



DUNNAIR
(Aust) Pty Ltd

R410a Refrigerant

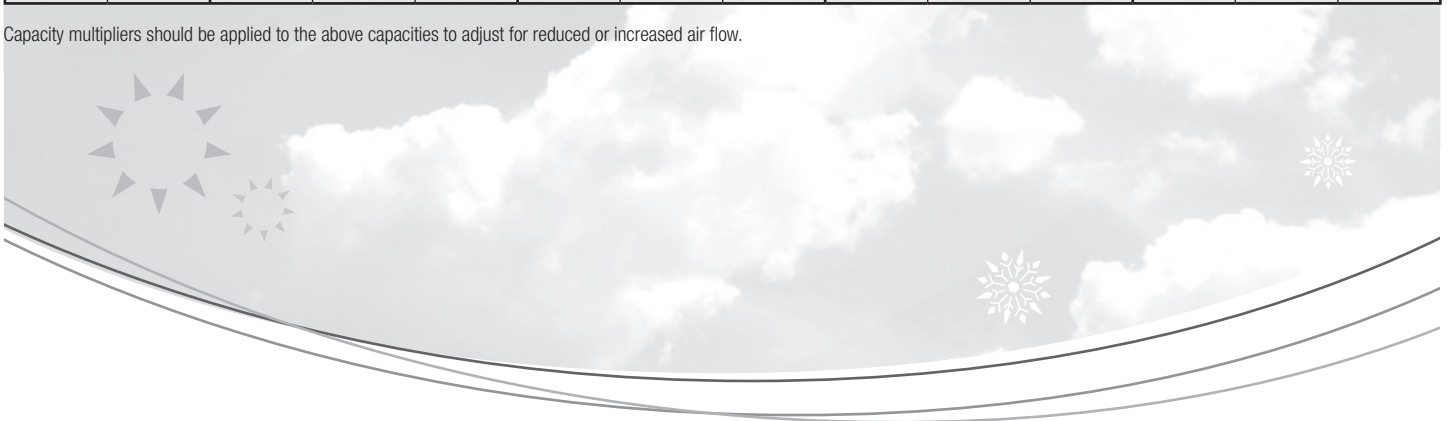
SHS18

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	15.2	10.8	11.2	14.6	10.5	11.4	14.0	10.3	11.7	13.4	8.4	12.1
	18	15.8	9.9	12.2	15.2	9.7	12.4	14.6	9.5	12.7	14.3	8.3	13.2
	19	16.4	9.1	13.2	15.8	8.8	13.4	15.1	8.6	13.7	14.8	7.8	14.2
	20	17.0	8.2	14.2	16.3	8.0	14.5	15.6	7.7	14.7	15.0	7.0	15.4
23	17	15.2	11.6	11.2	14.6	11.4	11.4	14.0	11.2	11.7	14.2	9.2	12.1
	18	15.8	10.8	12.2	15.2	10.5	12.4	14.6	10.3	12.7	14.3	8.3	13.1
	19	16.4	9.9	13.2	15.8	9.7	13.4	15.1	9.4	13.7	14.4	7.4	14.0
	20	17.0	9.1	14.2	16.3	8.8	14.5	15.6	8.5	14.7	14.8	6.8	15.0
	21	17.6	8.2	15.2	17.0	7.9	15.5	16.2	7.7	15.7	14.9	7.0	16.0
25	17	15.2	12.5	12.2	14.6	12.2	11.4	14.0	12.0	11.7	13.3	8.3	12.0
	18	15.8	11.6	13.2	15.2	11.4	12.4	14.6	10.3	12.7	14.0	8.0	13.0
	19	16.4	10.8	14.2	15.8	10.5	13.4	15.6	9.4	13.7	15.0	8.0	14.0
	20	17.0	9.9	15.2	16.3	9.7	14.5	16.2	8.5	14.7	15.0	7.0	15.0
	21	17.6	9.0	16.2	17.0	8.8	15.5	16.8	7.6	15.7	15.1	7.1	16.0
27	17	16.6	16.6	12.0	15.9	16.0	12.2	15.3	15.3	12.4	15.0	15.0	12.7
	18	17.2	15.5	13.0	16.5	15.2	13.2	15.8	14.9	13.4	15.1	14.1	13.7
	19	17.9	14.4	14.0	17.1	15.1	14.2	16.3	13.8	14.5	15.8	14.6	14.8
	20	18.4	13.3	15.1	17.7	13.8	15.3	16.9	12.8	15.5	16.1	15.1	18.8
	21	19.1	12.2	16.1	18.3	12.0	16.3	17.5	11.7	16.5	17.0	16.0	16.8
29	17	16.6	16.6	12.0	15.9	16.0	12.2	15.3	15.3	12.4	14.6	14.6	12.8
	18	17.2	15.5	13.0	16.5	16.5	13.2	15.8	15.8	13.4	15.0	14.4	13.8
	19	17.9	14.4	14.0	17.1	16.2	14.2	16.3	16.3	14.5	15.3	14.0	14.8
	20	18.4	13.2	15.1	17.7	15.1	15.3	16.9	14.8	15.5	16.1	15.0	15.8
	21	19.1	12.2	16.1	18.3	14.0	16.3	17.5	13.8	16.5	17.3	16.0	16.8
31	17	16.9	16.9	11.8	16.5	16.5	12.1	16.3	16.3	11.4	16.1	15.0	12.0
	18	17.2	17.2	12.8	17.1	17.1	13.1	16.9	16.9	12.4	16.1	15.0	12.8
	19	17.9	17.9	13.8	17.7	17.7	14.1	17.5	17.5	13.4	17.1	16.1	13.8
	20	18.5	18.5	14.8	18.3	18.4	15.1	18.4	18.0	14.4	17.4	16.1	14.8
	21	19.4	18.6	15.8	19.0	18.8	16.1	19.1	18.5	15.0	18.1	17.0	15.8

