



SH80

Split Ducted Model

R410A Refrigerant

PERFORMANCE DATA

INDOOR COIL ENTERING AIR TEMP °C		OUTDOOR COIL ENTERING 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	78.9	48.6	10.9	74.8	46.9	11.2	70.5	45.1	11.6	67.5	45.1	11.8
	18	81.6	43.7	11.5	77.4	42.1	12.3	72.9	40.1	12.6	67.0	38.9	12.9
	19	84.6	38.9	13.2	80.3	37.1	13.5	75.5	35.1	13.9	72.6	34.0	14.1
	20	87.8	33.7	14.1	83.2	31.8	14.5	78.3	29.8	14.9	75.5	28.6	15.2
23	17	79.2	58.1	10.8	75.1	56.4	11.2	70.8	54.5	11.5	67.8	53.3	11.8
	18	81.6	53.2	11.9	77.4	51.4	12.2	72.9	49.6	12.6	70.0	48.2	12.9
	19	84.6	48.2	13.1	80.2	46.5	13.5	75.4	44.6	13.9	72.6	43.2	14.2
	20	87.6	43.1	14.2	83.2	41.2	14.6	78.3	39.2	15.0	75.4	38.0	15.2
	21	91.1	37.9	15.1	86.3	36.0	15.6	81.1	33.9	16.0	78.4	32.7	16.3
25	17	79.9	66.8	10.8	75.8	64.9	11.1	71.5	62.9	11.5	68.8	61.6	11.8
	18	81.8	64.6	12.1	77.6	61.3	12.4	73.1	59.3	12.8	70.2	58.1	13.2
	19	84.5	61.5	13.1	80.2	55.9	13.5	75.4	54.0	13.9	72.5	52.8	14.1
	20	87.7	58.0	14.2	83.1	50.7	14.6	78.2	48.6	15.0	75.4	47.5	15.2
	21	91.0	54.1	15.2	86.3	45.4	15.6	81.1	43.3	16.0	78.4	42.2	16.2
27	17	81.4	74.1	10.8	77.5	71.9	11.1	73.3	69.3	11.5	70.7	67.8	11.8
	18	82.6	72.4	12.0	78.4	70.7	12.3	73.8	68.7	12.7	71.8	67.2	12.9
	19	84.7	67.2	13.0	80.4	65.5	13.4	75.6	63.5	13.8	72.9	62.3	14.0
	20	87.6	62.5	14.2	83.1	60.6	14.5	78.2	58.6	14.9	75.4	57.5	15.1
	21	90.8	56.6	15.3	86.2	54.8	15.7	84.3	52.7	16.1	78.3	51.6	16.3
29	17	83.4	80.3	10.6	79.6	77.6	11.0	75.4	74.5	11.4	72.9	72.9	11.6
	18	84.1	78.6	11.8	80.1	76.4	12.2	75.6	74.1	12.6	72.9	72.8	12.8
	19	85.3	77.3	13.0	81.0	75.5	13.3	76.3	73.5	13.7	72.9	72.8	13.9
	20	87.8	71.6	14.1	83.2	69.8	14.4	78.3	67.7	14.9	75.5	66.6	15.1
	21	90.9	66.0	15.2	86.2	64.1	15.6	81.0	62.0	16.0	78.3	60.9	16.2
31	17	86.0	85.6	10.4	82.4	82.2	10.7	78.3	78.3	11.1	76.0	76.0	11.3
	18	86.4	84.6	11.7	82.5	81.9	12.0	78.2	78.2	12.2	76.0	76.0	12.6
	19	86.9	83.7	12.9	82.7	81.6	13.2	78.2	78.2	13.6	76.0	76.0	13.8
	20	88.3	81.6	14.0	83.9	79.7	19.5	78.9	77.6	14.8	76.2	76.0	15.1
	21	91.0	76.1	15.2	86.3	74.2	15.6	81.1	72.1	16.0	78.4	71.0	16.4

