



DUNNAIR

(Aust) Pty Ltd

PHSE12

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	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	13.0	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	11.60	8.30	12.30	10.90	8.00	12.60	10.20	7.70	13.00	10.60	7.50	13.20
	18	12.00	7.60	13.40	11.30	7.30	13.80	10.60	7.00	14.00	11.10	6.80	14.40
	19	12.50	6.70	14.50	11.80	6.40	14.80	11.10	6.10	15.10	11.50	5.90	15.50
	20	13.00	5.90	15.60	12.30	5.60	15.80	11.50	5.30	16.20	11.10	5.20	16.50
	21	13.40	5.00	16.60	12.70	4.70	16.70	12.00	4.40	17.10	11.50	4.20	17.00
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	12.7	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	9.8	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 PHSE12 Economy Cycle Rooftop Packaged Model

Total Cooling Capacity (kW)*	11.5	Number of Compressors	1
Sensible Cooling Capacity (kW)*	9.7	Power Requirements (Volt /Phase)	415 /3
Heating Capacity (kW)**	11.7	Normal Max. Current (Amps /Phase)	11.0
Nominal Evaporator Air Flow (L/S)	695	Power Input (kW)	5.1
*Entering air @ 27/19 °C and ambient 35°C		** Entering air @ 21 °C DB and 7°C ambient	

Air Quantity Multiplying Factors

Capacity	% Rated Air Quantity - Nominal 695 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)	10.5	11.8	12.5	13.6	15.1

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	1
Type	Scroll
RPM (Nom)	2900
Normal Max Current (Amps /Phase)	9.2
Locked Rotor Current (Amps /Phase)	66
Displacement (m ³ /h)	8.8

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)	0.28
Air Quantity (l/s)	695

Evaporator Fan

Number of Fans	1
Type	Centrifugal
Drive	Direct
Motor Voltage /Phase /Frequency	415 /3 /50
Motor Power (kW)	0.32
Maximum Fan Speed (rpm)	1096

