

R410a Refrigerant



SH40

Split Ducted Model

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	39.0	24.0	11.4	37.3	23.3	11.7	25.4	22.5	12.0	34.2	22.5	12.2
	18	40.3	21.4	12.0	38.5	20.6	12.8	36.6	19.8	13.1	35.4	19.3	13.3
	19	41.6	18.8	13.5	39.8	18.0	13.8	37.8	17.2	14.1	36.6	16.7	14.3
	20	42.9	16.2	14.7	41.0	15.5	14.9	39.0	14.7	15.3	37.8	14.2	15.4
23	17	39.1	29.0	11.3	37.3	28.3	11.6	35.5	27.5	11.9	34.3	27.0	12.1
	18	40.2	26.2	12.5	38.4	25.5	12.7	36.5	24.7	13.0	35.3	24.2	13.2
	19	41.6	23.6	13.5	39.7	22.8	13.8	37.7	22.0	14.1	36.6	21.5	14.3
	20	42.9	21.0	14.8	41.0	20.2	15.1	38.9	19.4	15.4	37.8	18.9	15.6
	21	44.3	18.5	15.8	42.4	17.7	16.1	40.2	16.9	16.4	39.1	16.5	16.6
25	17	39.2	33.9	11.3	37.5	33.2	11.6	35.6	32.4	11.9	34.4	31.9	12.1
	18	40.3	32.8	12.5	38.5	30.6	12.8	36.6	29.8	13.1	35.4	29.3	13.3
	19	41.5	31.5	13.5	39.6	27.7	13.7	37.6	26.9	14.0	36.5	26.4	14.2
	20	42.9	30.0	14.6	41.0	25.0	14.9	38.9	24.1	15.2	37.8	23.7	15.4
	21	44.3	28.4	15.8	42.3	22.5	16.1	40.2	21.7	16.4	39.1	21.3	16.6
27	17	39.9	37.1	11.2	38.2	36.1	11.4	36.4	35.2	11.7	35.2	34.5	11.9
	18	40.4	35.9	12.3	38.6	35.2	12.6	36.7	34.3	12.9	35.5	33.8	13.1
	19	41.5	33.4	13.5	39.7	32.6	13.8	37.7	31.8	14.1	36.6	31.3	14.3
	20	42.8	30.7	14.6	40.9	29.9	14.9	38.8	29.0	15.2	37.7	28.6	15.4
	21	44.2	28.1	15.8	42.3	27.3	16.1	40.2	26.5	16.4	39.0	26.1	16.6
29	17	40.9	40.0	11.0	39.2	38.8	11.3	37.5	37.5	11.6	36.4	36.4	11.7
	18	41.1	39.4	12.2	39.4	38.5	12.5	375.0	37.5	12.8	36.3	26.3	13.0
	19	41.7	38.3	13.5	39.8	37.5	13.8	37.8	36.7	14.1	36.7	36.2	14.3
	20	42.9	35.3	14.6	41.0	34.5	14.9	38.9	33.6	15.3	37.8	36.2	14.4
	21	44.1	32.9	15.7	42.2	32.2	16.0	40.0	31.4	16.3	38.9	31.0	16.4
31	17	42.2	42.2	10.8	40.6	40.6	11.0	38.8	38.8	11.3	37.9	37.9	11.5
	18	42.2	42.0	12.1	40.6	40.6	12.4	38.8	38.8	12.7	37.9	37.9	12.8
	19	42.3	21.8	13.2	40.6	40.6	13.5	38.8	38.8	13.8	37.9	37.9	14.0
	20	43.0	40.6	14.5	41.1	39.9	14.8	39.0	39.0	15.1	37.9	38.1	15.3
	21	44.2	37.5	15.8	42.3	36.8	16.1	40.2	36.0	16.4	39.1	35.5	16.6

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



Technical Specification SH40 Split Ducted Model

Indoor Unit Model Number	SH40N	Nominal Evaporator Air Flow (l/s)	2200
Outdoor Unit Model Number	SH40W	Number of Compressors	2
Total Cooling Capacity (kW)*	39.7	Power Requirements (Volt /Phase)	415 / 3
Sensible Cooling Capacity (kW)*	32.6	Normal Max. Current (Amps /Phase)	30.8
Heating Capacity (kW) **	38.4	Power Input (kW)	14.10
*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 2200 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)	30.1	32.4	37.1	40.7	48.7