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



Technical Specification SH80 Split Ducted Model

Indoor Unit Model Number	SH80N	Nominal Evaporator Air Flow (l/s)	4300
Outdoor Unit Model Number	SH80W	Number of Compressors	2
Total Cooling Capacity (kW)*	80.4	Power Requirements (Volt /Phase)	415 / 3
Sensible Cooling Capacity (kW)*	65.5	Normal Max. Current (Amps /Phase)	63.2
Heating Capacity (kW) **	80.7	Power Input (kW)	29.3
*Entering air @ 27/19 °C and ambient 35°C		** Entering air @ 21 °C DB and 7°C ambient	

Cooling Performance Correction

Capacity	% Rated Air Quantity - Nominal 4300 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

	Outdoor Coil Entering DB temperature °C				
	0	4	8	12	18
Heating Capacity (kW)	49.1	54.2	62.8	69.0	83.0

Heating Performance Correction

% Rated Air Quantity	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	2
Type	Scroll
RPM (Nom)	2900
Normal Max. Current (amps /phase)	2 x 25.5
Locked Rotor Current (amps /phase)	N/A *
Displacement (m ³ /h)	2 x 25.9

Electrical Controls and Safeties

High Pressure Switch (Setting kPa)	4000	Defrost	
Low Pressure Switch (Setting kPa)	300	Initiation Temperature (°C)	-2
Indoor Fan Overload	Internal	Termination Temperature (°C)	18
Outdoor Fan Overload	Internal	Min. Period Between De-Ice (min)	30
Compressor Delay Timer	300 sec	Max De-Ice Period (min)	10

Standard Features

Auto 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

* SANYO compressor: Manufacturer does not offer this information

Evaporator (Indoor Coil)

Type	Copper Tube / Aluminium Fins
Face Area (m ²)	1.80
Air Quantity (l/s)	4300

Evaporator (Indoor fan)

Number of Fans	1
Type	Centrifugal
Drive	Belt
Motor Voltage /Phase /Frequency	415 / 3 / 50
Motor Power (kW)	5.5
Maximum Fan Speed (rpm)	758

Electrical

Power Requirements	3 phase / 415V / 50Hz
Normal Max. Current (Amps /Phase)	63.2

Condenser (Outdoor Coil)