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



Technical Specification SHS18 Split Ducted Model

Indoor Unit Model Number	SHS18N	Nominal Evaporator Air Flow (l/s)	1000
Outdoor Unit Model Number	SHS18W	Number of Compressors	1
Total Cooling Capacity (kW)*	17.1	Power Requirements (Volt / Phase)	415 / 3
Sensible Cooling Capacity (kW)*	15.1	Normal Max. Current (Amps / Phase)	13.5
Heating Capacity (kW)**	18		

*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 1000 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	12.7	14.4	18.4	19.8	21

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)	10.6
Locked Rotor Current (Amps / Phase)	68
Displacement (m³/h)	21

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)	0.47
Air Quantity (l/s)	1000

Indoor Fan

Number of Fans	2
Type	Centrifugal
Drive	Direct
Motor Voltage / Phase / Frequency	240 / 1 / 50
Motor (kW) Standard	2 x 0.4
Max. Fan Speed (rpm)	1230

Electrical

Power Requirements	3 Phase / 415V / 50Hz
Normal Max. Current (Amps / Phase)	13.5

Outdoor Coil

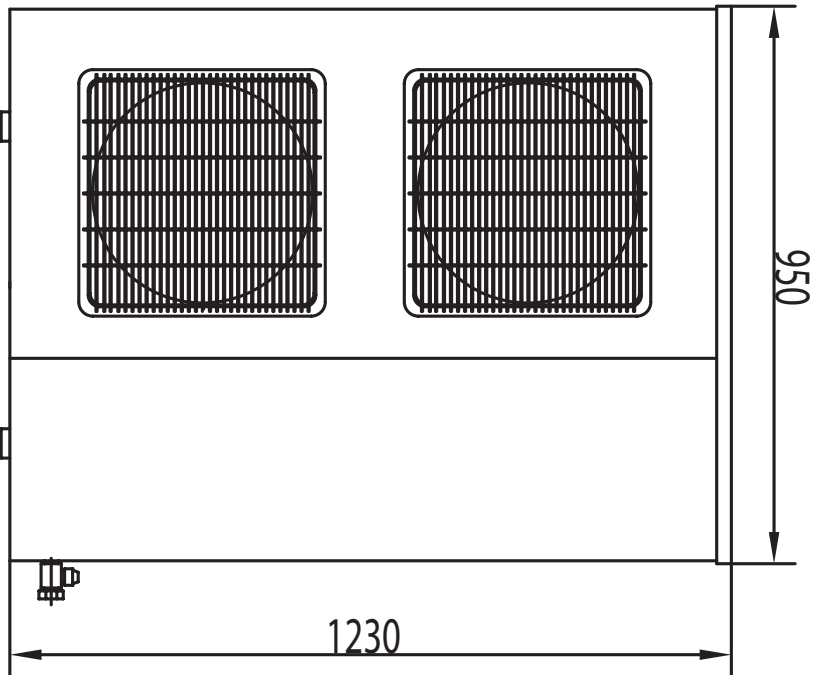
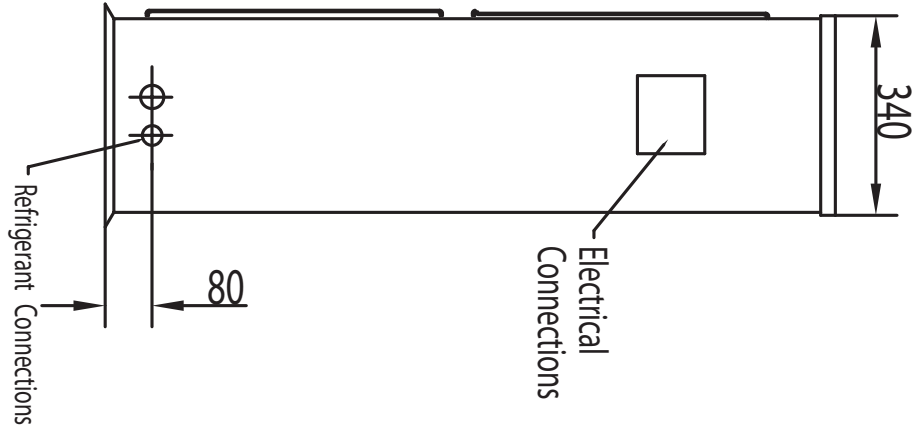
Type	Copper Tube / Aluminium Fins
Face Area	1.05

