



DUNNAIR
(Aust) Pty Ltd

PHSE10

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	9.2	5.5	11.5	8.7	5.2	9.4	8.3	5.2	12.0	7.9	5.2	12.3
	18	9.5	5.0	11.9	9.0	4.8	12.9	8.6	4.6	13.2	8.1	4.5	13.5
	19	9.8	4.4	13.5	9.3	4.2	13.8	8.9	4.0	14.1	8.4	3.8	14.4
	20	10.5	3.8	14.6	9.7	3.6	14.9	9.2	3.4	15.2	8.8	3.6	15.5
23	17	9.2	6.6	11.5	8.7	6.4	11.8	8.3	6.2	12.0	17.9	6.0	12.3
	18	9.5	6.0	12.6	9.0	5.8	12.9	8.6	5.6	13.1	8.1	5.4	13.4
	19	9.8	5.4	13.5	9.3	5.3	13.8	8.9	5.1	14.1	8.4	4.9	14.4
	20	10.1	4.9	14.6	9.1	4.7	14.9	9.2	4.5	15.2	8.7	4.3	15.6
	21	10.5	4.3	15.8	10.0	4.1	16.1	9.5	4.0	16.4	9.1	3.8	16.6
25	17	9.2	7.6	11.4	8.8	7.4	11.7	8.4	7.2	12.0	7.9	7.0	12.2
	18	9.5	7.4	12.6	9.0	7.2	11.8	8.6	6.8	13.1	8.1	6.6	13.4
	19	9.8	7.1	13.5	9.1	7.1	12.8	8.9	6.2	14.1	8.4	6.0	14.4
	20	10.1	6.9	14.6	9.3	6.4	13.8	9.2	5.6	15.2	8.6	5.4	15.5
	21	10.5	6.6	15.8	9.1	4.9	16.0	9.5	5.0	16.3	9.1	4.9	16.6
27	17	9.3	8.5	11.2	9.0	8.6	11.7	8.5	8.0	11.8	8.1	7.7	12.1
	18	9.5	8.1	12.4	9.1	8.1	12.0	8.6	7.8	13.0	8.4	7.1	13.3
	19	9.8	7.6	13.5	9.3	8.0	12.8	8.9	7.2	14.1	8.7	6.5	14.4
	20	10.1	7.0	14.5	9.8	7.0	14.8	9.2	6.7	15.1	9.0	5.9	15.4
	21	10.4	6.4	15.7	10.2	6.4	16.0	9.5	6.1	16.3	8.4	8.3	16.6
29	17	9.5	9.2	11.1	9.1	8.9	11.3	8.8	8.6	11.6	8.4	8.2	11.9
	18	9.7	8.9	12.3	9.2	8.7	12.6	8.8	8.4	12.9	8.4	8.1	13.2
	19	9.8	8.6	13.4	9.4	8.5	13.7	8.9	8.3	13.9	8.5	7.6	14.2
	20	10.1	8.1	14.5	9.6	7.9	14.8	9.2	7.7	15.1	8.7	6.9	15.4
	21	10.5	7.5	15.6	10.0	7.9	15.9	9.5	7.1	16.2	9.1	8.7	16.4
31	17	9.8	9.8	11.1	9.4	9.4	11.3	9.1	9.1	15.1	8.7	8.7	12.0
	18	9.9	9.7	12.2	9.5	9.3	12.5	9.1	9.0	12.7	8.7	8.7	13.0
	19	10.0	9.4	13.4	9.6	9.2	13.7	9.1	8.9	14.0	8.7	8.7	14.0
	20	10.1	9.2	14.6	9.7	9.0	14.9	9.2	8.8	15.2	8.8	8.7	15.4
	21	10.4	8.5	15.6	10.0	8.4	15.9	9.5	8.2	16.1	9.1	8.0	16.4

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



Technical Specification PHSE10 Economy Cycle Rooftop Packaged Model

Total Cooling Capacity (kW)*	9.3	Number of Compressors	1
Sensible Cooling Capacity (kW)*	8.0	Power Requirements (Volt /Phase)	240 /1
Heating Capacity (kW)**	9.4	Normal Max. Current (Amps /Phase)	26.0
Nominal Evaporator Air Flow (L/S)	555	Power Input (kW)	4.3
*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 555 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)	7.6	7.9	10.0	10.8	12.8

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)	21.8
Locked Rotor Current (Amps /Phase)	97
Displacement (m ³ /h)	6.3

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)	0.23
Air Quantity (l/s)	555

Evaporator Fan

Number of Fans	1
Type	Centrifugal
Drive	Direct
Motor Voltage /Phase /Frequency	240 /1 /50
Motor Power (kW)	0.275
Maximum Fan Speed (rpm)	1270