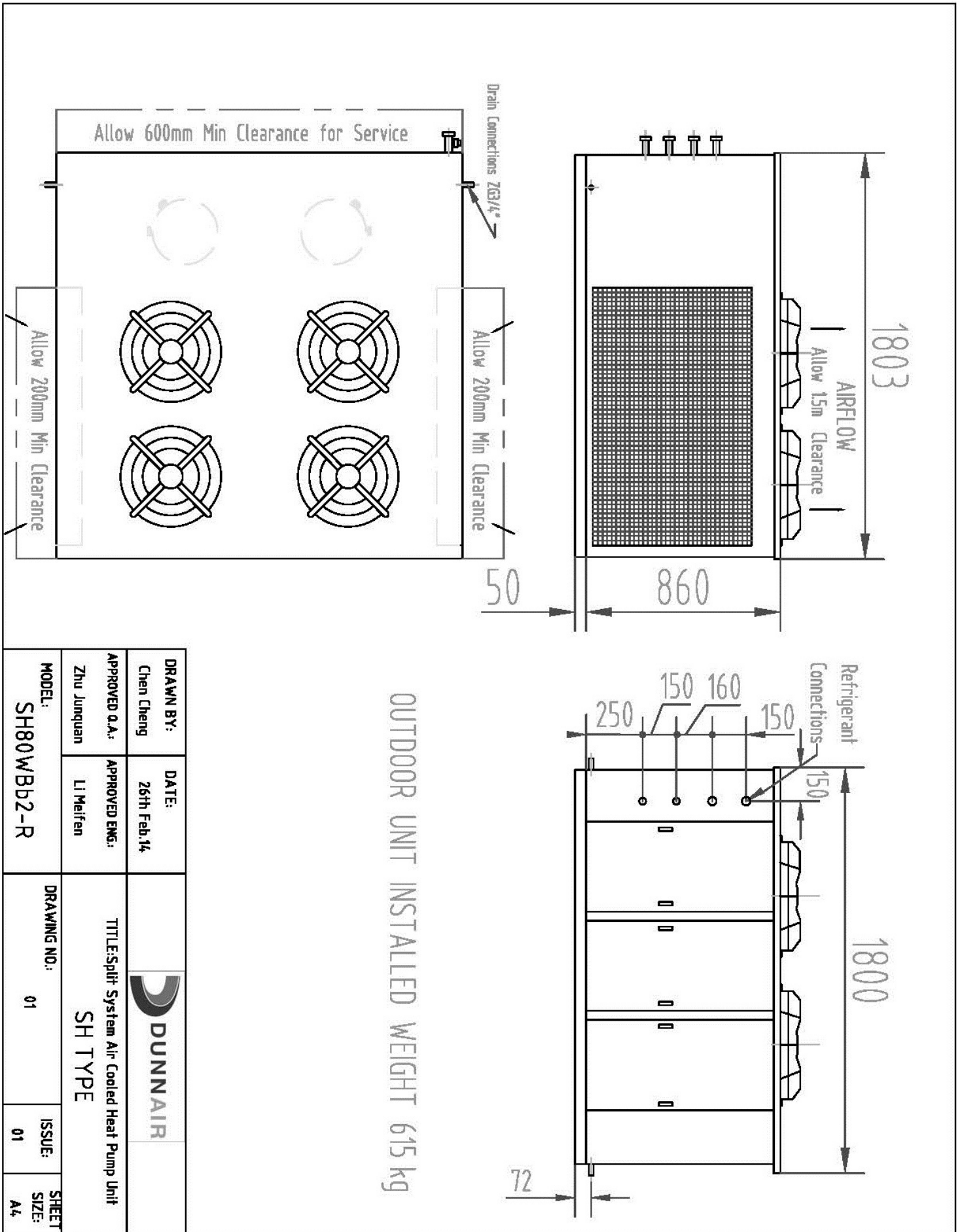
Type	Copper Tube / Aluminium Fins
Face Area (m ²)	2 x 1.20

Condenser (Outdoor Fan)


Number of Fans	4
Type	Axial
Drive	Direct
Motor Watts /rpm	4 x 370 / 950
Motor Voltage /Phase /Frequency	415 / 3 / 50