Outdoor Fan

Number of Fans	2
Type	Axial
Drive	Direct
Motor Watts / rpm	2 x 60 / 900
Motor Voltage / Phase / Frequency	240 / 1 / 50

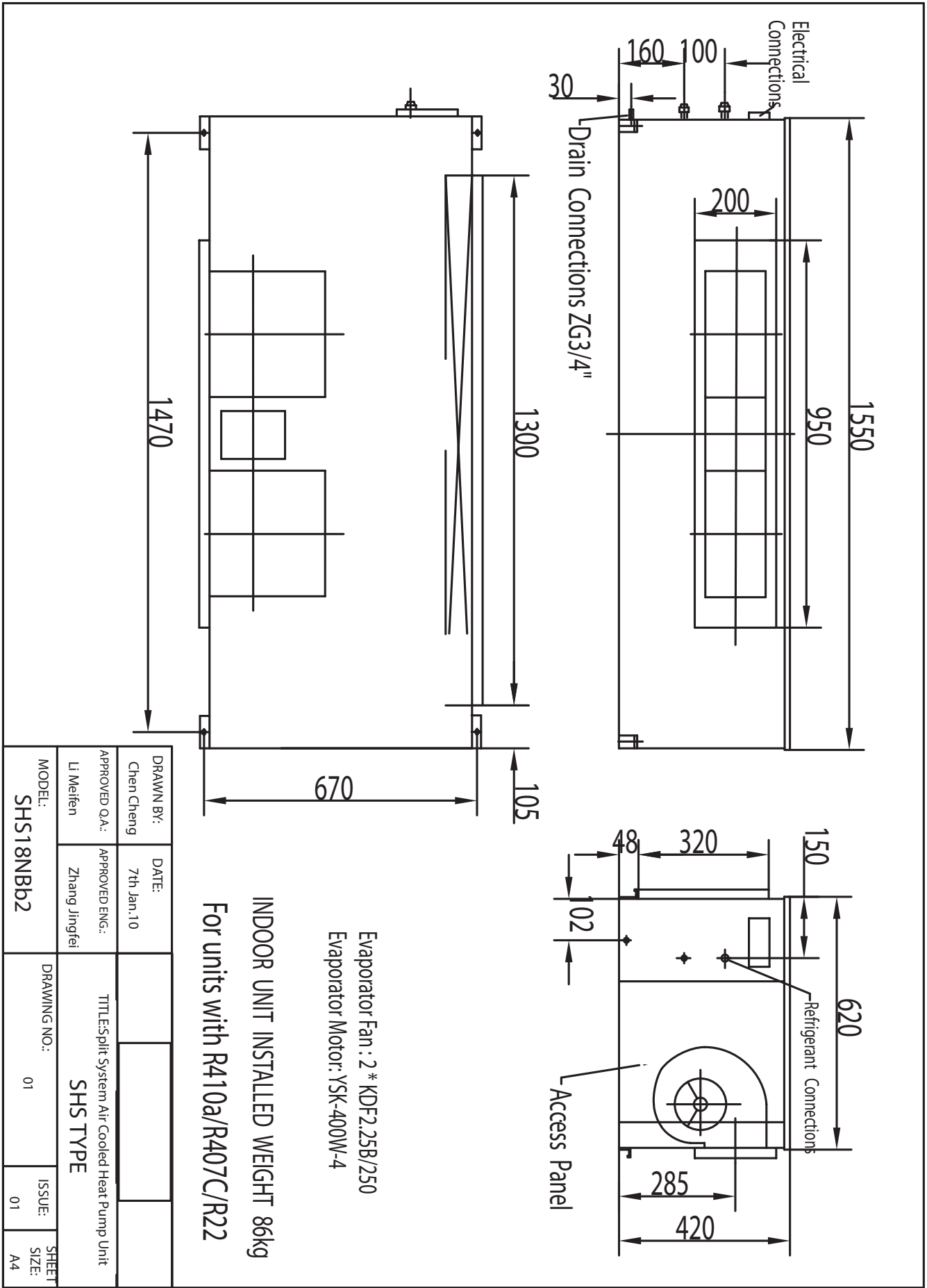
Refrigerant System

Refrigerant Type	R410a
Charge (kg)	4.8
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 105 kg