Electrical

Power Requirements	1 Phase /240V /50Hz
Normal Max. Current (Amps /Phase)	26.0

Condenser Coil

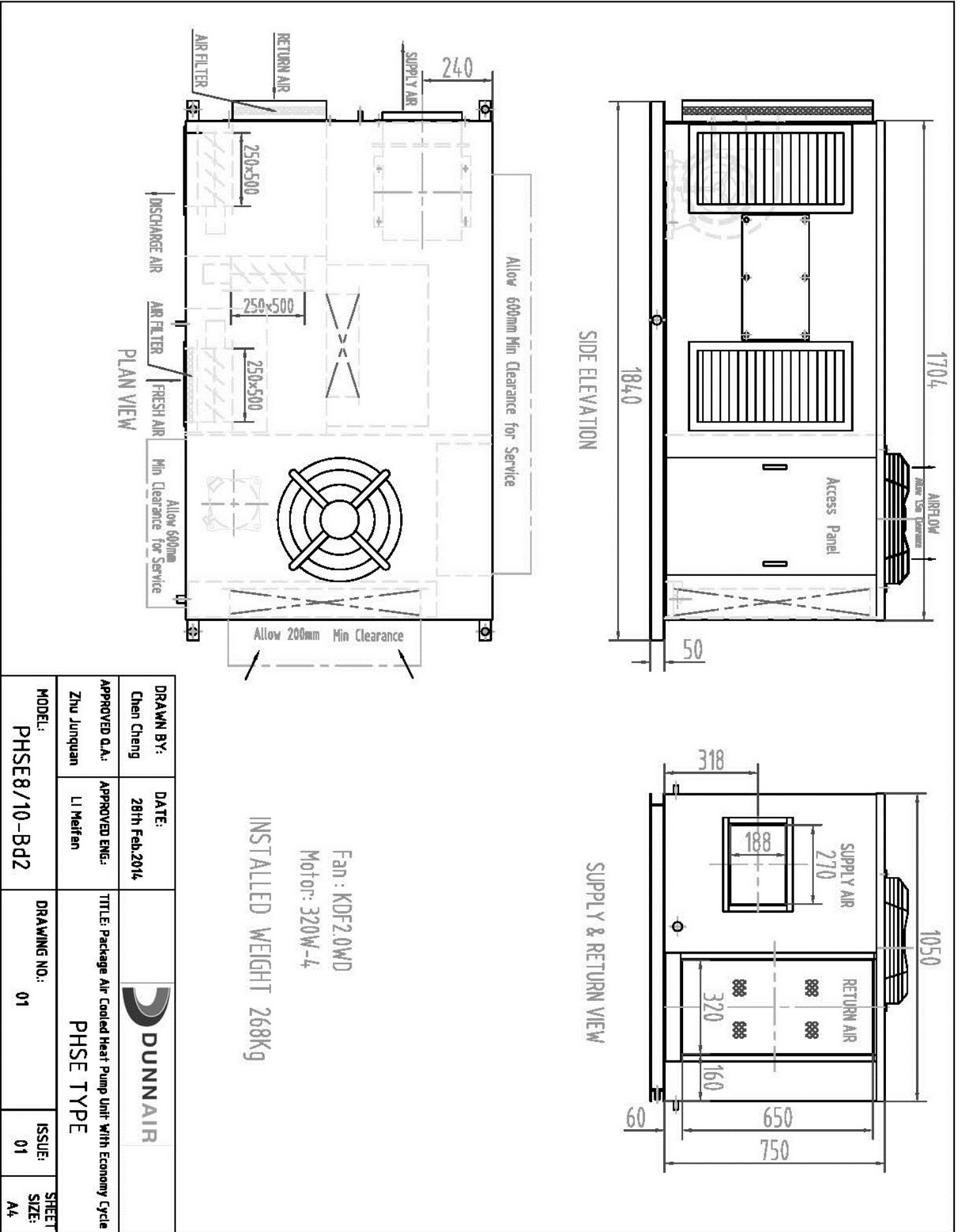
Type	Copper Tube/Aluminium Fins
Face Area (m ²)	0.43

