



**DUNNAIR**  
(Aust) Pty Ltd

**PH200**

*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	205.1	110.1	12.5	187.8	117.7	12.1	177.0	113.0	12.6	169.5	113.0	12.8
	18	205.1	110.1	12.5	194.5	105.6	13.3	183.1	100.6	13.6	175.9	97.5	14.0
	19	212.2	97.6	14.3	201.2	93.1	14.6	189.4	88.1	15.1	182.5	85.3	15.3
	20	220.1	84.5	15.3	208.6	79.8	15.7	196.1	74.9	16.1	189.3	71.8	16.5
23	17	198.8	145.8	11.7	188.6	141.6	12.1	177.8	136.9	12.5	170.2	133.8	12.8
	18	205.1	133.7	12.9	194.5	129.1	13.2	183.1	124.2	13.6	175.9	121.1	14.0
	19	212.2	121.2	14.1	201.4	116.7	14.5	189.5	112.0	15.0	182.5	108.9	15.3
	20	220.3	108.1	15.3	208.6	103.4	15.7	196.2	98.5	16.1	189.5	95.4	16.4
	21	228.2	95.1	16.4	216.4	190.4	16.8	203.9	85.1	17.2	196.6	82.0	17.6
25	17	200.8	167.7	11.6	190.5	163.0	11.9	179.8	157.9	12.5	172.8	154.7	12.7
	18	205.6	162.1	13.0	195.0	153.8	13.3	183.7	148.8	13.8	176.5	145.7	14.1
	19	212.3	154.4	14.1	201.4	140.2	14.5	189.5	135.5	15.0	182.8	132.5	15.2
	20	220.3	145.5	15.3	208.9	127.2	15.7	196.5	121.9	16.1	189.5	119.2	16.4
	21	228.3	135.8	16.4	216.4	105.9	16.8	203.9	108.6	17.2	196.6	105.9	17.4
27	17	203.9	185.9	11.5	194.7	180.4	11.8	184.2	174.0	12.2	177.5	170.1	12.6
	18	208.0	181.8	12.8	196.9	177.4	13.1	185.6	172.4	13.5	180.3	169.3	13.8
	19	214.4	168.7	13.9	201.8	164.3	14.3	190.0	159.3	14.7	183.1	156.3	15.0
	20	220.5	156.8	15.2	208.9	152.1	15.5	196.5	147.3	15.9	189.5	144.4	16.1
	21	228.4	142.1	16.4	210.6	137.4	16.8	203.9	132.2	17.2	196.7	129.4	17.4
29	17	209.5	192.2	11.4	200.0	194.8	11.8	189.5	187.1	12.2	181.8	183.0	12.5
	18	211.4	188.9	12.7	201.1	191.8	13.1	190.0	185.9	13.5	183.1	177.4	13.8
	19	214.4	185.6	14.0	203.6	189.5	14.3	191.7	184.6	14.7	183.8	174.1	15.1
	20	220.5	179.9	15.2	209.1	175.1	15.5	196.7	169.6	16.0	189.8	167.1	16.3
	21	228.4	165.7	16.4	216.6	160.9	16.8	203.9	155.8	17.2	196.7	152.9	17.4
31	17	216.1	214.8	11.0	207.0	206.6	11.4	195.9	197.1	11.8	189.8	191.4	12.0
	18	217.2	212.3	12.5	207.2	205.6	12.8	196.7	196.5	13.2	190.8	190.7	13.5
	19	218.3	210.0	13.8	208.0	204.8	14.2	196.7	195.5	14.6	190.8	190.1	14.8
	20	221.9	204.5	15.1	210.8	200.1	15.5	198.3	193.0	15.9	191.4	189.6	16.3
	21	228.9	191.0	16.4	216.9	186.2	16.8	203.9	188.9	17.2	196.9	178.2	17.6

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



## Technical Specification PH200 Rooftop Packaged Model

Total Cooling Capacity (kW)*	201.8	Number of Compressors	2
Sensible Cooling Capacity (kW)*	164.3	Power Requirements (Volt /Phase)	415 / 3
Heating Capacity (kW)**	196.2	Normal Max. Current (Amps /Phase)	163.7
Nominal Evaporator Air Flow (L/S)	10500	Power Input (kW)	78.8
*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 10500 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)	147.3	162.6	188.4	207.0	249.0
Heating cap. Is based on 21 °C DB. Frost formation will have greatest effect at amb. 4-6 °C. Above 8 °C defrost is unlikely & a factor of 1 may be used.					