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 11.7
Locked Rotor Current (amps /phase)	2 x 68
Displacement (m ³ /h)	2 x 11.6

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

Evaporator (Indoor Coil)

Type	Copper Tube / Aluminium Fins
Face Area (m ²)	0.84
Air Quantity (l/s)	2200

Evaporator (Indoor fan)

Number of Fans	1
Type	Centrifugal
Drive	Belt
Motor Voltage /Phase /Frequency	415 / 3 / 50
Motor Power (kW)	2.2
Maximum Fan Speed (rpm)	800

Electrical

Power Requirements	3 phase / 415V / 50Hz
Normal Max. Current (Amps /Phase)	30.8

Condenser (Outdoor Coil)

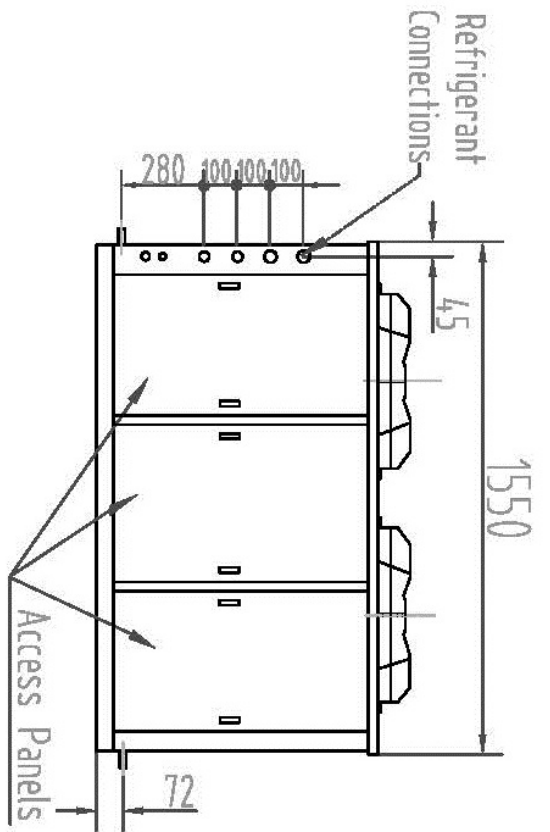
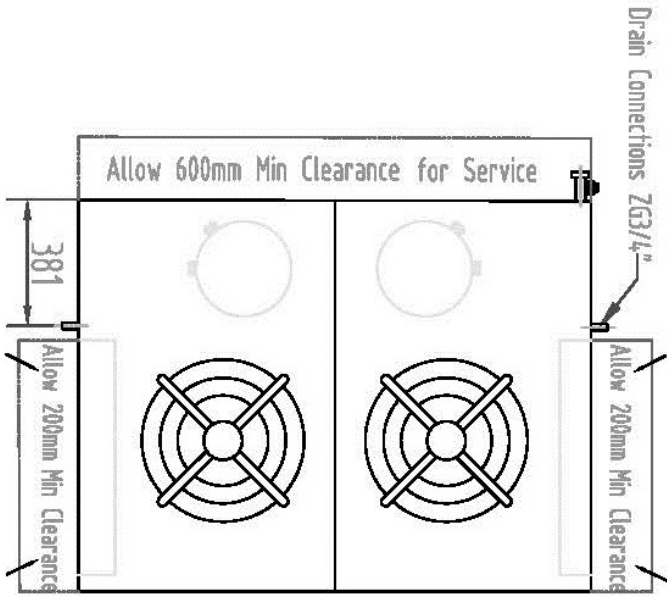
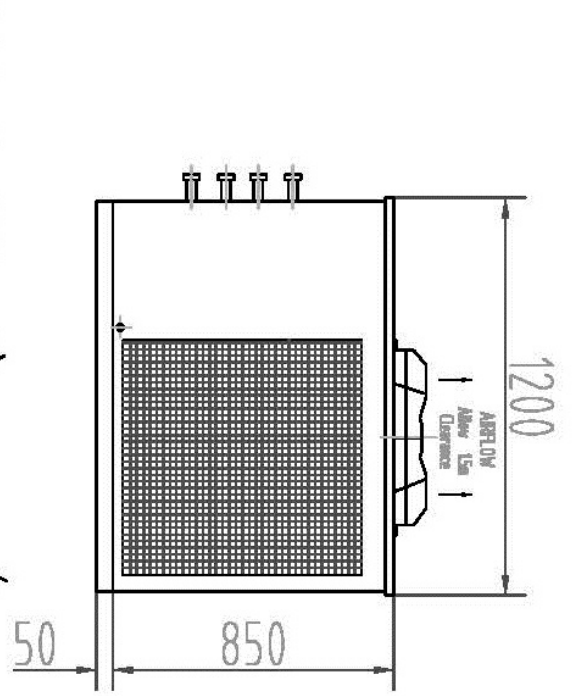
Type	Copper Tube / Aluminium Fins
Face Area (m ²)	2 x 0.57