Condenser Fan

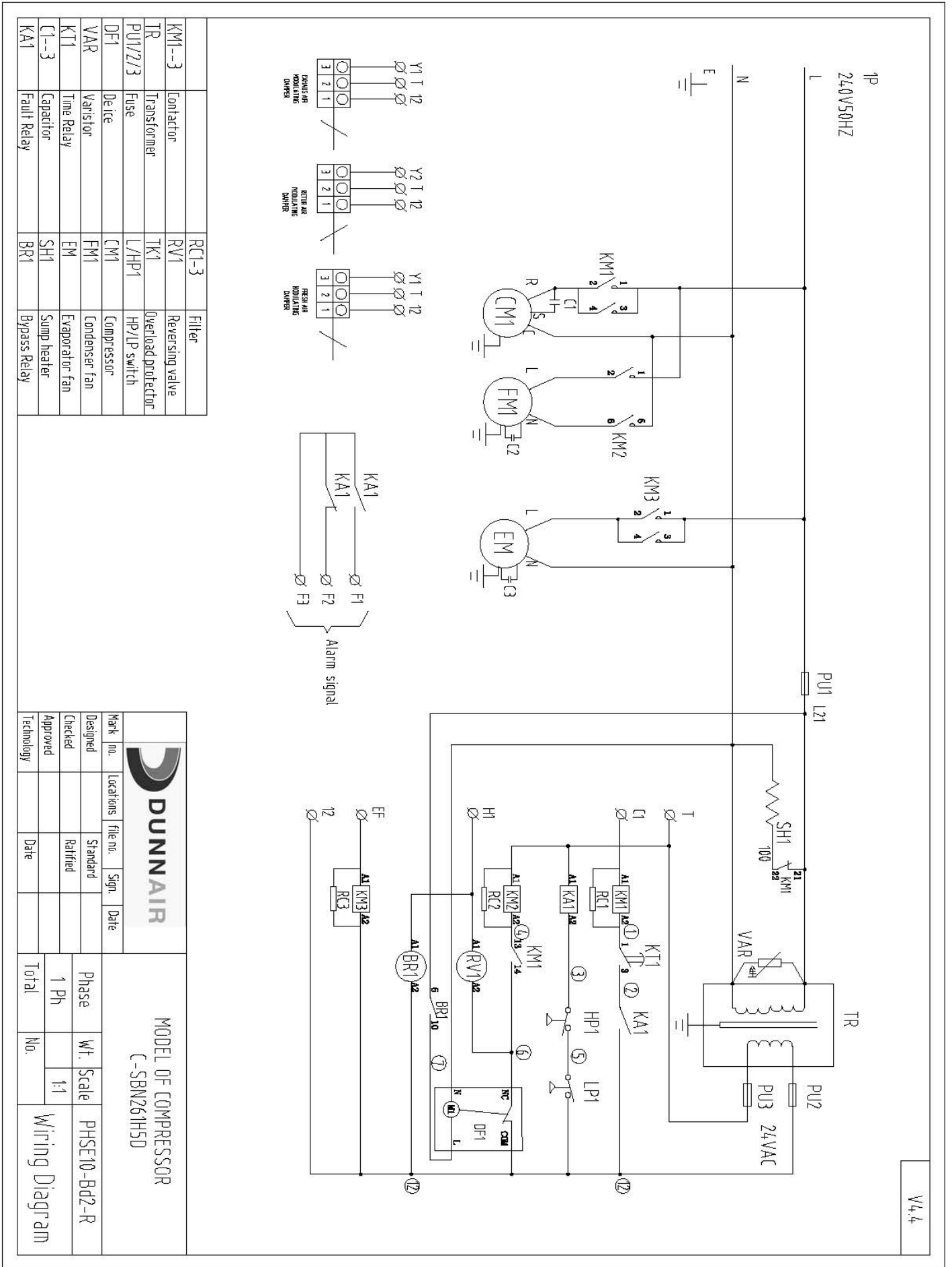
Number of Fans	1
Type	Axial
Drive	Direct
Motor Watts /rpm	100 / 900
Motor Voltage /Phase /Frequency	240 / 1 / 50