Electrical

Power Requirements	3 Phase /415V /50Hz
Normal Max. Current (Amps /Phase)	11.0

Condenser Coil

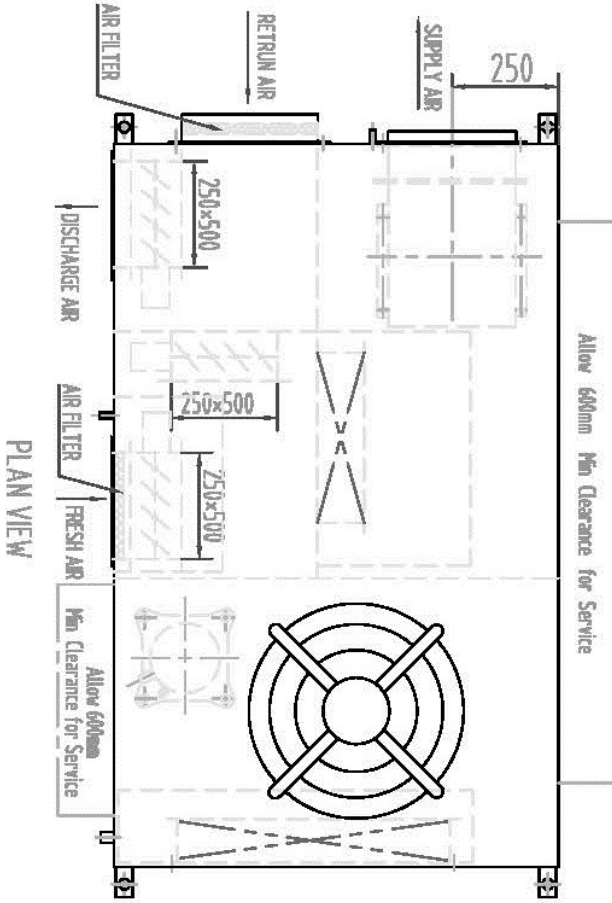
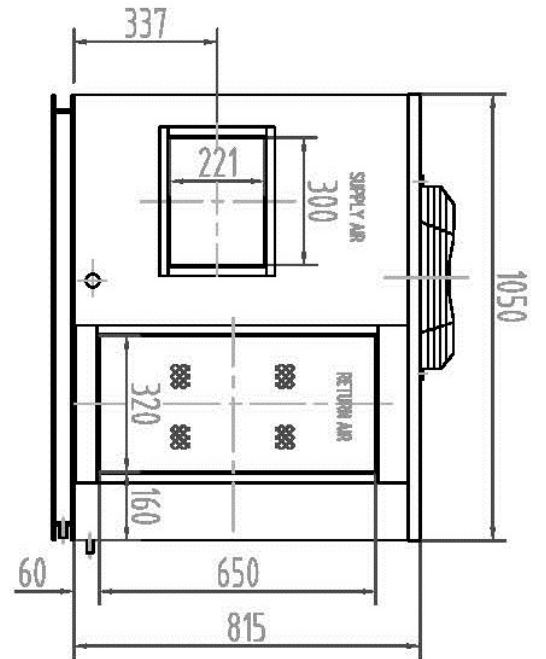
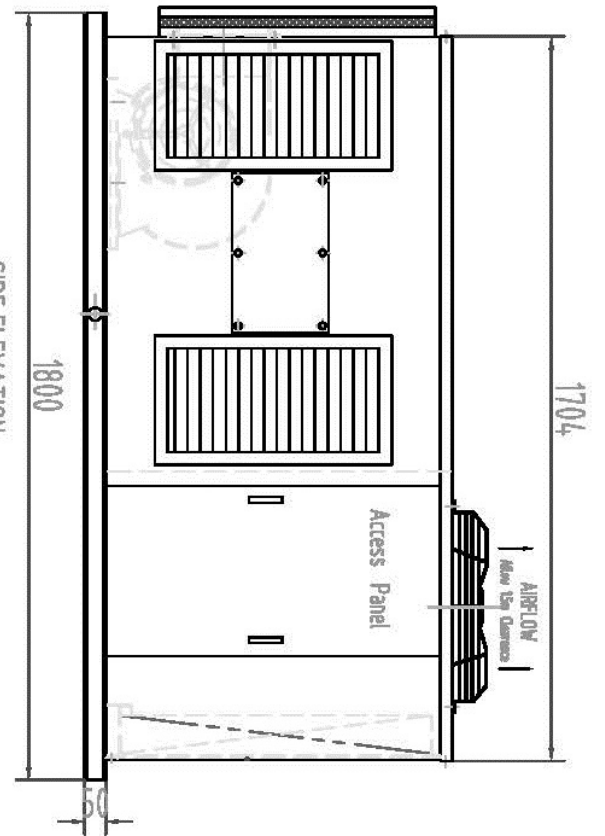
Type	Copper Tube /Aluminium Fins
Face Area(m ²)	0.49

Condenser Fan

Number of Fans	1
Type	Axial
Drive	Direct
Motor Watts /rpm	180 / 930
Motor Voltage /Phase /Frequency	415 / 3 / 50