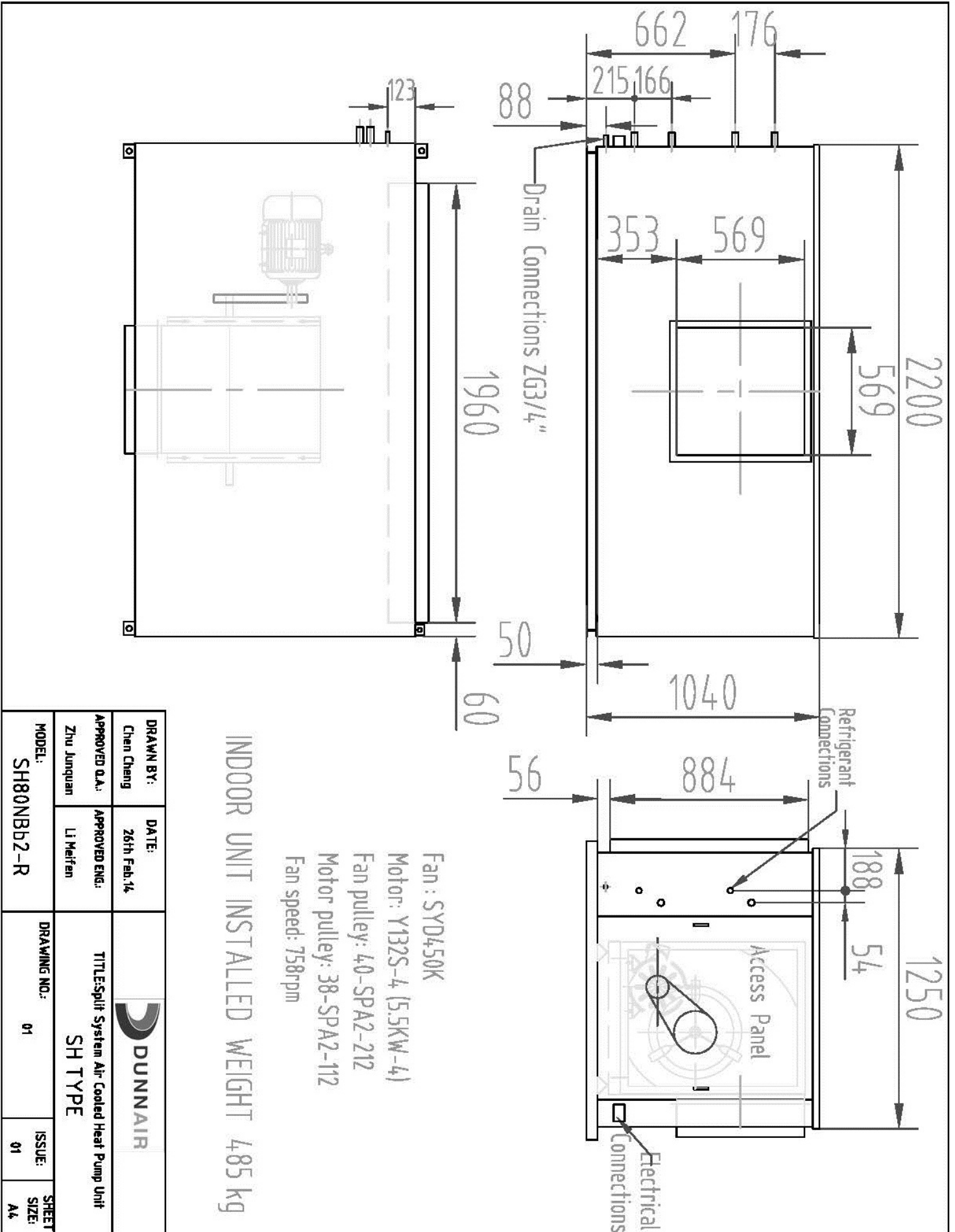
Refrigeration System

Refrigerant Type	R410A
Charge (kg)	2 x 9.0
Service Connections	Rotor Lock Valves
Expansion Control - In / Outdoor Unit	TX Valve
Line Size (mm)	
Liquid Line 0 - 15 Meters	22 (7/8")
Gas 0 Line - 15 Meters	29 (1 1/8")
Liquid Line 15 - 30 Meters	29 (1 1/8")
Gas Line 15 - 30 Meters	35 (1 3/8")