Refrigeration System

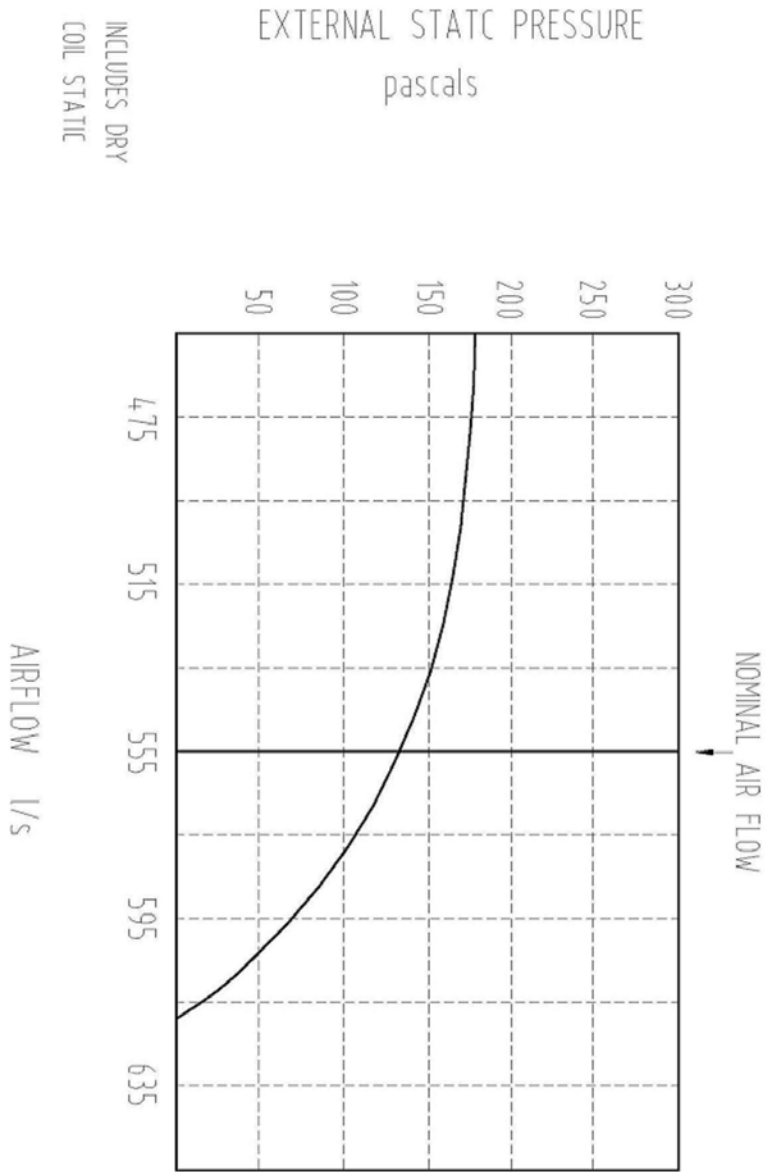
Refrigerant Type	R410A
Charge(kg)	3.2
Service Connections	Rotor Lock Valves
Expansion Control - In / Outdoor unit	TX Valve




DRAWN BY: Chen Cheng		DATE: 28th Feb.2014		
APPROVED O.A.: Zhu Junquan		APPROVED ENG.: LI Meifan		
MODEL: PHSE8/10-BD2		TITLE: Package Air Cooled Heat Pump Unit With Economy Cycle PHSE TYPE		
DRAWING NO.: 01		ISSUE: 01		SHEET SIZE: A4



V4.4



INCLUDES DRY
COIL STATIC

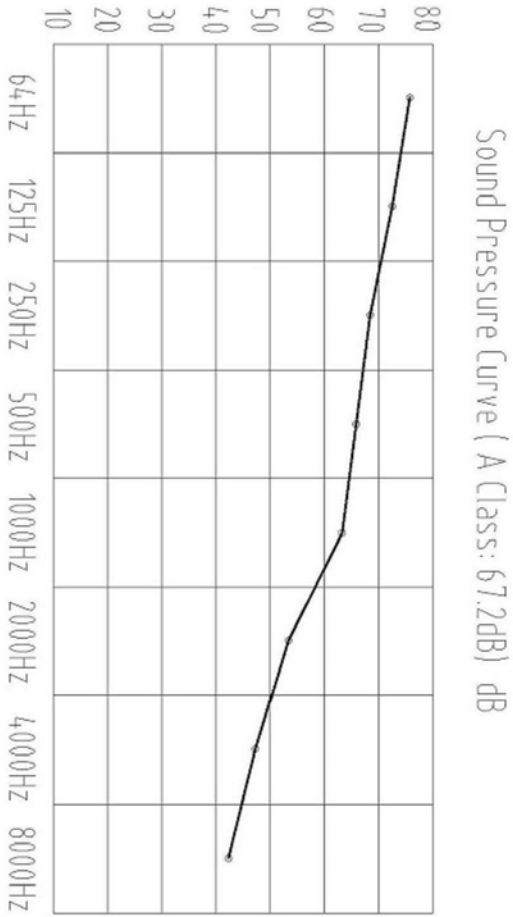
DRAWN BY: Chen Cheng	DATE: 15th Spt 2011	
APPROVED D.A.: LI Meifen	APPROVED ENG.: Zhang Jingfei	
MODEL: PHSE10-BD2		TITLE: Package Air Cooled Heat Pump Unit With Economy Cycle PHSE TYPE
DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4


PHSE10 Sound Pressure Curve

A Class: 67.2dB

Hz	dB
64Hz	76.5
125Hz	72.3
250Hz	69.6
500Hz	66.1
1000Hz	62.6
2000Hz	53.1
4000Hz	48.6
8000Hz	41.8

Note: Occupant at least 1.0m from sound source.



DRAWN BY: Chen Cheng	DATE: 24th Dec 2011	 DUNNAIR
APPROVED O.A.: Li Meifen	APPROVED ENG.: Zhang Jingfei	
TITLE: Packaged Air-Cooled Heat Pump Unit PHS TYPE		
MODEL: PHSE10-BD2	DRAWING NO.: 01	ISSUE: 01
		SHEET SIZE: A4