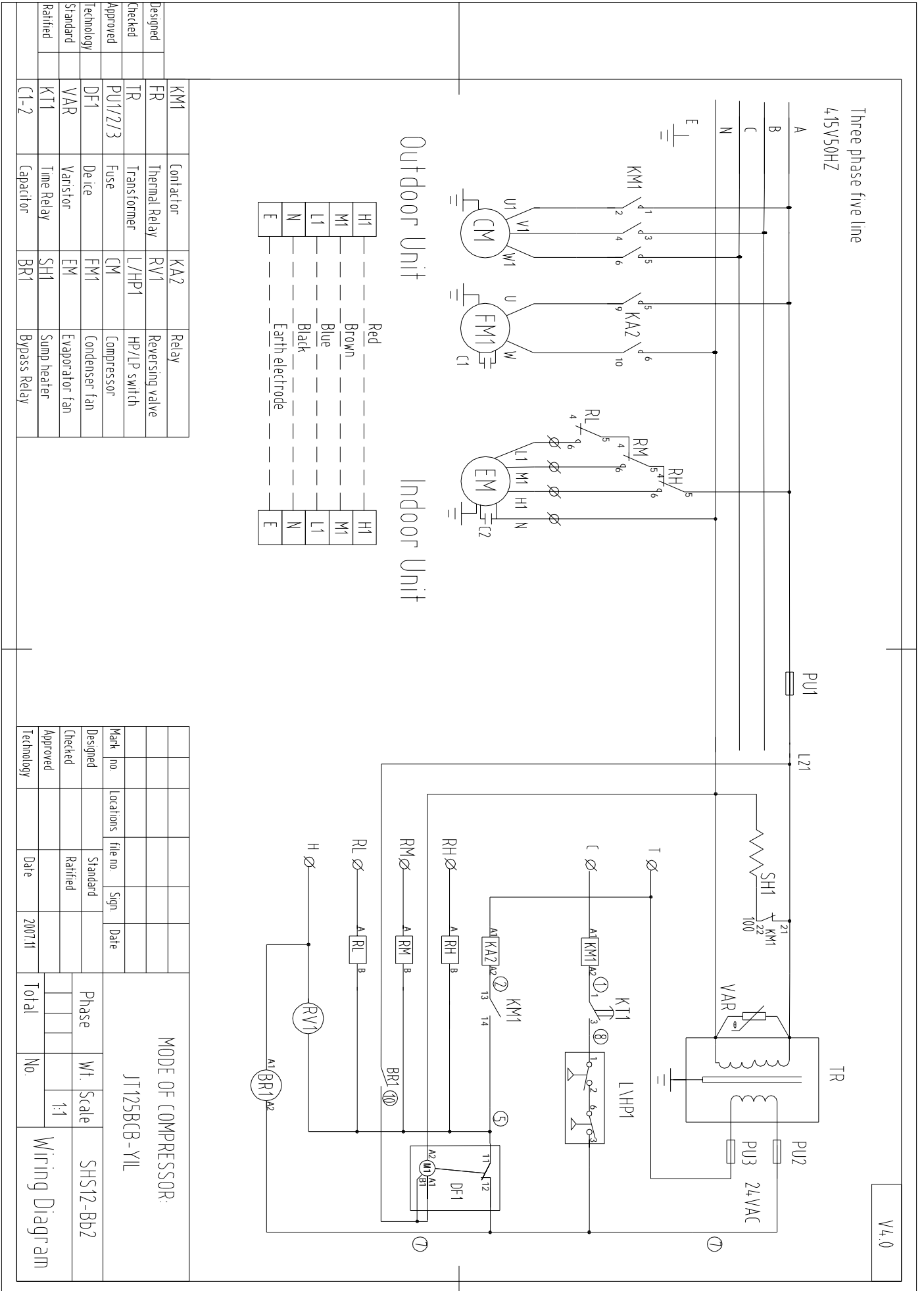


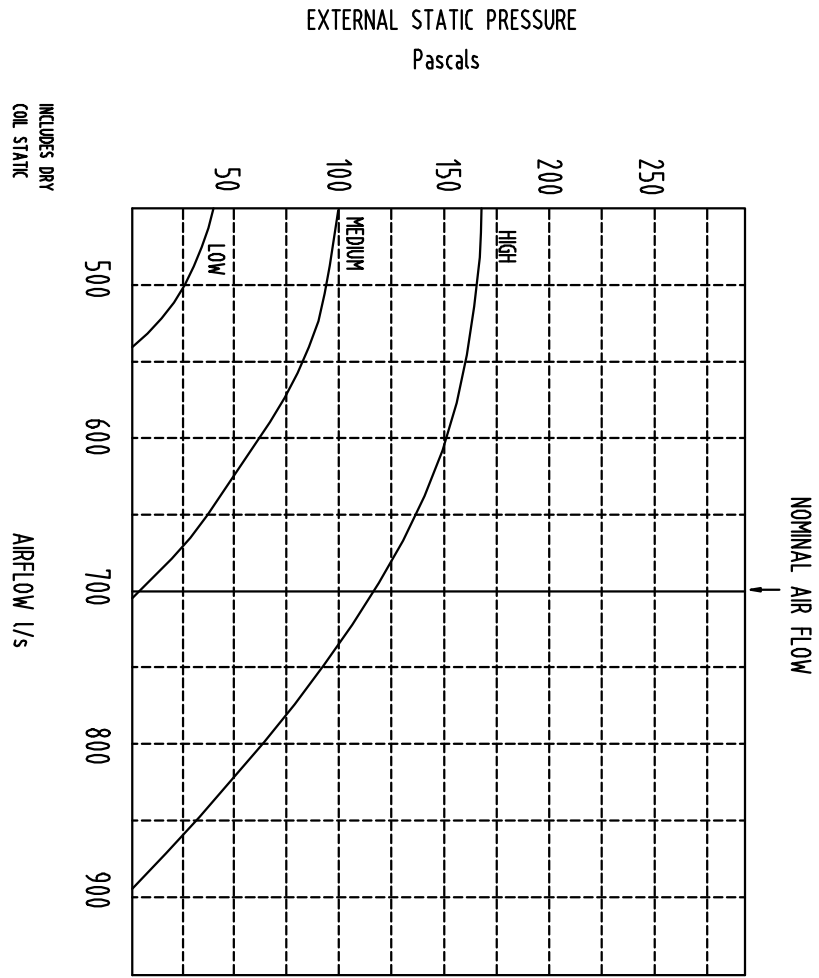
Evaporator Fan : 2XKDF2.0B/190
 Evaporator Motor: YSK-370W-4

INDOOR UNIT INSTALLED WEIGHT 65kg

For units with
 R410a/R407C/R22

| | | | |
|-----------------------------|---------------------------------|---|----------------------|
| DRAWN BY: Chen Cheng | DATE: 7th Jan. 10 | TITLE: Split System Air Cooled Heat Pump Unit | |
| APPROVED Q.A.: LI Maifen | APPROVED ENG.: Zhang Jingfei | SHS TYPE | |
| MODEL: SHS12NBb2 | DRAWING NO.: 01 | ISSUE: 01 | SHEET SIZE: A4 |





Note:
SHS12N FAN: 2xKDF2.0B/190, FAN MOTOR: YSK-370W-4