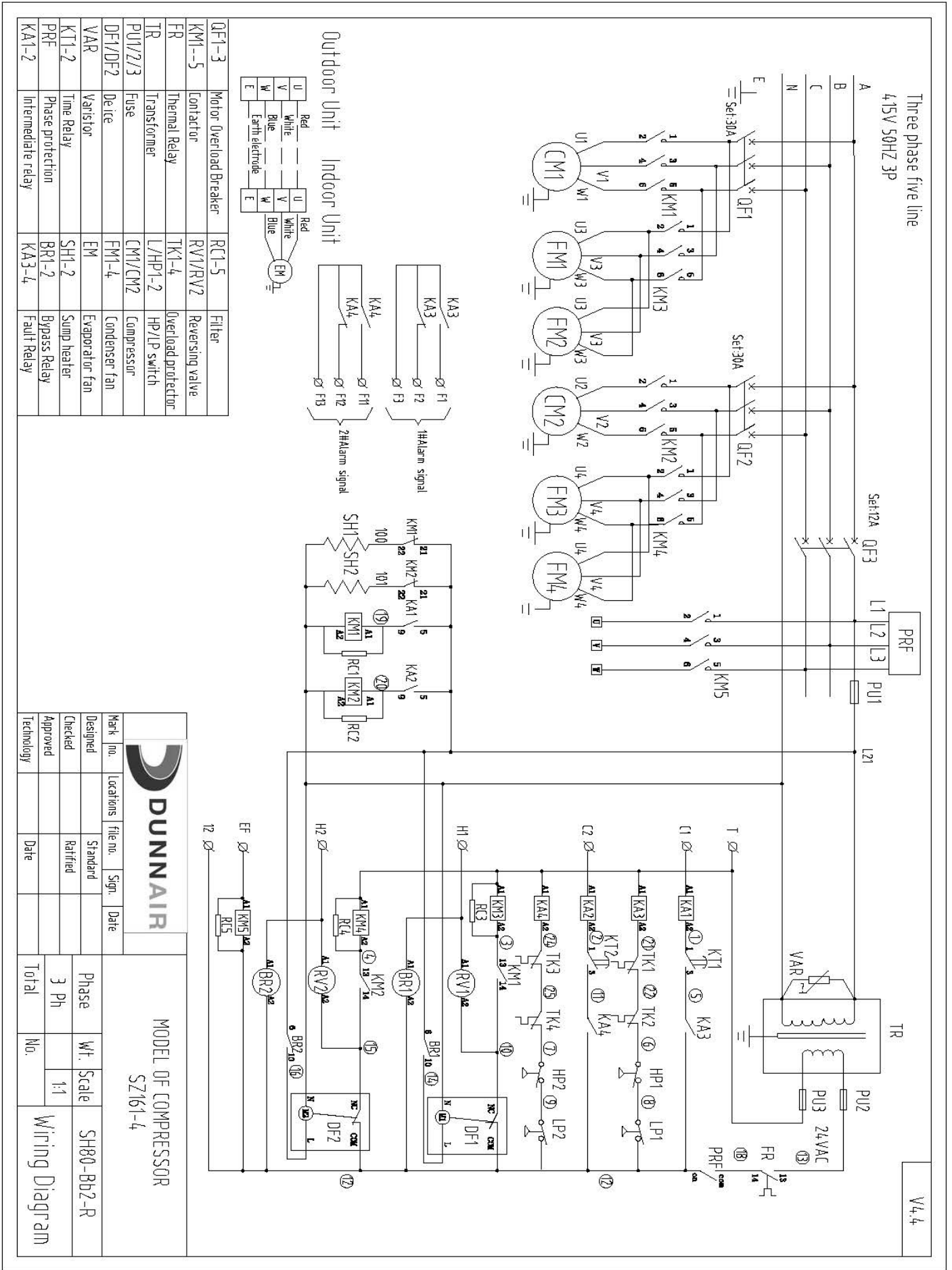


OUTDOOR UNIT INSTALLED WEIGHT 615 kg

DRAWN BY: Chen Cheng	DATE: 26th Feb. 14	
APPROVED O.A.: Zhu Junquan	APPROVED ENG.: Li Meifen	
MODEL: SH80WBB2-R		TITLE: Split System Air Cooled Heat Pump Unit SH TYPE
DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4