### 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	Hermetic Scroll
RPM (Nom)	2900
Normal Max Current (Amps /Phase)	2 x 58.2
Locked Rotor Current (Amps /Phase)	2 x 320
Displacement (m³/h)	2 x 60

### Electrical Controls and Safeties

		Defrost	
High Pressure Switch (Setting kPa)	4000	Initiation Temperature (°C)	-2
Low Pressure Switch (Setting kPa)	300	Termination Temperature (°C)	18
Indoor Fan Overload	Internal	Min. Period Between De-Ice (min)	30
Outdoor Fan Overload	Internal	Max De-Ice Period (min)	10
Compressor Delay Timer	300 sec		

### Standard Features

Auto reset high pressure and 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)	25 mm insulation to indoor unit
240 Volt Control	Sight Glass

### Evaporator (Coil)

Type	Copper Tube / Aluminium Fins
Face Area (m²)	2 x 1.78
Air Quantity (l/s)	10500

### Evaporator (Fan Motor) #

Number of Fans	1
Type	Centrifugal
Drive	Belt
Motor Voltage /Phase /Frequency	415 /3 /50
Motor Power (kW)	15.0
Maximum Fan Speed (rpm)	604

### Electrical

Power Requirements	3 Phase /415V /50Hz
Normal Max. Current (Amps /Phase)	163.7

### Condenser (Coil)

Type	Copper Tube /Aluminium Fins
Face Area(m²)	2 x 3.35

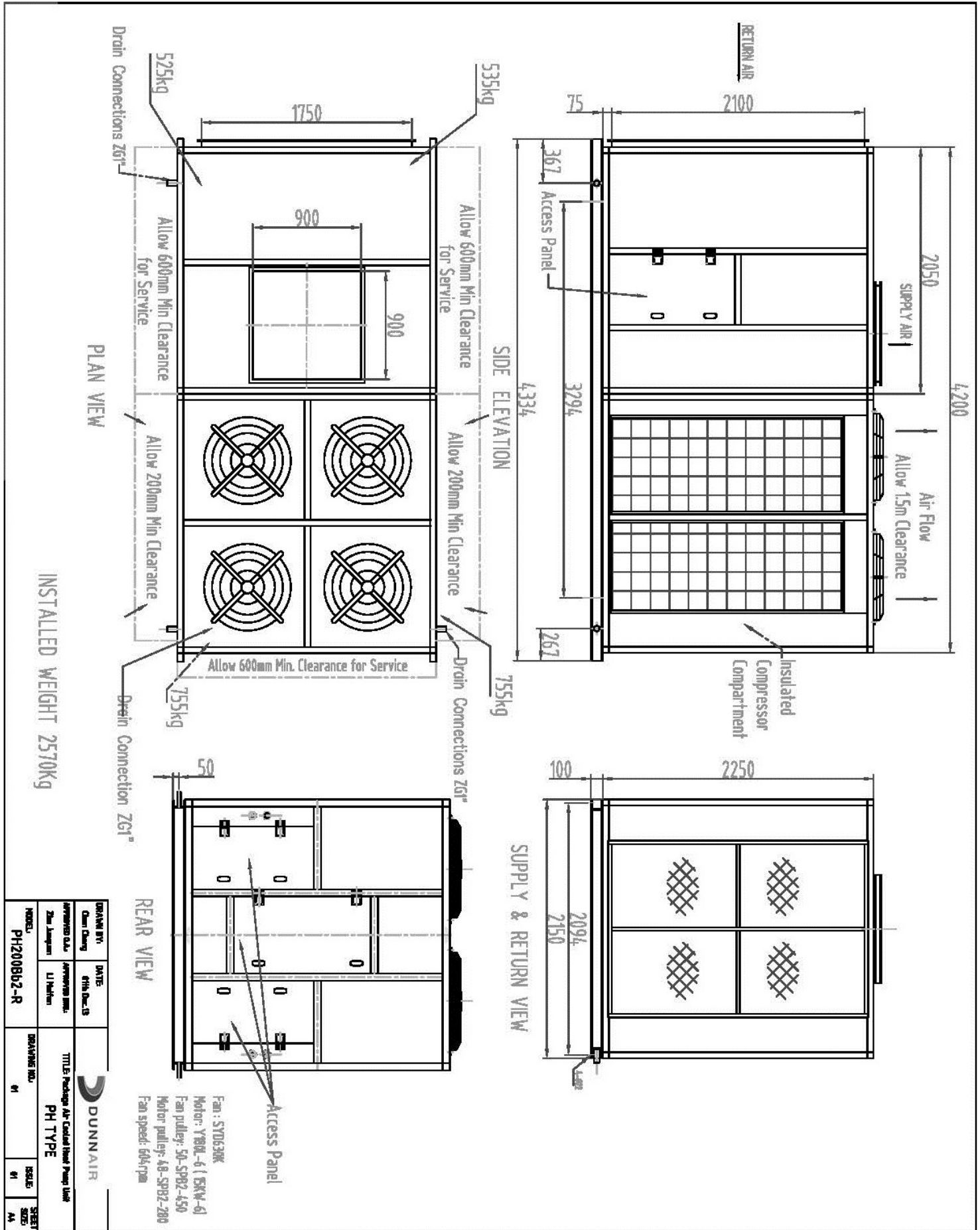
### Condenser (Fan Motor)

