



DUNNAIR

(Aust) Pty Ltd

R410a Refrigerant

PHE66

Economy Cycle Rooftop Packaged

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	64.5	39.1	10.1	61.0	37.6	10.5	57.5	36.0	11.0	54.6	36.0	11.3
	18	66.7	35.3	10.9	63.1	33.8	11.7	59.5	32.2	12.1	56.7	31.0	12.4
	19	69.0	31.7	12.4	65.4	30.2	12.9	61.6	28.6	13.3	58.9	27.5	13.7
	20	71.5	27.4	13.4	67.8	25.8	13.9	63.9	24.2	14.3	61.2	23.1	14.6
23	17	64.6	46.1	10.1	61.2	44.6	10.5	57.7	43.1	11	54.8	41.8	11.3
	18	66.6	42.2	11.1	63.1	40.7	11.5	59.5	39.2	12	56.6	38	12.3
	19	69	38.6	12.2	65.3	37.1	12.6	61.6	35.6	13.1	58.8	34.4	13.4
	20	71.4	34.4	13.3	67.7	32.8	13.7	63.9	31.2	14.1	61.2	30	14.4
	21	74	30.9	14.4	70.2	29.4	14.8	66.2	27.8	15.3	63.6	26.8	15.5
25	17	65.1	52.7	10.1	61.7	51.1	10.5	58.2	49.5	10.9	55.4	48.2	11.2
	18	66.8	50.8	11.1	63.3	47.9	11.5	59.6	46.4	11.9	56.8	45.2	12.3
	19	68.9	48.4	12.2	65.3	44.2	12.6	61.6	42.6	13.1	58.8	41.4	13.4
	20	71.3	45.7	13.3	67.7	39.8	13.7	63.8	38.2	14.1	61.1	37.0	14.4
	21	73.9	42.7	14.4	70.2	36.4	14.8	66.2	34.8	15.3	63.6	33.8	15.6
27	17	66.0	58.2	9.9	62.7	56.3	10.2	59.4	54.4	10.6	57.0	52.9	10.9
	18	67.2	56.3	11.1	63.7	54.8	11.5	60.1	53.3	12.0	58.0	52.1	12.3
	19	69.1	52.5	12.1	65.5	50.9	12.5	61.7	49.3	13.0	59.0	48.1	13.3
	20	71.2	48.4	13.2	67.6	46.8	13.6	63.7	45.2	14.1	61.0	44.1	14.4
	21	73.9	44.9	14.5	70.1	43.4	14.9	66.1	41.8	15.3	63.5	40.7	15.6
29	17	67.2	63.2	9.7	64.1	61.1	10.1	60.8	58.8	10.5	58.3	58.3	10.8
	18	68.2	61.5	10.9	64.8	59.8	11.3	61.3	58.0	11.7	58.3	58.3	12.0
	19	69.4	59.5	12.1	65.9	57.9	12.6	62.1	56.3	13.0	58.3	55.6	13.3
	20	71.4	55.9	13.1	67.7	54.4	13.6	63.9	52.9	14.0	61.2	51.8	14.3
	21	73.8	51.9	14.2	70.1	50.4	14.6	66.1	48.8	15.0	63.5	47.7	15.3
31	17	68.9	67.9	9.4	66.0	65.3	9.8	62.8	62.8	10.2	60.6	60.6	10.5
	18	69.6	66.4	10.7	66.4	64.3	11.0	62.8	62.8	11.5	60.6	60.6	11.7
	19	70.5	65.9	12.0	67.0	64.2	12.5	62.8	62.8	12.9	60.6	60.2	13.2
	20	71.7	62.9	13.2	68.1	61.3	13.7	64.3	59.8	14.1	61.7	58.7	14.4
	21	74.0	58.6	14.3	70.2	57.0	14.7	66.3	55.4	15.1	63.7	54.4	15.4