Refrigeration System

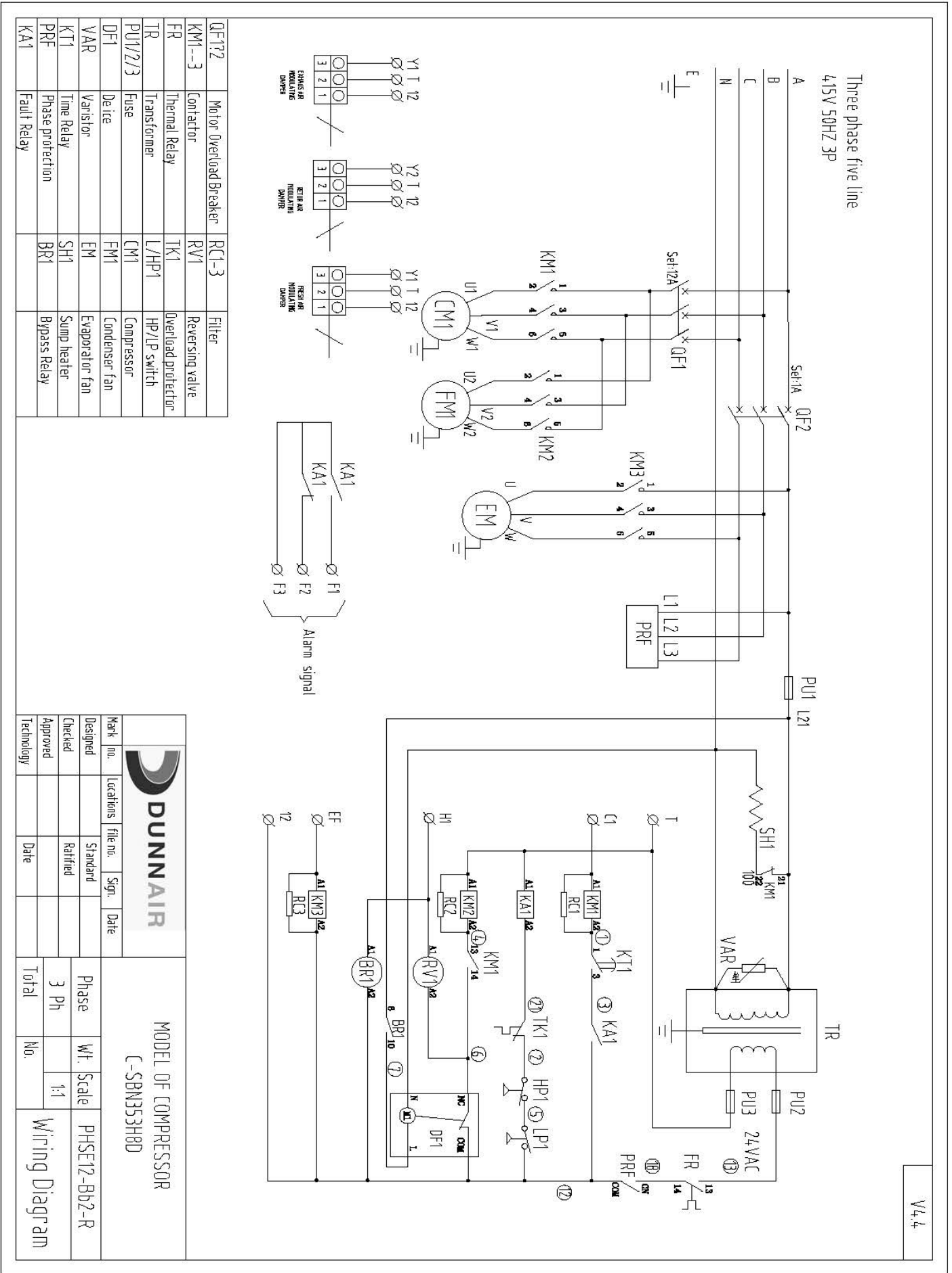
Refrigerant Type	R410A
Charge(kg)	3.6
Service Connections	Rotor Lock Valves
Expansion Control - In / Outdoor unit	TX Valve



SUPPLY & RETURN VIEW

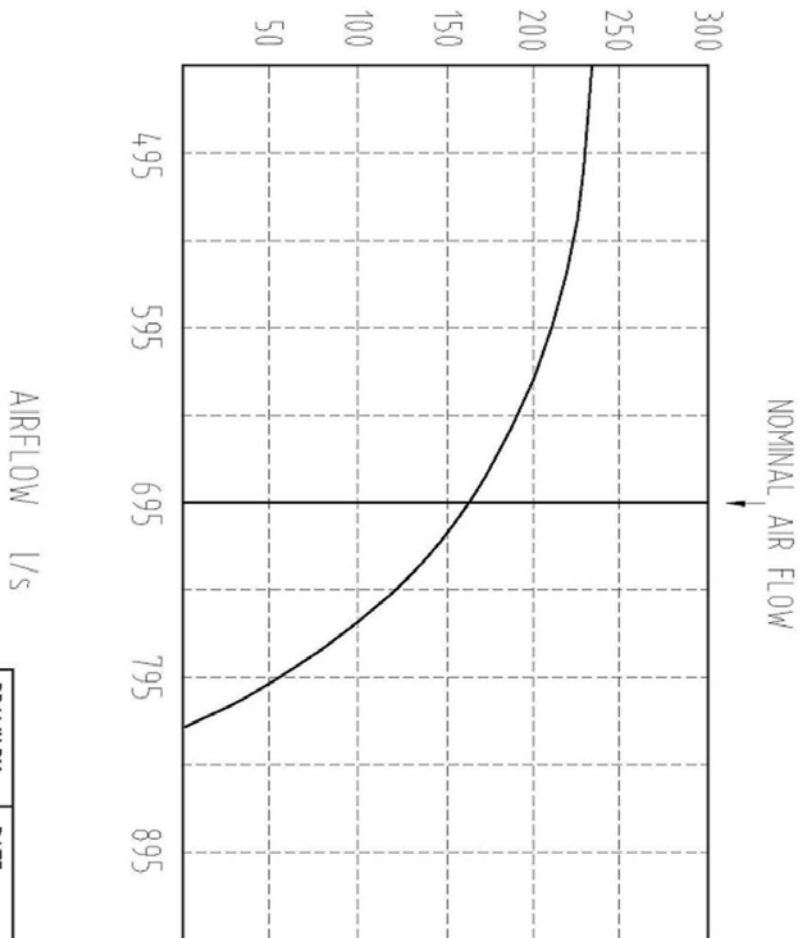
Fan : KDE2.25WS
 Motor: YDW320W-4P
 INSTALLED WEIGHT 300Kg


