



# DUNNAIR

(Aust) Pty Ltd

# PHSE15

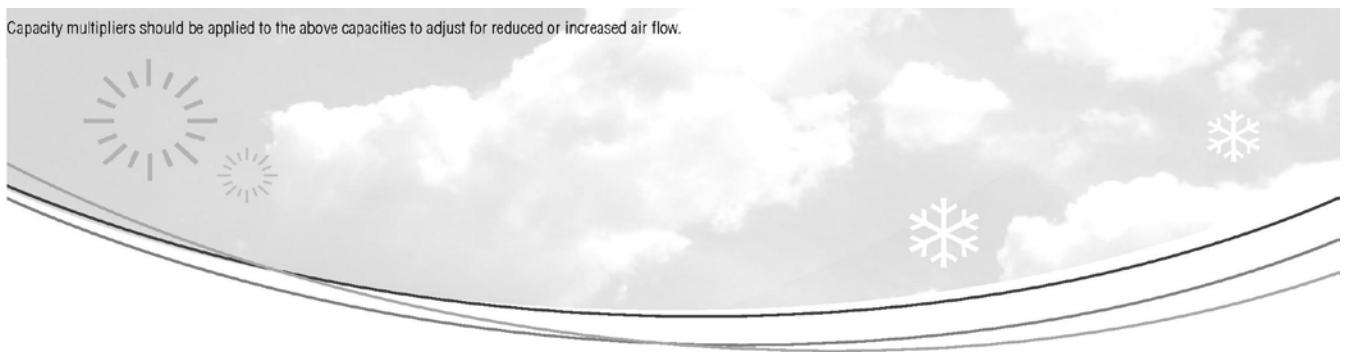
*Economy Cycle Rooftop Packaged*

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	14.0	9.1	9.8	13.2	8.8	9.0	12.6	8.5	12.9	11.7	8.5	13.3
	18	14.7	8.1	9.0	13.7	7.8	13.6	13.0	7.5	14.0	12.2	7.0	14.3
	19	15.0	7.1	7.8	14.4	6.8	14.8	13.7	6.5	15.0	12.7	6.0	15.3
	20	16.0	6.0	6.7	15.0	5.7	15.8	14.3	5.5	16.0	13.3	5.0	16.3
23	17	14.0	11.1	12.3	13.3	11.0	12.6	12.8	10.6	13.0	11.7	10.2	13.1
	18	14.4	9.1	13.4	13.7	10.8	13.7	13.4	9.5	14.0	12.2	9.0	14.1
	19	15.0	9.1	15.4	14.3	9.8	14.7	13.6	8.5	15.0	12.8	8.1	15.2
	20	15.7	8.0	15.4	14.7	8.8	15.8	14.4	7.5	16.0	13.3	7.3	16.2
	21	16.3	7.0	16.4	15.4	7.7	16.8	15.0	6.4	17.0	14.0	6.0	17.1
25	17	14.2	12.8	12.4	13.5	12.7	12.4	13.0	12.2	12.8	12.0	11.7	13.0
	18	14.5	12.5	13.4	14.0	12.5	13.7	13.3	11.7	13.9	12.2	11.0	14.1
	19	15.0	12.0	14.4	14.3	11.9	14.7	13.6	10.5	15.0	12.8	10.1	15.2
	20	15.6	11.3	15.4	14.9	10.8	15.7	14.2	9.5	16.0	13.7	8.8	16.1
	21	16.3	10.7	16.6	15.6	10.0	17.3	15.0	8.2	17.0	14.0	7.3	17.1
27	17	14.5	14.1	12.0	14.0	13.8	12.4	13.3	12.8	12.5	12.6	12.6	12.8
	18	14.7	13.8	13.2	14.5	13.5	13.5	13.4	11.7	13.9	12.6	12.6	13.9
	19	15.1	13.6	14.3	14.8	13.0	14.8	13.7	10.9	15.0	12.7	12.1	15.2
	20	15.6	12.7	15.4	15.4	11.6	15.3	14.2	10.5	16.0	13.4	9.7	16.2
	21	16.3	11.6	16.5	15.8	10.7	16.0	15.0	9.4	17.0	14.0	8.6	17.2
29	17	15.0	14.3	12.0	14.4	14.2	12.0	14.0	14.0	12.1	13.2	13.2	12.5
	18	15.1	14.0	13.0	14.5	13.9	13.3	14.0	14.0	13.5	13.2	13.2	14.0
	19	15.2	13.7	14.4	14.5	13.5	15.0	14.0	14.0	15.0	13.2	13.2	15.2
	20	15.7	13.1	15.6	14.9	13.0	16.1	14.4	13.5	16.0	13.6	11.4	16.3
	21	16.3	12.7	16.5	15.8	12.7	17.0	15.0	12.0	17.0	14.0	9.9	17.3
31	17	15.6	15.2	11.5	15.0	15.0	12.0	14.6	14.6	13.5	14.0	14.0	12.5
	18	15.7	15.1	12.9	15.0	15.0	13.0	14.6	14.6	14.0	14.1	14.0	13.9
	19	15.7	14.9	13.9	15.0	15.0	15.4	14.6	14.6	15.0	14.2	14.1	15.0
	20	15.8	14.8	15.4	15.0	15.0	16.6	14.8	14.3	15.9	14.2	13.9	16.1
	21	16.3	14.5	16.4	15.8	14.6	16.7	15.4	14.0	17.1	14.2	13.6	17.4

