



DUNNAIR
(Aust) Pty Ltd

PHE73

Economy Cycle Rooftop Packaged

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	71.4	44.0	10.9	67.7	42.5	11.2	63.8	40.8	11.6	61.1	40.8	11.8
	18	73.9	39.7	11.5	70.1	38.1	12.3	66.0	36.3	12.6	63.4	35.2	12.9
	19	76.6	35.2	13.2	72.7	33.6	13.5	68.4	31.8	13.9	65.8	30.8	14.1
	20	79.5	30.5	14.1	75.4	28.8	14.5	70.9	27.0	14.9	68.4	25.9	15.2
23	17	71.7	52.6	10.8	68	51.1	11.2	64.1	49.4	11.5	61.4	48.3	11.8
	18	73.9	48.2	11.9	70.1	46.6	12.2	66	44.8	12.6	63.4	43.7	12.9
	19	76.6	43.7	13	72.6	42.1	13.4	68.3	40.4	13.8	65.8	39.3	14.1
	20	79.4	39	14.1	75.4	37.3	14.5	70.9	35.5	14.9	68.3	34.4	15.1
	21	82.5	34.3	15.1	78.2	32.6	15.5	73.5	30.7	15.9	71	29.6	16.2
25	17	72.4	60.5	10.7	68.7	58.8	11.0	64.8	57.0	11.4	62.3	55.8	11.7
	18	74.1	58.5	12.0	70.3	55.5	12.3	66.2	53.7	12.7	63.6	52.6	13.0
	19	76.5	55.7	13.0	72.6	50.6	13.4	68.3	48.9	13.8	65.7	47.8	14.0
	20	79.4	52.5	14.1	75.3	45.9	14.5	70.8	44.0	14.9	68.3	43.0	15.1
	21	82.4	49.0	15.1	78.2	41.1	15.5	73.5	39.2	15.9	71.0	38.2	16.1
27	17	73.7	67.1	10.6	70.2	65.1	10.9	66.4	62.8	11.3	64.0	61.4	11.6
	18	74.8	65.6	11.8	71.0	64.0	12.1	66.9	62.2	12.5	65.0	61.1	12.7
	19	76.7	60.9	12.8	72.8	59.3	13.2	68.5	57.5	13.6	66.0	56.4	13.8
	20	79.4	56.6	14.0	75.3	54.9	14.3	70.8	53.1	14.7	68.3	52.1	14.9
	21	82.3	51.3	15.1	78.1	49.6	15.5	73.4	47.7	15.9	70.9	46.7	16.1
29	17	75.5	72.7	10.5	72.1	70.3	10.9	68.3	67.5	11.3	66.0	66.0	11.5
	18	76.2	71.2	11.7	72.5	69.2	12.1	68.5	67.1	12.5	66.0	66.0	12.7
	19	77.3	70.0	12.9	73.4	68.4	13.2	69.1	66.6	13.6	66.0	66.0	13.9
	20	79.5	64.9	14.0	75.4	63.2	14.3	70.9	61.3	14.8	68.4	60.3	15.0
	21	82.3	59.8	15.1	78.1	58.1	15.5	73.4	56.2	15.9	70.9	55.2	16.1
31	17	77.9	77.5	10.2	74.6	74.5	10.5	70.9	70.9	10.9	68.8	68.8	11.1
	18	78.3	76.6	11.5	74.7	74.2	11.8	70.9	70.9	12.2	68.8	68.8	12.5
	19	78.7	75.8	12.7	74.9	73.9	13.1	70.9	70.9	13.5	68.8	68.8	13.7
	20	80.0	73.8	13.9	76.0	72.2	14.3	71.5	70.3	14.7	69.0	68.8	15.0
	21	82.4	68.9	15.1	78.2	67.2	15.5	73.5	65.3	15.9	71.0	64.3	16.2

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



Technical Specification PHE73 Economy Cycle Rooftop Packaged Model

Total Cooling Capacity (kW)*	72.8	Number of Compressors	2
Sensible Cooling Capacity (kW)*	59.3	Power Requirements (Volt /Phase)	415 / 3
Heating Capacity (kW)**	66.6	Normal Max. Current (Amps /Phase)	60.6
Nominal Evaporator Air Flow (L/S)	3900	Power Input (kW)	28.6
*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 3900 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)	54.3	59.4	68.5	75.0	89.4

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 20.4
Locked Rotor Current (Amps /Phase)	2 x 96
Displacement (m ³ /h)	2 x 20.3

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 Coil

Type	Copper Tube / Aluminium Fins
Face Area (m ²)	2 x 0.82
Air Quantity (l/s)	3900