DRAWN BY: Chen Cheng	DATE: 28th Feb 2014	
APPROVED D.A.: Zhu Junquan	APPROVED ENG.: LI Meifan	
TITLE: Package Air Cooled Heat Pump Unit With Economy Cycle		PHSE TYPE
MODEL: PHSE12-Bb2	DRAWING NO.: 01	
ISSUE: 01	SHEET SIZE: A4	



INCLUDES DRY
COIL STATIC

EXTERNAL STATC PRESSURE
pascals

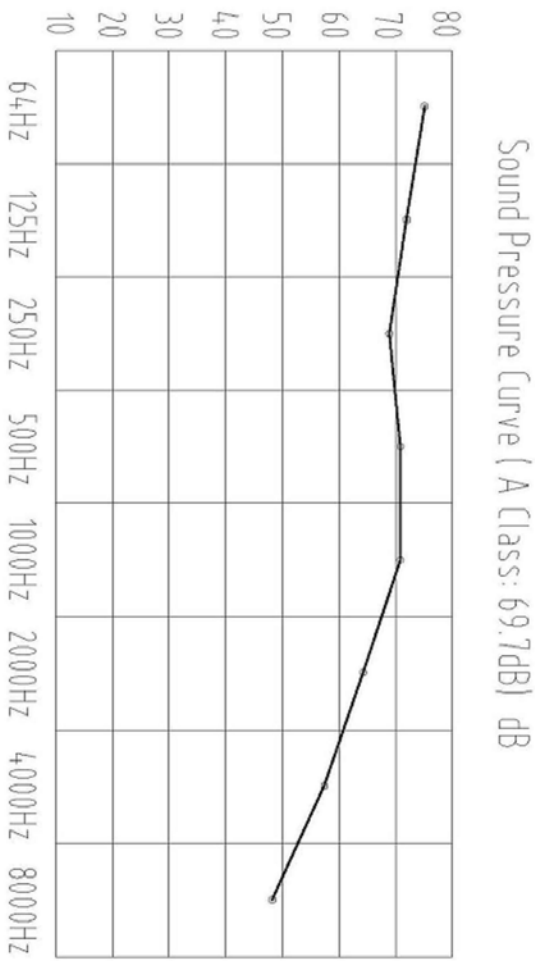


DRAWN BY: Chen Cheng	DATE: 15th Spt. 2011	 DUNNAIR
APPROVED Q.A.: LI Meifen	APPROVED ENG.: Zhang Jingfei	
MODEL: PHSE12-Bb2		TITLE: Package Air Cooled Heat Pump Unit With Economy Cycle PHSE TYPE
DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4


PHSE12 Sound Pressure Curve

A Class: 69.7dB

Hz	dB
64Hz	76.8
125Hz	71.5
250Hz	69.8
500Hz	70.5
1000Hz	70.6
2000Hz	64.8
4000Hz	58.0
8000Hz	49.3



Note: Occupant at least 1.0m from sound source.

DRAWN BY: Chen Cheng	DATE: 24th, Dec, 2011	 DUNNAIR
APPROVED Q.A.: LI Meifen	APPROVED ENG.: Zhang Jingfei	
TITLE: Packaged Air-Cooled Heat Pump Unit		PHS TYPE
MODEL: PHSE12-BB2	DRAWING NO.: 01	
ISSUE: 01	SHEET SIZE: A4	