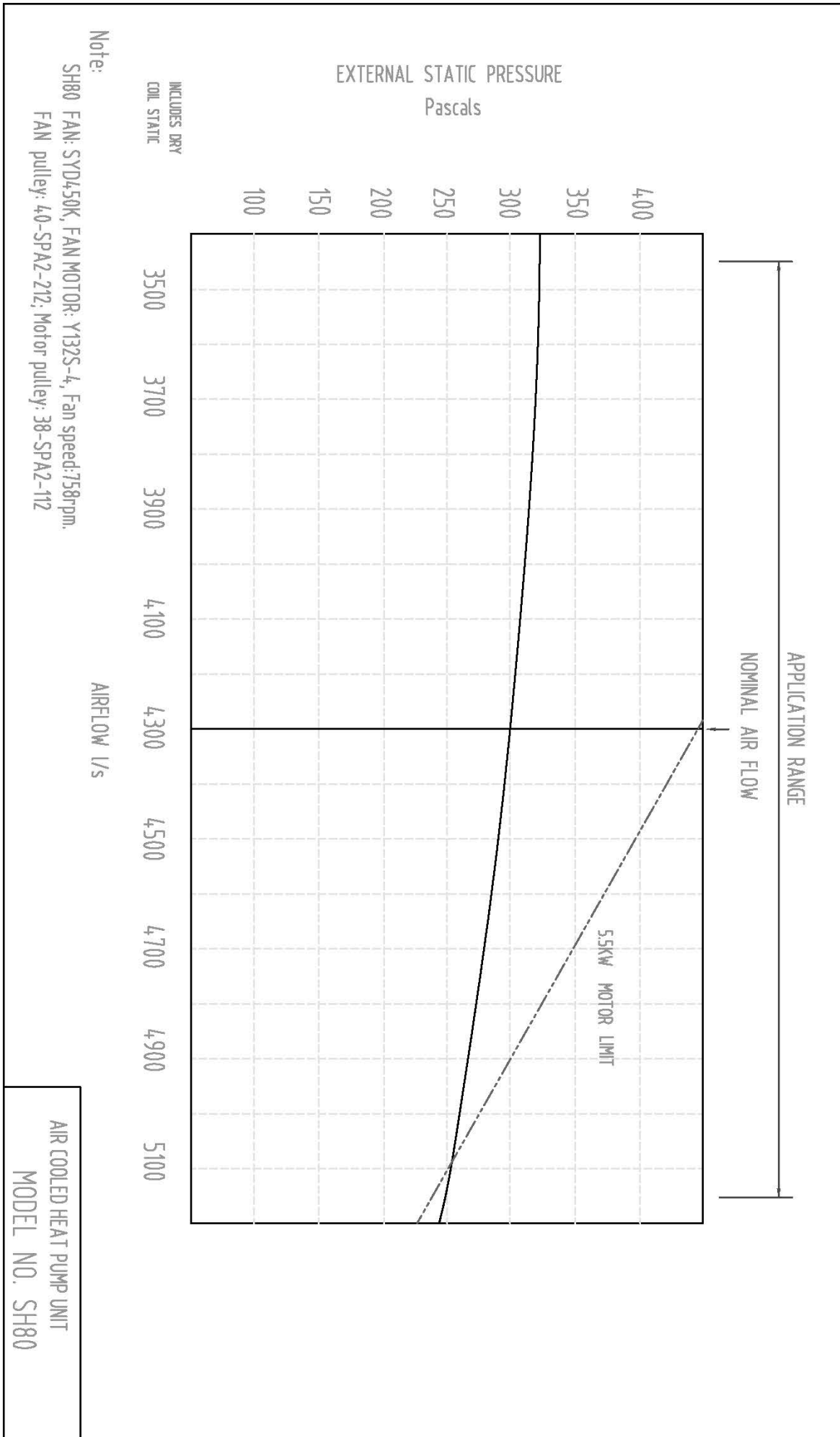


DRAWN BY: Chen Cheng		DATE: 26th Feb.14			
APPROVED D.A.: Zhu Junquan		APPROVED ENG.: Li Meifen			
MODEL: SH80NBb2-R		DRAWING NO.: 01		TITLE: Split System Air Cooled Heat Pump Unit SH TYPE	
		ISSUE: 01		SHEET SIZE: A4	