Evaporator 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)	790

Electrical

Power Requirements	3 Phase /415V /50Hz
Normal Max. Current (Amps /Phase)	60.6

Condenser Coil

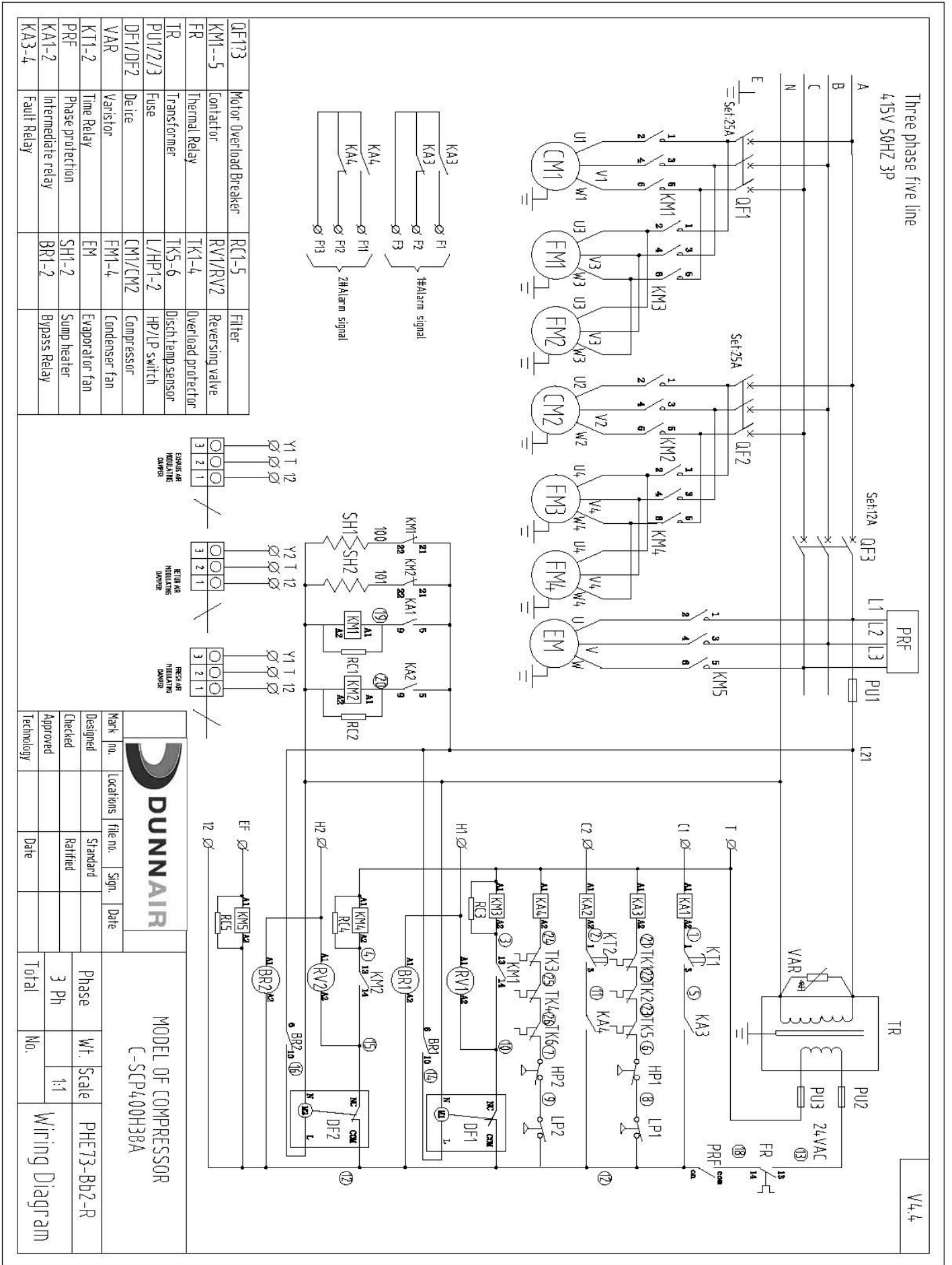
Type	Copper Tube /Aluminium Fins
Face Area(m ²)	2 x 1.1