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



## Technical Specification PHSE15 Economy Cycle Rooftop Packaged Model

Total Cooling Capacity (kW)*	14.8	Number of Compressors	1
Sensible Cooling Capacity (kW)*	13.0	Power Requirements (Volt /Phase)	415 / 3
Heating Capacity (kW)**	14.6	Normal Max. Current (Amps /Phase)	12.6
Nominal Evaporator Air Flow (L/S)	850	Power Input (kW)	5.6
*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 850 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)	11.0	13.0	15.0	16.1	18.2

### 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)	9.8
Locked Rotor Current (Amps /Phase)	66
Displacement (m <sup>3</sup> /h)	9.5

### 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 <sup>2</sup> )	0.38
Air Quantity (l/s)	850

### Evaporator Fan

Number of Fans	1
Type	Centrifugal
Drive	Direct
Motor Voltage /Phase /Frequency	415 /3 /50
Motor Power (kW)	0.48
Maximum Fan Speed (rpm)	1045

### Electrical

Power Requirements	3 Phase /415V /50Hz
Normal Max. Current (Amps /Phase)	12.6

### Condenser Coil

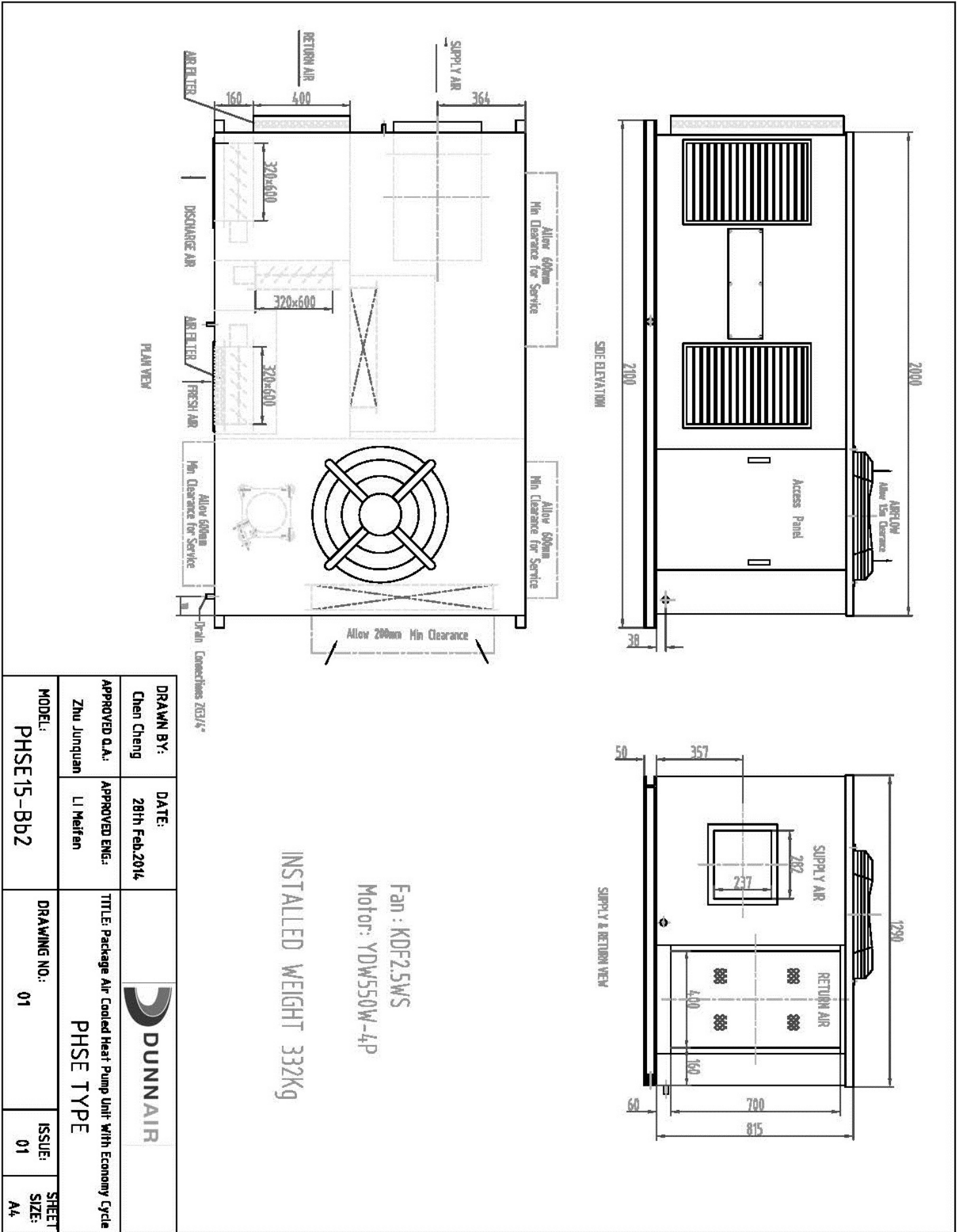
Type	Copper Tube /Aluminium Fins
Face Area(m <sup>2</sup> )	0.55