For units with R410a/R407C/R22

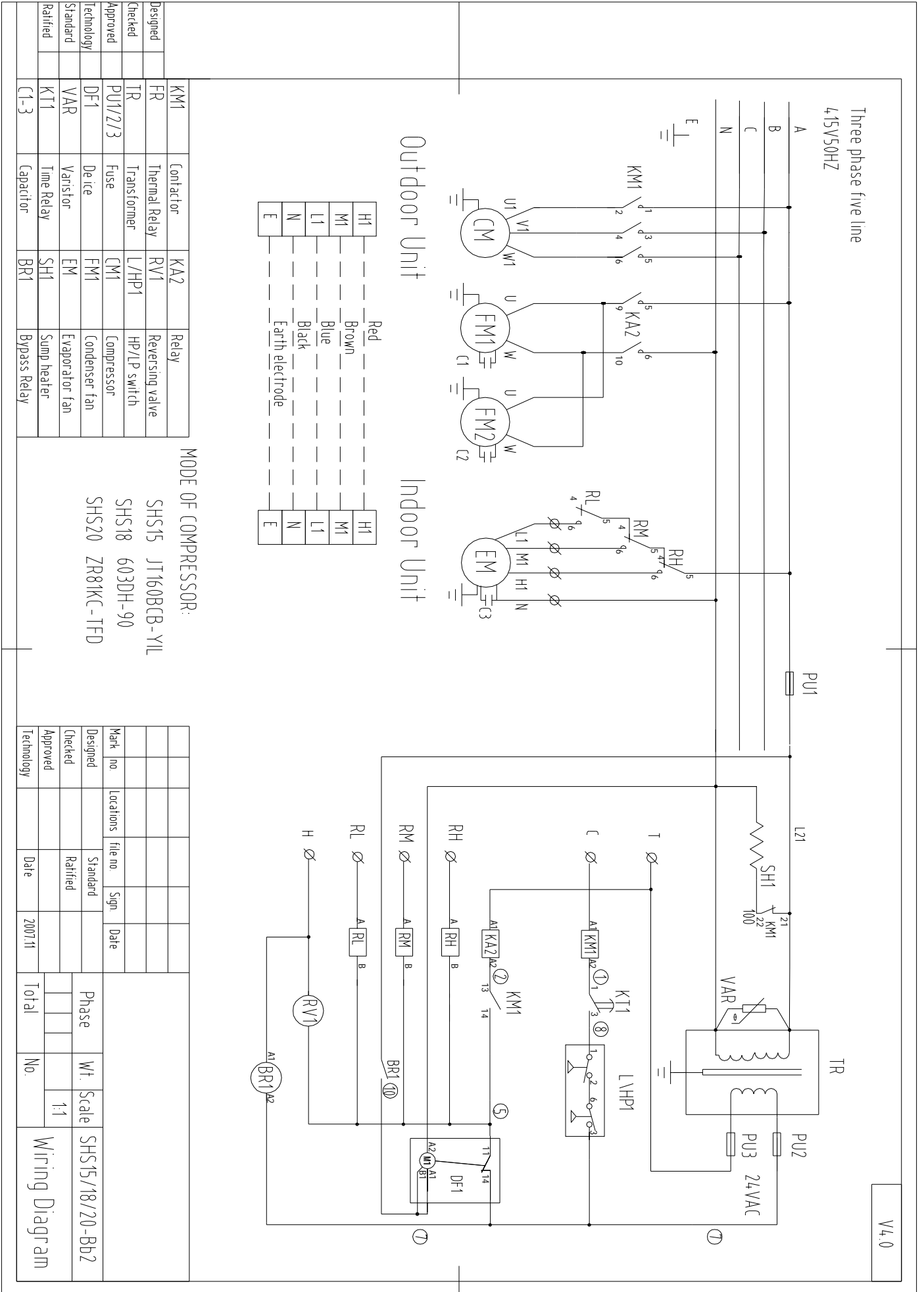
DRAWN BY: Chen Cheng		DATE: 7th Jan.10		TITLE: Split System Air Cooled Heat Pump Unit	
APPROVED Q.A.: Li Meifen		APPROVED ENG.: Zhang Jingfei		SHS TYPE	
MODEL: SHS18WBb2	DRAWING NO.: 01		ISSUE: 01	SHEET SIZE: A4	