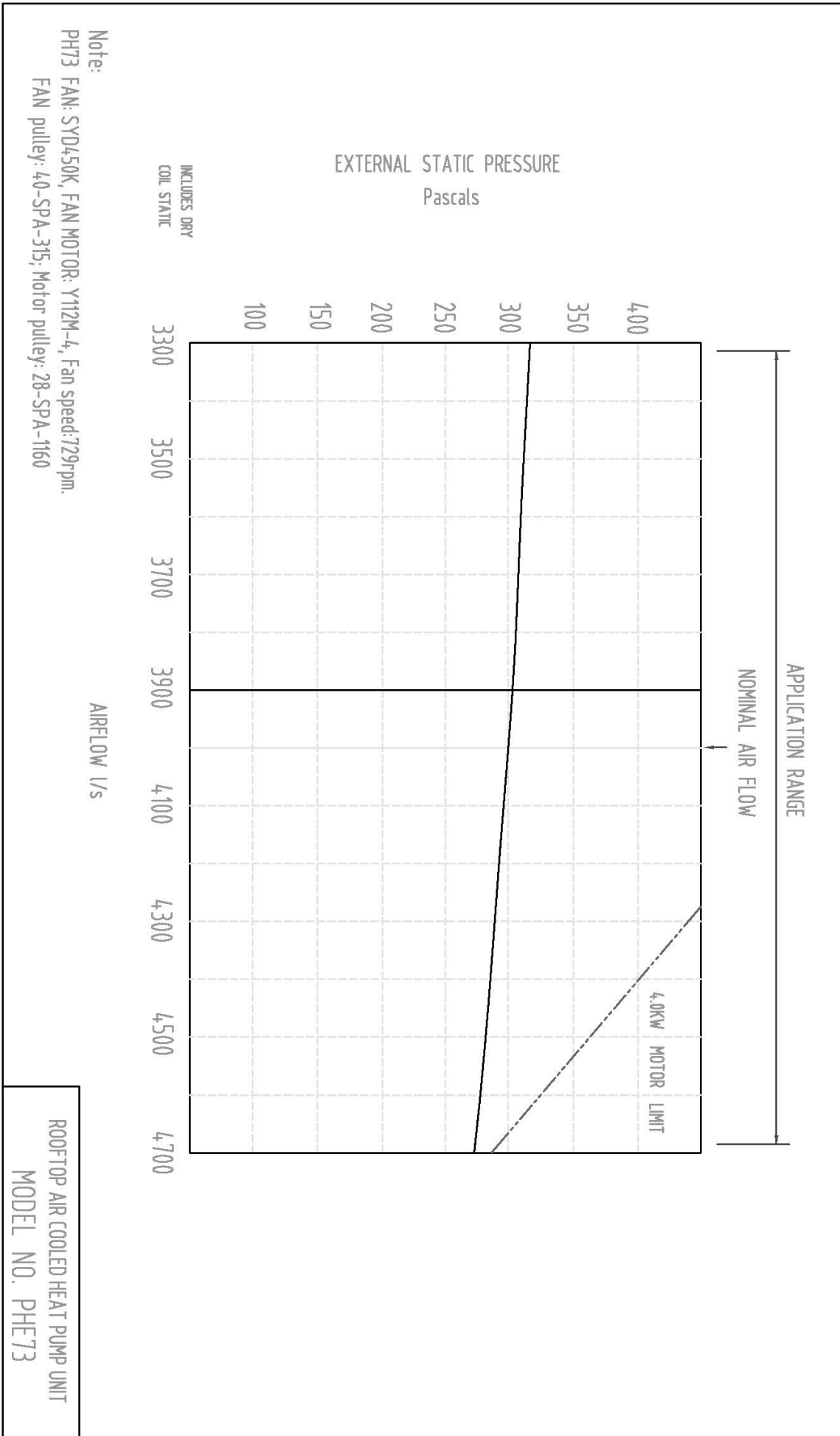
Condenser Fan

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

Refrigeration System

Refrigerant Type	R410A
Charge(kg)	2 x 7.8
Service Connections	Rotor Lock Valves
Expansion Control - In / Outdoor unit	TX Valve



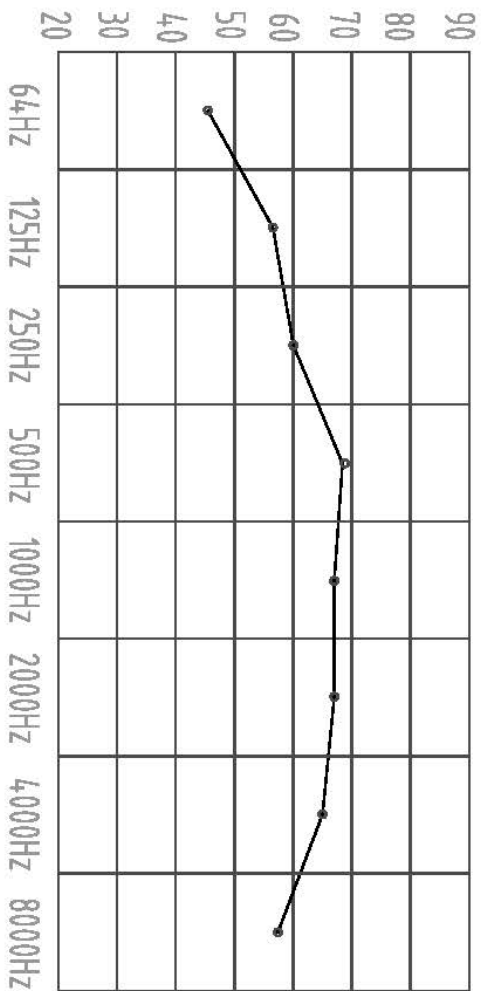


PHE73 Sound Pressure Curve


A Class: 73.0dB

Hz	dB
64Hz	46
125Hz	57
250Hz	60
500Hz	69
1000Hz	67
2000Hz	67
4000Hz	65
8000Hz	58

Sound Pressure Curve (A Class: 73.0dB) dB



Note: Occupant at least 1.0m from sound source.

DRAWN BY: Chen Cheng		DATE: 13th.Feb.2014			
APPROVED O.A.: Zhu Junquan		APPROVED ENG.: Li Meifen			
MODEL: PHE73		DRAWING NO.: 01		TITLE: Packaged Rooftop With Economy Cycle PHE TYPE	
		ISSUE: 01		SHEET SIZE: A4	