Condenser (Outdoor Fan)


Number of Fans	2
Type	Axial
Drive	Direct
Motor Watts /rpm	2 x 370 / 950
Motor Voltage /Phase /Frequency	415 / 3 / 50

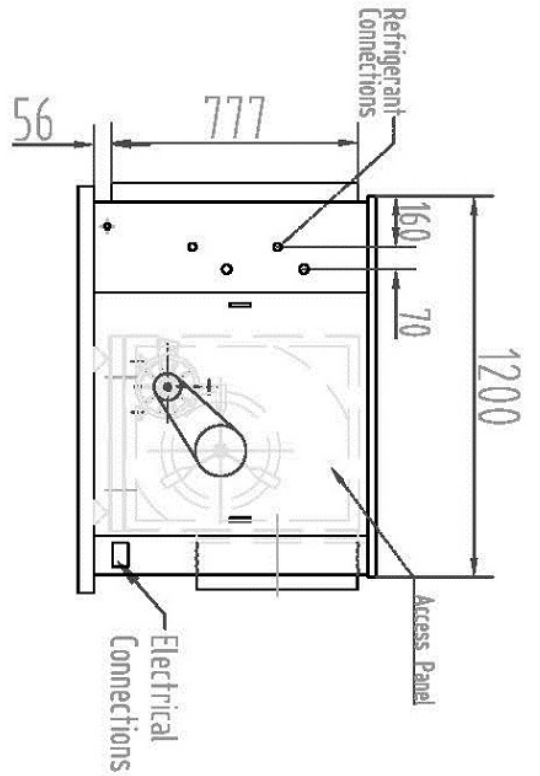
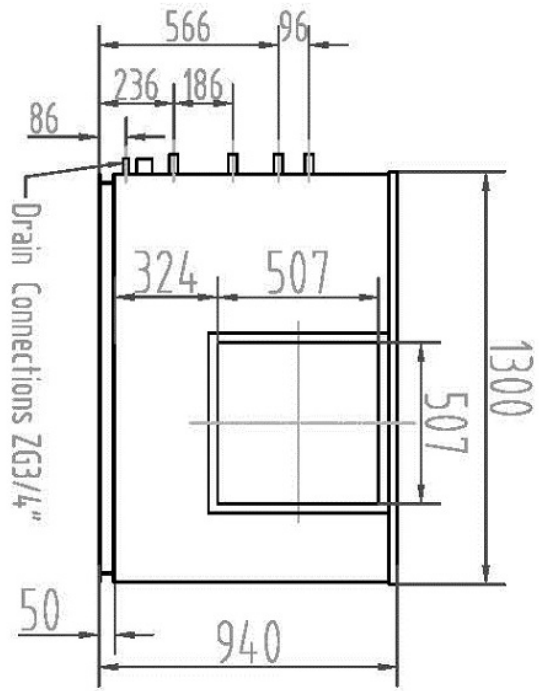
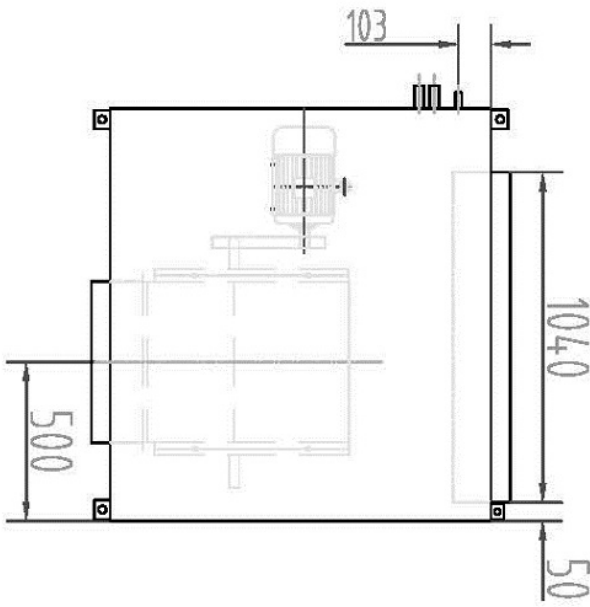
Refrigeration System