QF1-3	Motor Overload Breaker	RC1-5	Filter
KM1-5	Contactors	RV1/RV2	Reversing valve
FR	Thermal Relay	TK1-4	Overload protection
TR	Transformer	L/HP1-2	HP/LP switch
PUI/2/3	Fuse	CM1/CM2	Compressor
DF1/DF2	Device	FM1-4	Condenser fan
VAR	Varistor	EM	Evaporator fan
KT1-2	Time Relay	SH1-2	Sump heater
PRF	Phase protection	BR1-2	Bypass Relay
KA1-2	Intermediate relay	KA3-4	Fault Relay

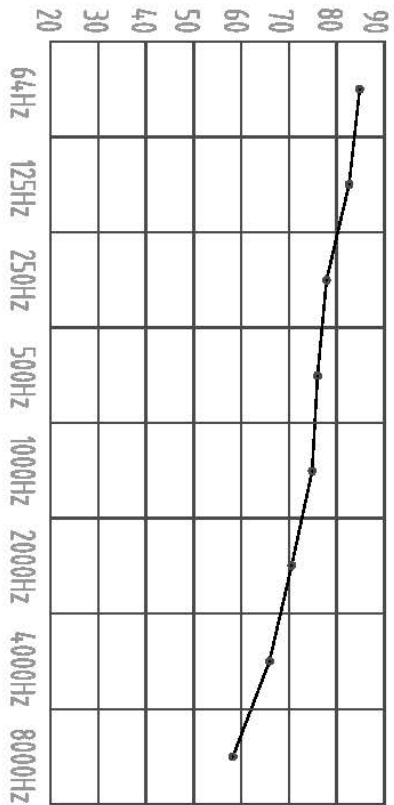
				MODEL OF COMPRESSOR SZ161-4			
Designed		Standard					
Checked		Ratified					
Approved							
Technology							
Phase			Wt. Scale		SH80-Bb2-R		
3 Ph			1:1		Wiring Diagram		
Total			No.				



SH80W Sound Pressure Curve
A Class: 79.0dB

Hz	dB
64Hz	84.6
125Hz	82.2
250Hz	77.6
500Hz	76.2
1000Hz	74.4
2000Hz	70.2
4000Hz	66.0
8000Hz	58.5

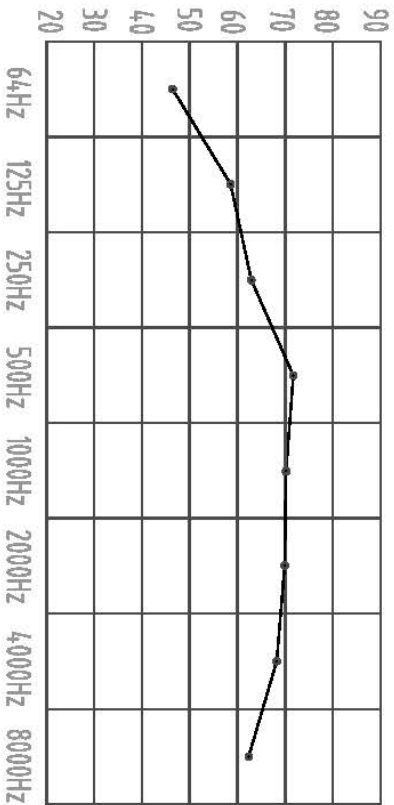
Sound Pressure Curve (A Class: 79.0dB) dB




SH80N Sound Pressure Curve
A Class: 75.8dB

Hz	dB
64Hz	47
125Hz	59
250Hz	62
500Hz	71
1000Hz	70
2000Hz	70
4000Hz	68
8000Hz	61

Sound Pressure Curve (A Class: 75.8dB) dB



Note: Occupant at least 1.0m from sound source.

DRAWN BY: Chen Cheng		DATE: 2014-3-5			
APPROVED A.A.: Zhu Junquan		APPROVED ENG.: Li Melfen			
MODEL: SH80		DRAWING NO.: 01		ISSUE: 01	
TITLE: Split System Air Cooled Heat Pump Unit				SHEET SIZE: A4	
SH TYPE					