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



Technical Specification PHE66 Economy Cycle Rooftop Packaged Model

Total Cooling Capacity (kW)*	65.5	Number of Compressors	2
Sensible Cooling Capacity (kW)*	50.9	Power Requirements (Volt /Phase)	415 / 3
Heating Capacity (kW)**	60.7	Normal Max. Current (Amps /Phase)	54.5
Nominal Evaporator Air Flow (L/S)	3500	Power Input (kW)	25.3
*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 3500 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)	49.1	54.2	62.8	69.0	83.0

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 0.77
Air Quantity (l/s)	3500

Evaporator Fan

Number of Fans	1
Type	Centrifugal
Drive	Belt
Motor Voltage /Phase /Frequency	415 /3 /50
Motor Power (kW)	4.0
Maximum Fan Speed (rpm)	790

Electrical

Power Requirements	3 Phase /415V /50Hz
Normal Max. Current (Amps /Phase)	54.5

Condenser Coil

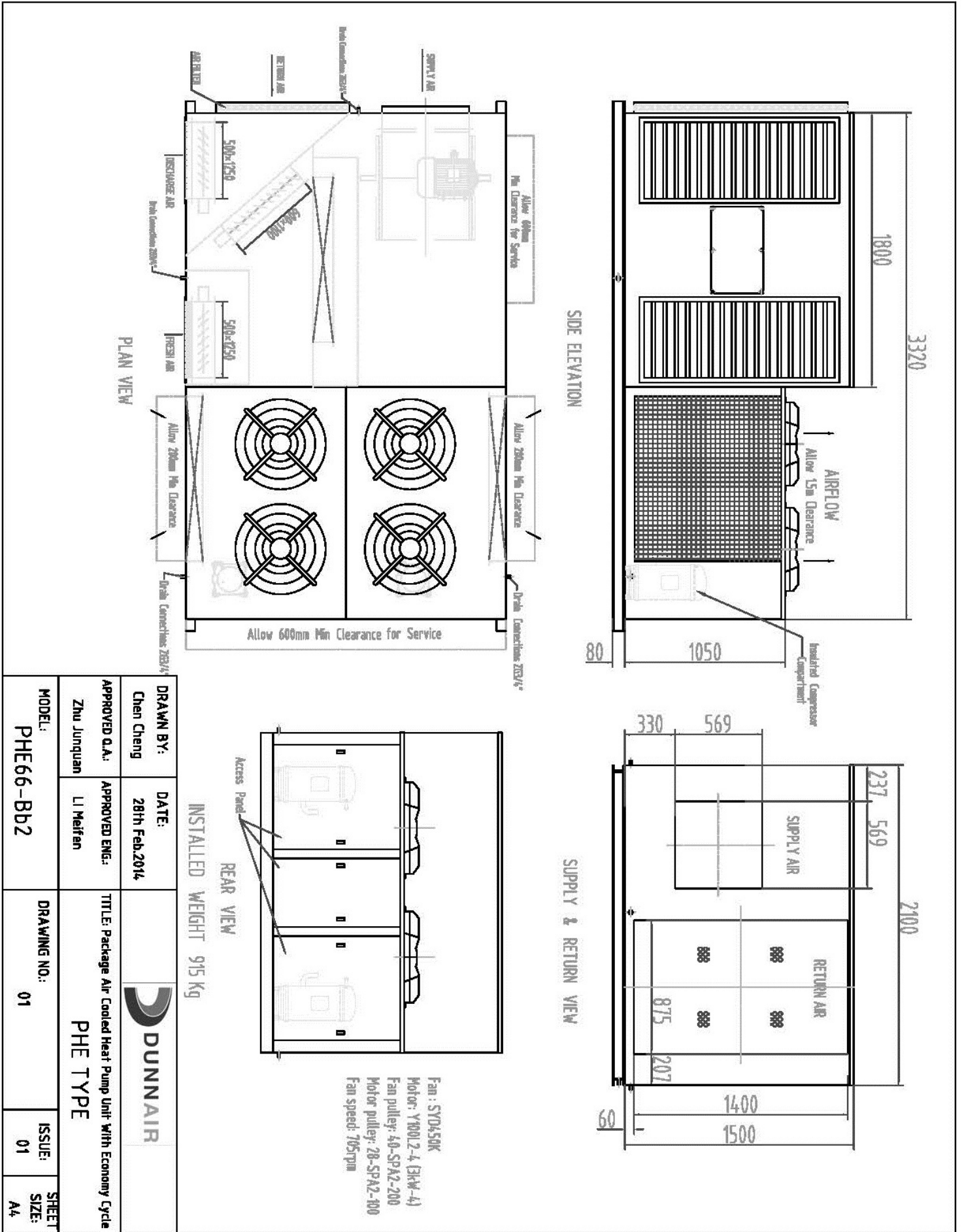
Type	Copper Tube /Aluminium Fins
Face Area(m ²)	2 x 1.07