Refrigerant Type	R410A
Charge (kg)	2 x 4.4
Service Connections	Rotor Lock Valves
Expansion Control - In / Outdoor Unit	TX Valve
Line Size (mm)	
Liquid Line 0 - 50 Meters	16 (5/8")
Gas Line 0 - 50 Meters	22 (3/4")




OUTDOOR UNIT INSTALLED WEIGHT 360 kg

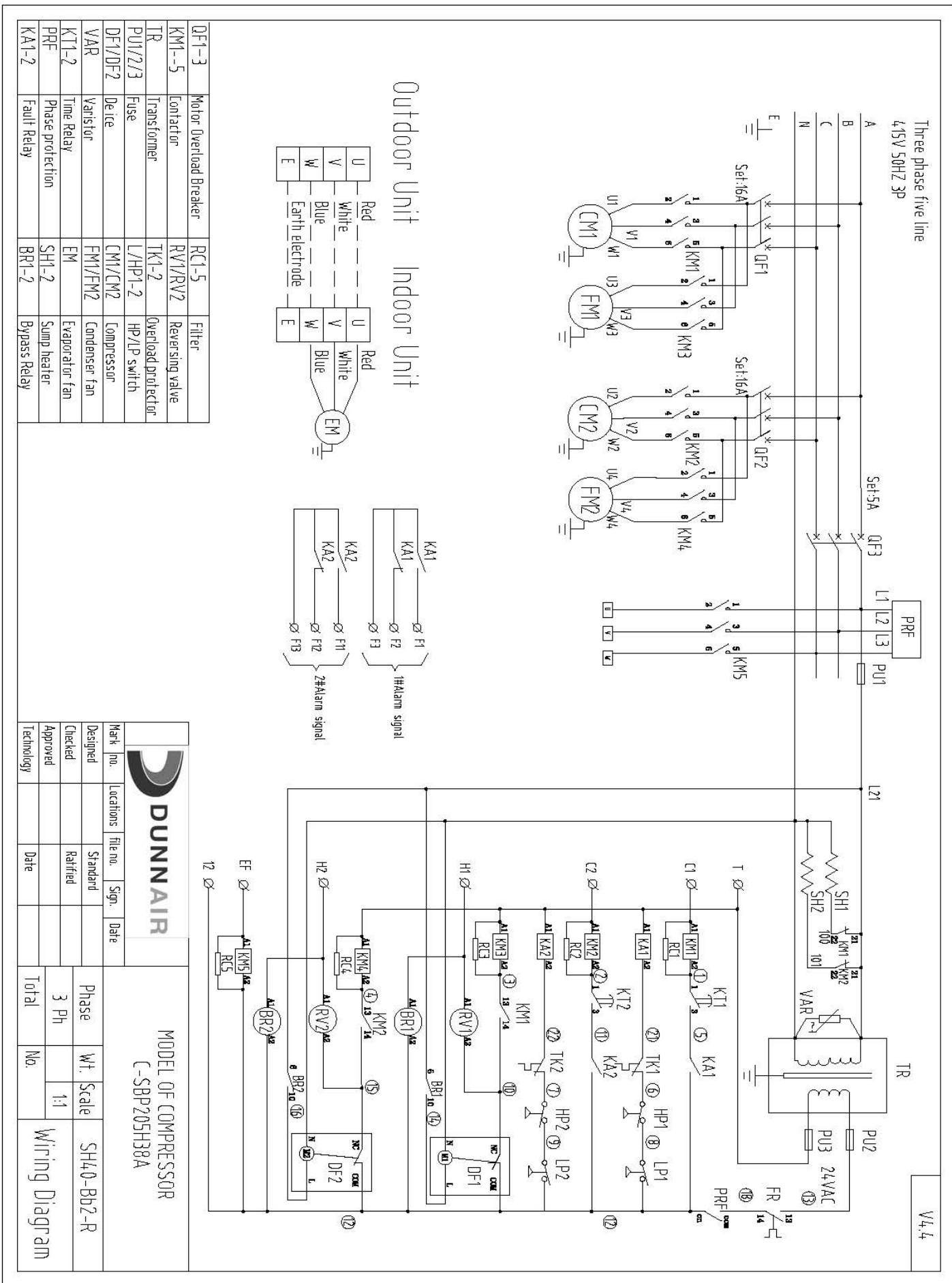
DRAWN BY: Chen Cheng		DATE: 21th Jan.14			
APPROVED d.A.: Zhu Junquan		APPROVED ENG.: Li Meifen			
MODEL: SH40WBB2-R				TITLE: Split System Air Cooled Heat Pump Unit	
DRAWING NO.:		SH TYPE		ISSUE:	
SCALE:				SHEET SIZE: A4	