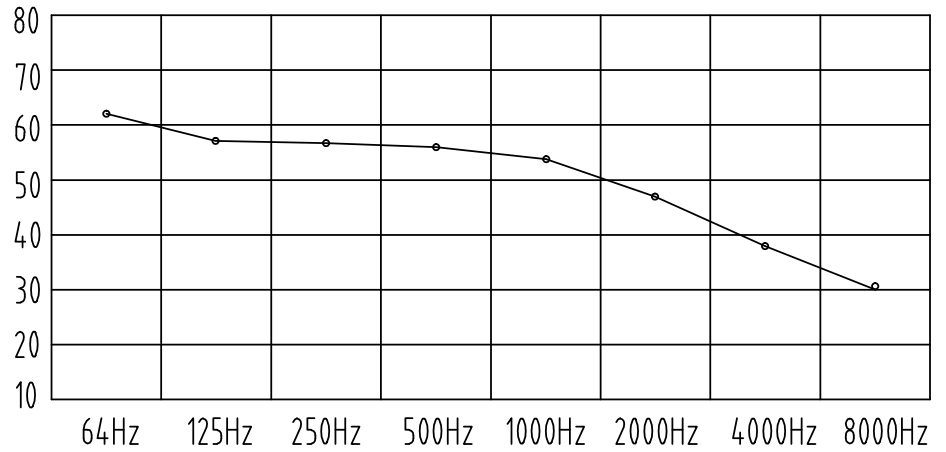
SPLIT SYSTEM AIR COOLED HEAT PUMP UNIT
MODEL NO. SHS12

SHS12W Noise rate analysing chart

A Class: 57.5dB

| Hz | dB |
|--------|------|
| 64Hz | 61.6 |
| 125Hz | 57.1 |
| 250Hz | 56.0 |
| 500Hz | 55.8 |
| 1000Hz | 53.9 |
| 2000Hz | 47.0 |
| 4000Hz | 38.7 |
| 8000Hz | 30.3 |

Noise rate analysing chart (A Class: 57.5dB) dB



SHS12N Noise rate analysing chart

A Class: 68.4dB

| Hz | dB |
|--------|------|
| 64Hz | 76.8 |
| 125Hz | 72.9 |
| 250Hz | 72.2 |
| 500Hz | 70.7 |
| 1000Hz | 66.6 |
| 2000Hz | 61.2 |
| 4000Hz | 56.6 |
| 8000Hz | 51.8 |

Noise rate analysing chart (A Class: 68.4dB) dB