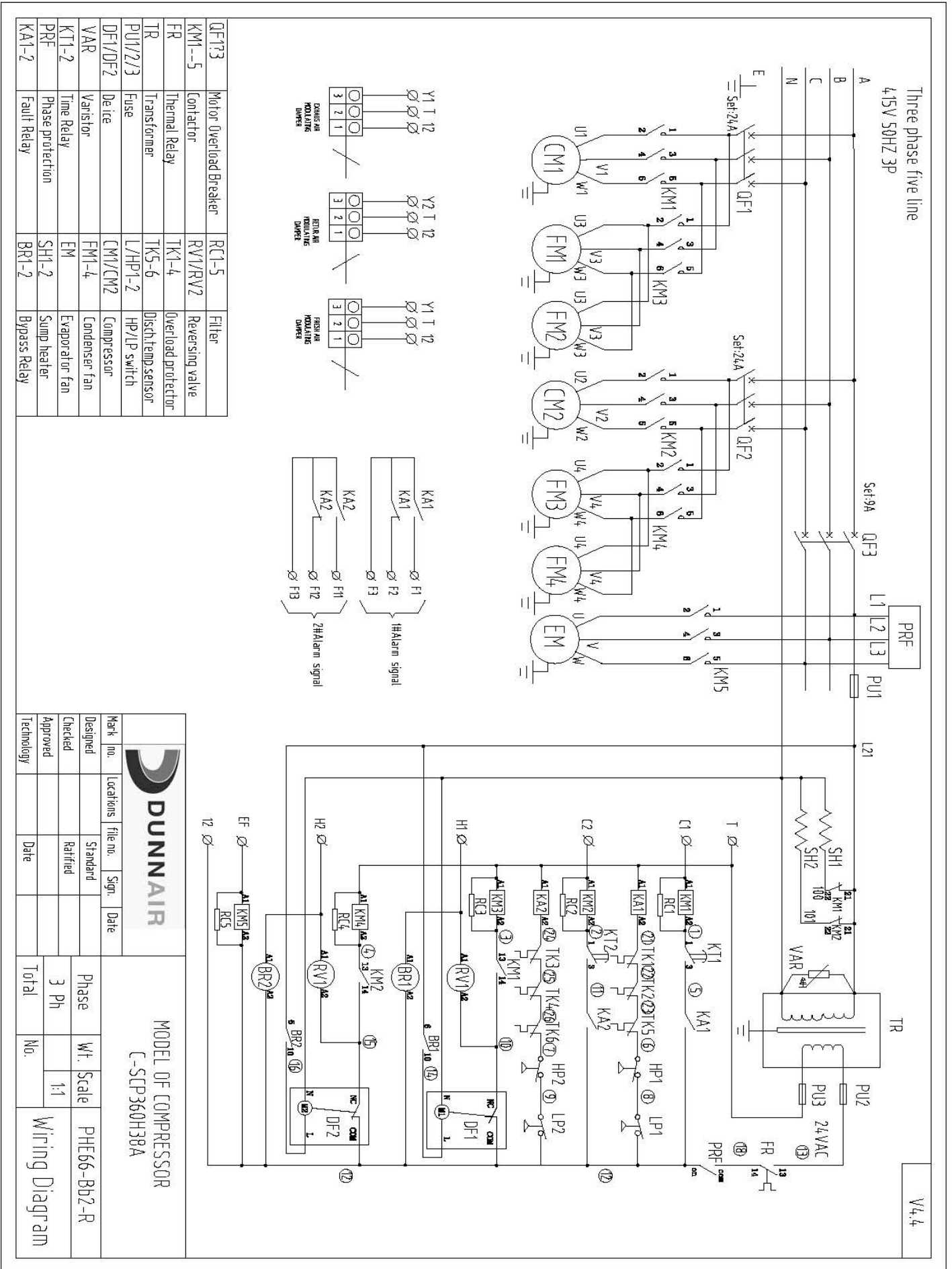
Condenser Fan

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

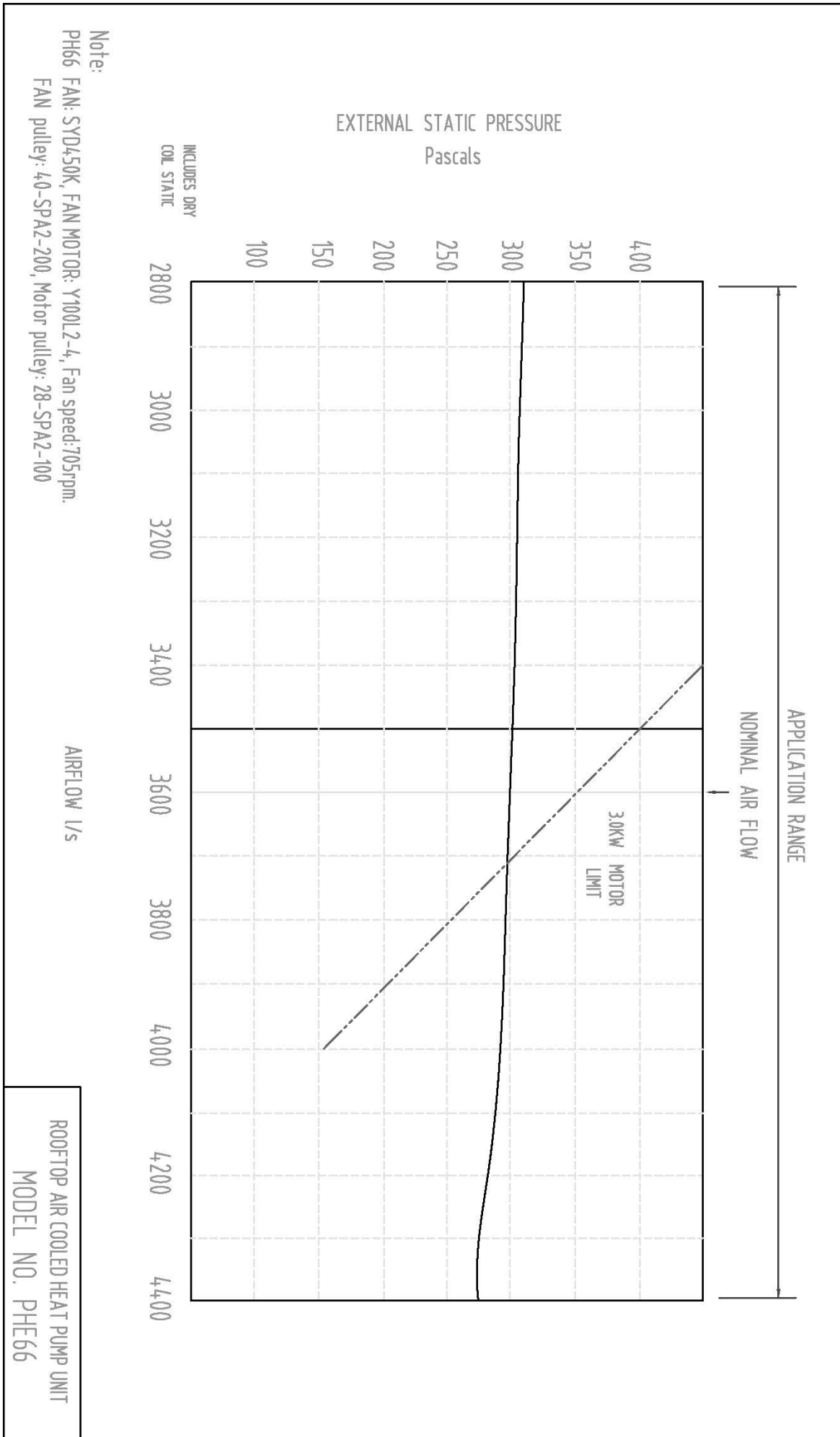
Refrigeration System

Refrigerant Type	R410A
Charge(kg)	2 x 7.6
Service Connections	Rotor Lock Valves