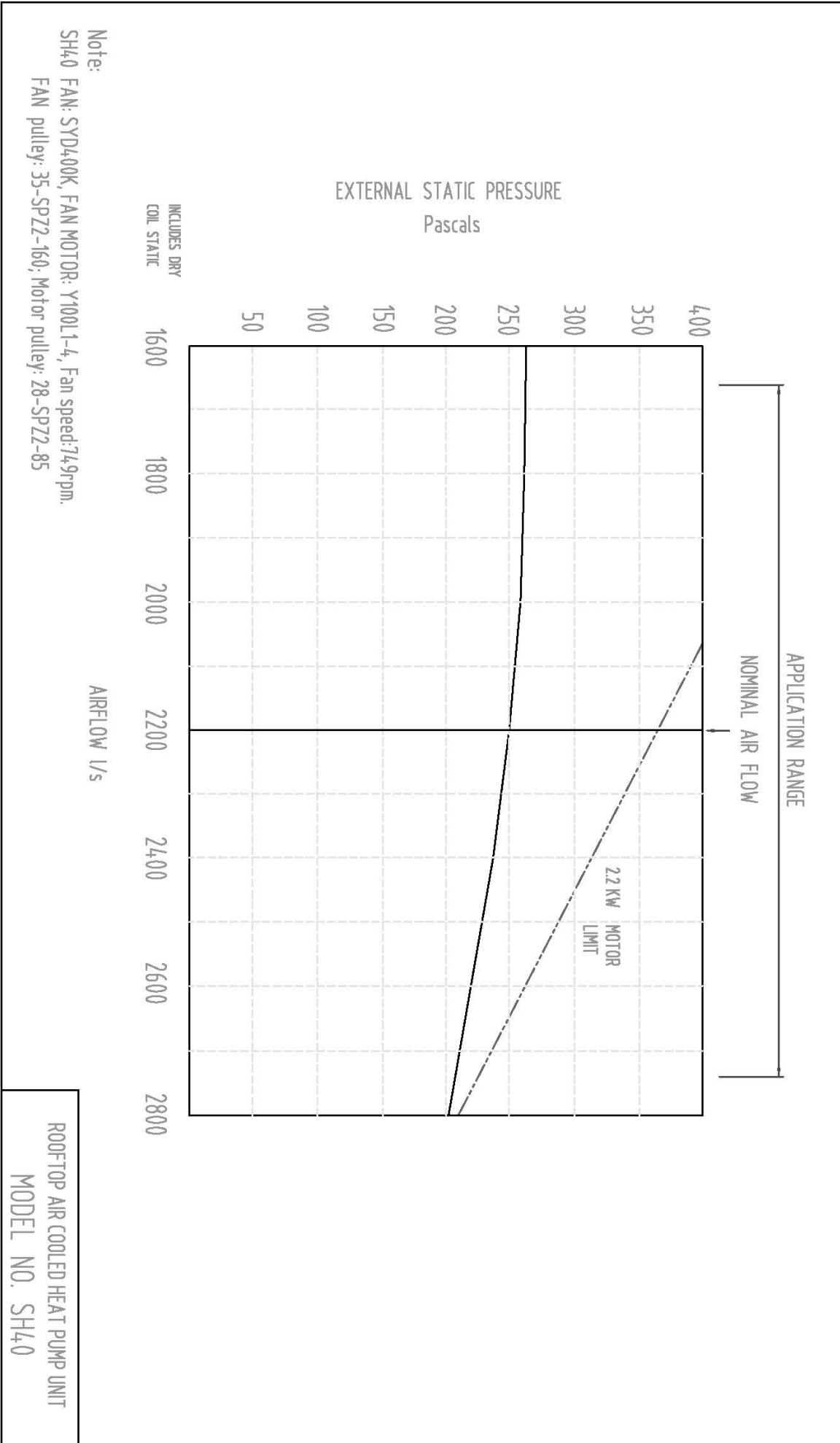


INDOOR UNIT INSTALLED WEIGHT 220 kg

Fan : SYD400K
 Motor: Y100L1-4 (2.2KW-4)
 Fan pulley: 35-SPZ2-160
 Motor pulley: 28-SPZ2-85
 Fan speed: 749rpm

DRAWN BY: Chen Cheng		DATE: 21th Jan. 14		 DUNNAIR	
APPROVED O.A.: Zhu Junquan		APPROVED ENG.: Li Meifen			
MODEL: SH40NBB2-R		DRAWING NO.:		ISSUE:	
SCALE:		SHEET SIZE: A4			

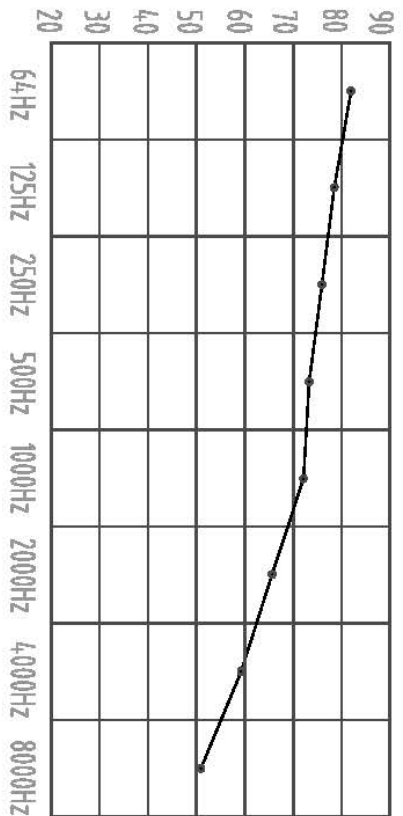




SH40W Sound Pressure Curve
A Class: 75.7dB

Hz	dB
64Hz	81.3
125Hz	78.6