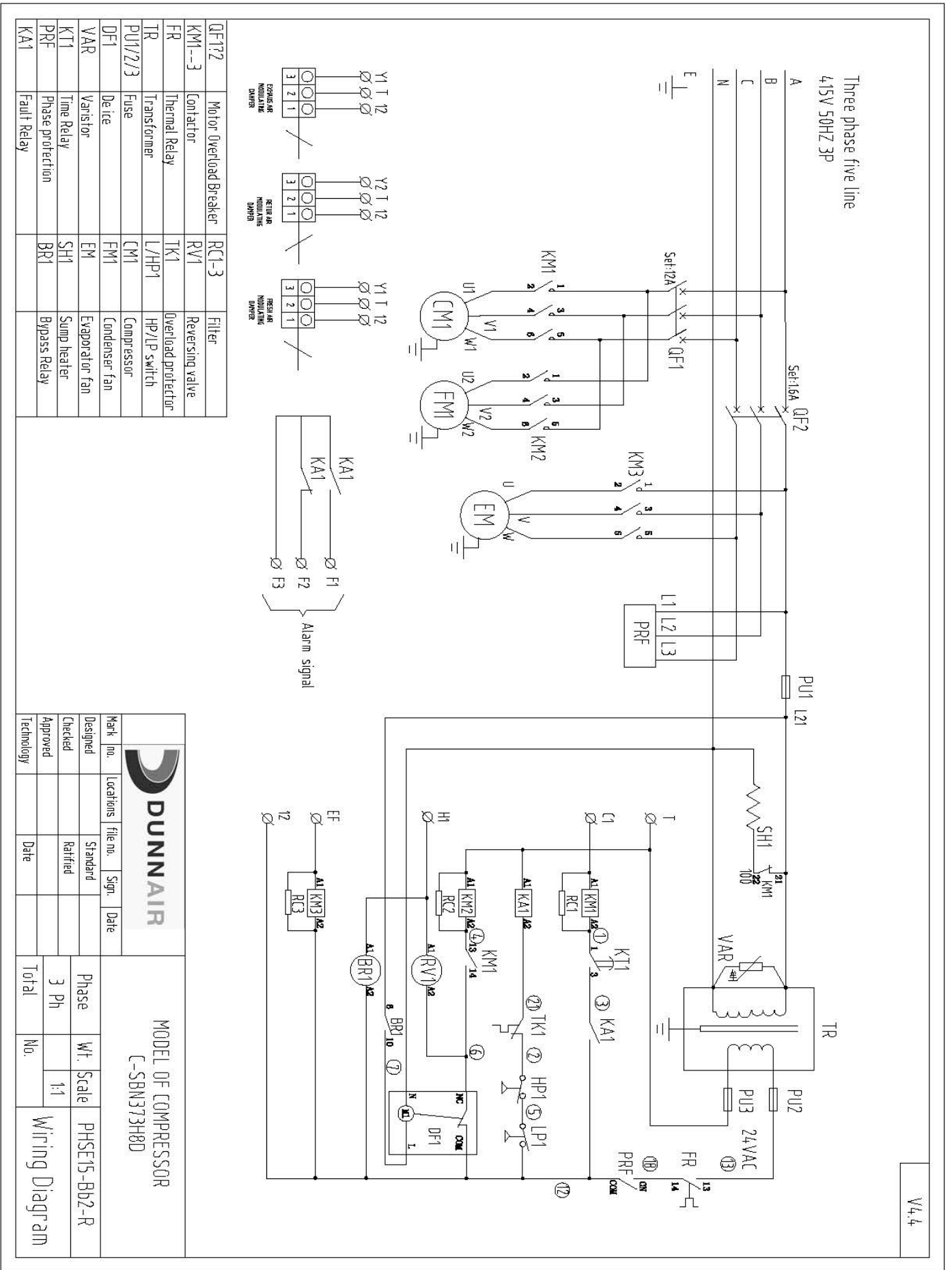
### Condenser Fan

Number of Fans	1
Type	Axial
Drive	Direct
Motor Watts /rpm	370 / 950
Motor Voltage /Phase /Frequency	415 / 3 / 50