Expansion Control - In / Outdoor unit	TX Valve





V4.4



Note:
 PH66 FAN: SYD450K, FAN MOTOR: Y100L2-4, Fan speed: 105rpm.
 FAN pulley: 40-SPA2-200, Motor pulley: 28-SPA2-100

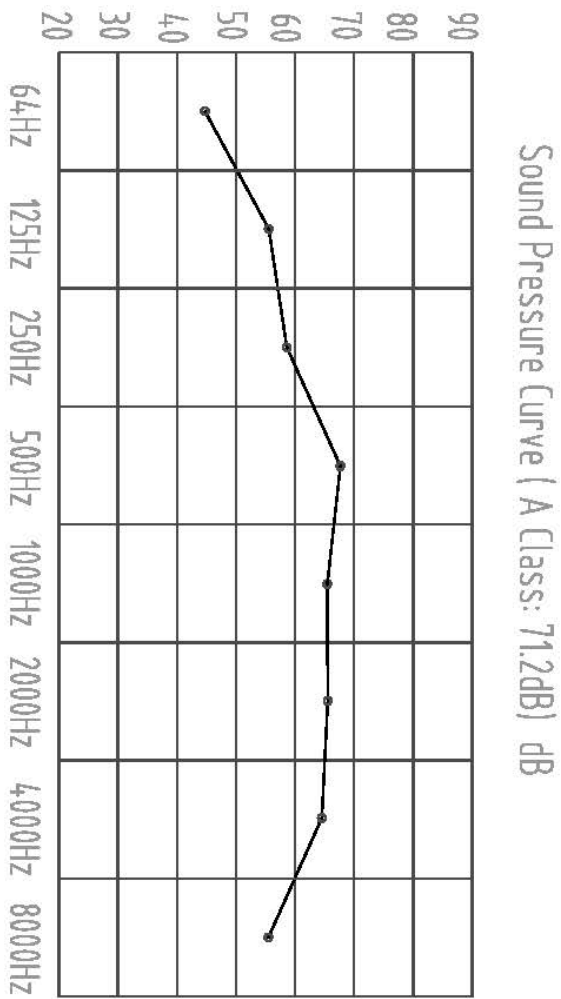
AIRFLOW l/s

ROOFTOP AIR COOLED HEAT PUMP UNIT
 MODEL NO. PHE66


PHE66 Sound Pressure Curve

A Class: 71.2dB

Hz	dB
64Hz	45
125Hz	56
250Hz	59
500Hz	68
1000Hz	65
2000Hz	65
4000Hz	63
8000Hz	56



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	
TITLE: Packaged Rooftop With Economy Cycle		PHE TYPE
MODEL: PHE66	DRAWING NO.: 01	
ISSUE: 01	SHEET SIZE: A4	