Evaporator Fan : 2 * KDF2.25B/250
 Evaporator Motor: YSK-400W-4

INDOOR UNIT INSTALLED WEIGHT 86kg
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: SHS18NBb2	DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4



Designed	KM1	Contactors	KA2	Relay
Checked	FR	Thermal Relay	RV1	Reversing valve
Approved	TR	Transformer	L/HP1	HP/LP switch
Technology	DF1	Fuse	CM1	Compressor
Standard	VAR	Device	FM1	Condenser fan
Ratified	KT1	Varistor	EM	Evaporator fan
	C1-3	Time Relay	SH1	Sump heater
		Capacitor	BR1	Bypass Relay

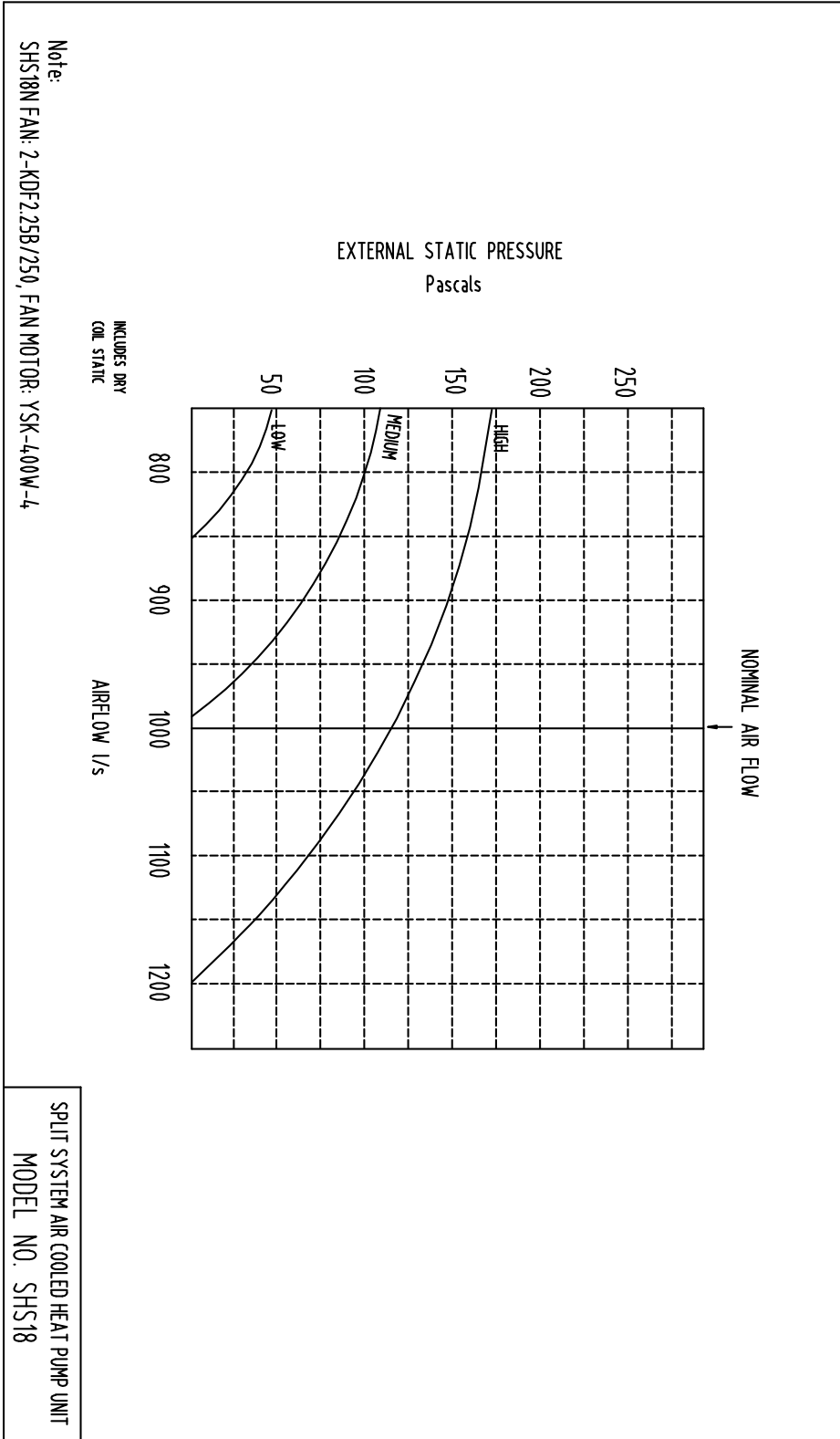
MODE OF COMPRESSOR:

- SHS15 JT160BCB-Y1L
- SHS18 603DH-90
- SHS20 ZR81KC-TFD

Mark	Ino	Locations	file no	Sign	Date	Phase	Wt. Scale	No.
Designed			Standard				SHS15/18/20-BB2	
Checked			Ratified				1:1	
Approved								
Technology								
			Date		2007/11	Total		

Wiring Diagram

V4.0

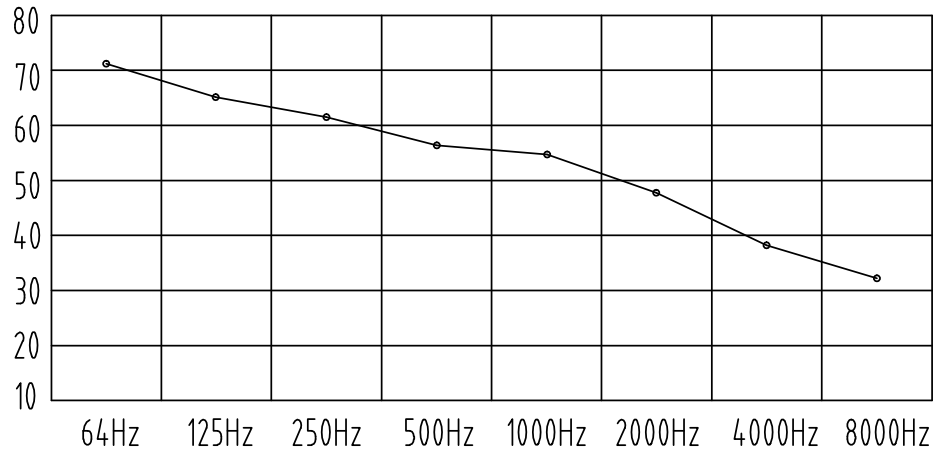


SHS18W Noise rate analysing chart

A Class: 59.8dB

Hz	dB
64Hz	71.3
125Hz	65.5
250Hz	61.0
500Hz	57.2
1000Hz	55.0
2000Hz	48.5
4000Hz	38.5
8000Hz	33.0

Noise rate analysing chart (A Class: 59.8dB) dB



SHS18N Noise rate analysing chart

A Class: 63.7dB

Hz	dB
64Hz	79.4
125Hz	69.0
250Hz	59.6
500Hz	59.2
1000Hz	57.1
2000Hz	53.0
4000Hz	45.8
8000Hz	37.7

Noise rate analysing chart (A Class: 63.7dB) dB