### Refrigeration System

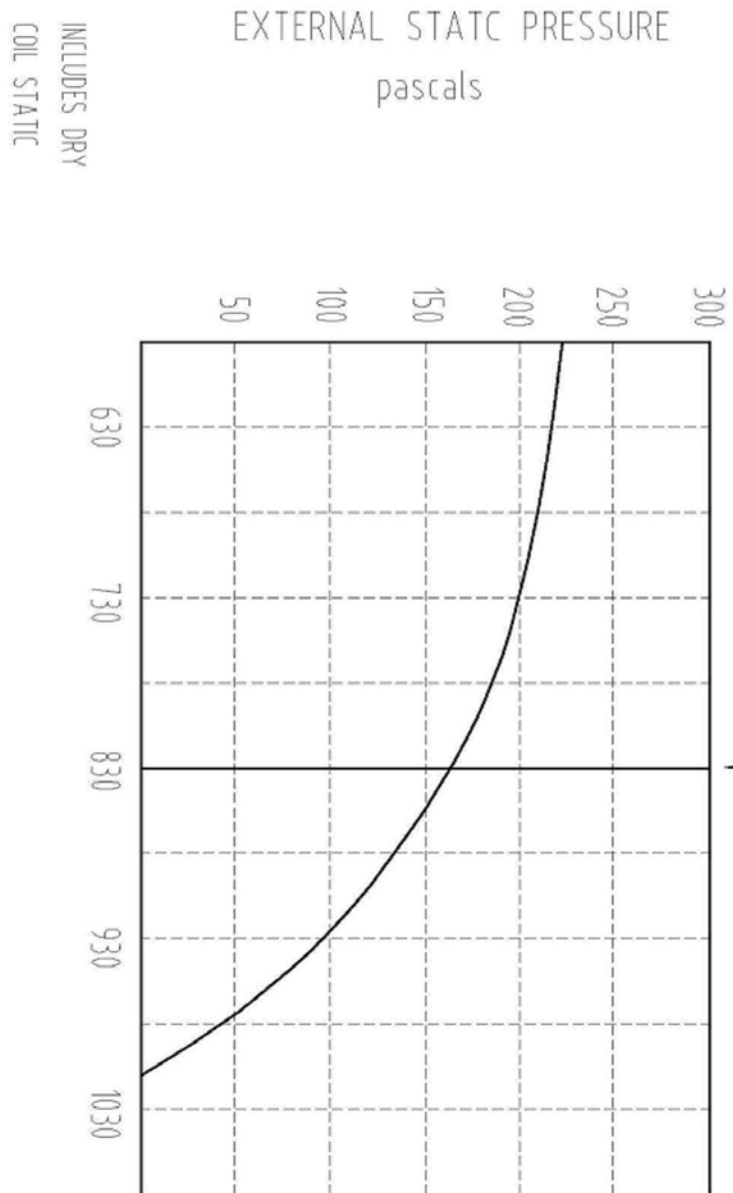
Refrigerant Type	R410A
Charge(kg)	4.4
Service Connections	Rotor Lock Valves
Expansion Control - In / Outdoor unit	TX Valve