250Hz	75.5
500Hz	72.5
1000Hz	71.6
2000Hz	65.8
4000Hz	59.0
8000Hz	50.2

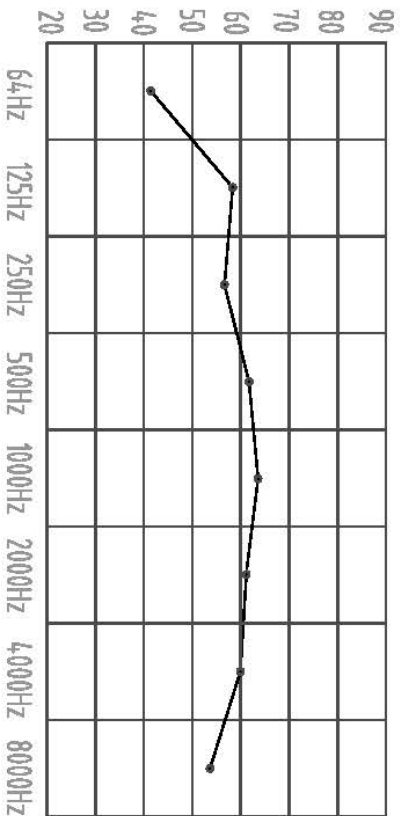
Sound Pressure Curve (A Class: 75.7dB) dB




SH40N Sound Pressure Curve
A Class: 68.3dB

Hz	dB
64Hz	4.2
125Hz	5.8
250Hz	5.6
500Hz	6.1
1000Hz	6.4
2000Hz	6.2
4000Hz	6.0
8000Hz	5.4

Sound Pressure Curve (A Class: 68.3dB) 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: SH40	DRAWING NO.: 01	TITLE: Split System Air Cooled Heat Pump Unit SH TYPE	
	ISSUE: 01	SHEET SIZE: A4	