MODEL OF COMPRESSOR  
C-SBN373H8D

Mark	Inu.	Locations	file nu.	Sign.	Date	Phase	Wt.	Scale	PHSE15-BD2-R
Designed						3 Ph		1:1	
Checked									
Approved									
Technology						Total	No.		Wiring Diagram



AIRFLOW l/s

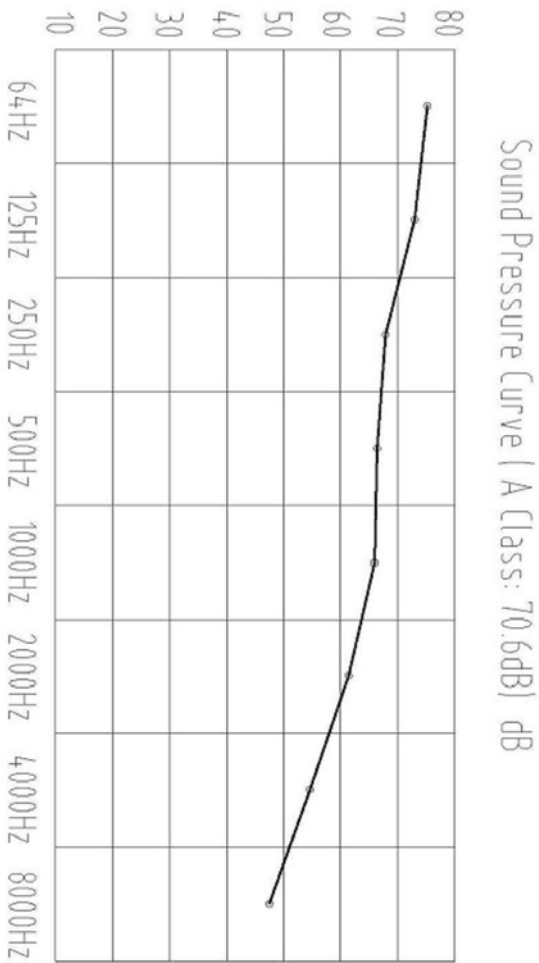
DRAWN BY: Chen Cheng	DATE: 15th Sep:2011	 <b>DUNNAIR</b>	<b>PHSE TYPE</b>
APPROVED O.A.: LI Meifan	APPROVED ENG.: Zhang Jingfei		
MODEL: PHSE15-Bb2	DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4
TITLE: Package Air Cooled Heat Pump Unit With Economy Cycle			


PHSE15 Sound Pressure Curve

A Class: 70.6dB

Hz	dB
64Hz	76.5
125Hz	72.9
250Hz	68.9
500Hz	67.0
1000Hz	66.7
2000Hz	60.9
4000Hz	55.3
8000Hz	48.0

Note: Occupant at least 1.0m from sound source.



<b>DRAWN BY:</b> Chen Cheng	<b>DATE:</b> 24th.Dec.2011	 <b>DUNNAIR</b>
<b>APPROVED Q.A.:</b> LI Melfen	<b>APPROVED ENG.:</b> Zhang Jingfei	
<b>TITLE:</b> Packaged Air-Cooled Heat Pump Unit		
<b>PHS TYPE</b>		
<b>MODEL:</b> PHSE15-Bb2	<b>DRAWING NO.:</b> 01	<b>ISSUE:</b> 01
		<b>SHEET SIZE:</b> A4