Number of Fans	4
Type	Axial
Drive	Direct
Motor Type	Enclosed
Motor Power (kW)	4 x 1.8
Motor Voltage /Phase /Frequency	415 / 3 / 50

### Refrigeration System

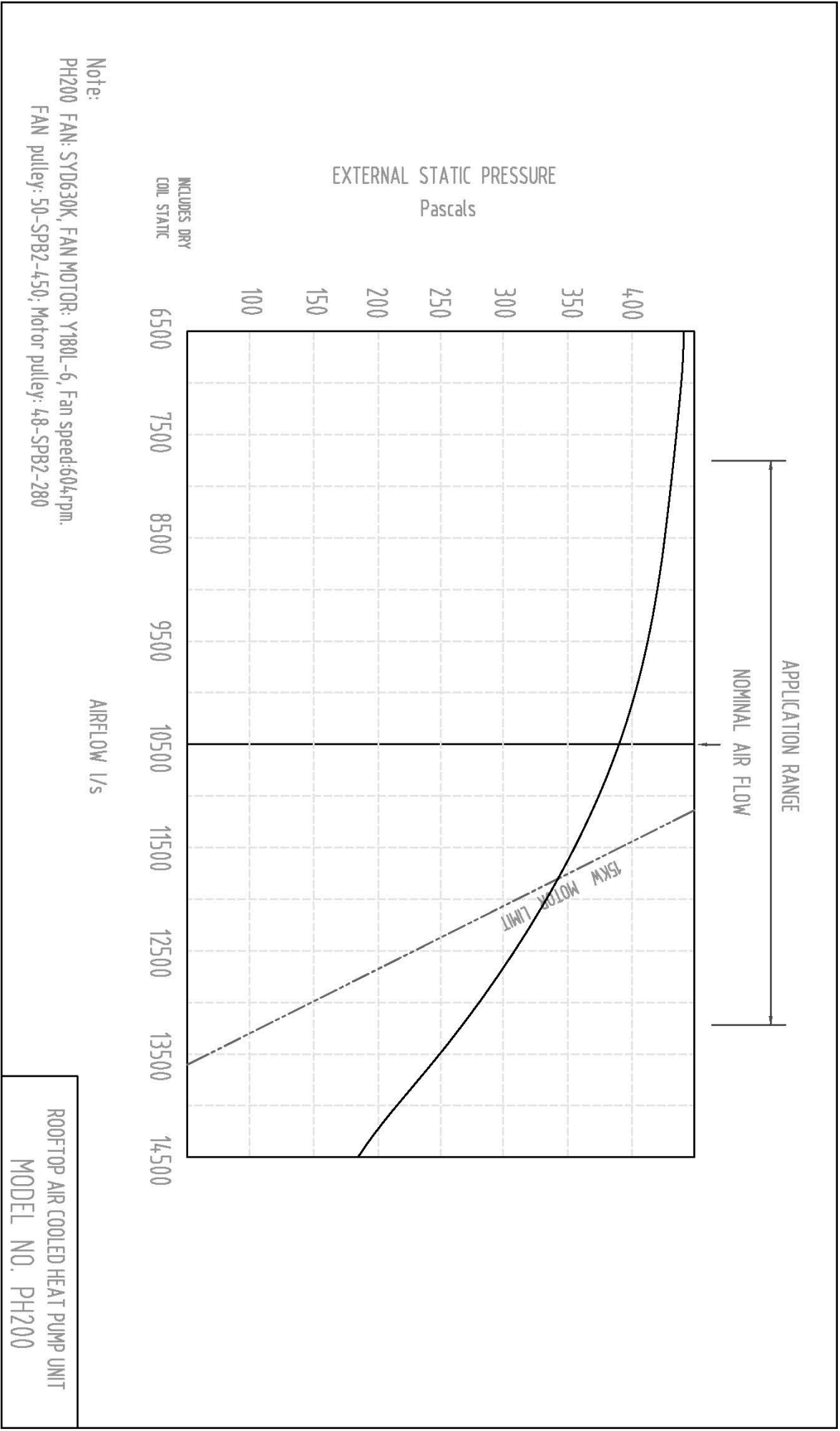
Refrigerant Type	R410A
Charge(kg)	2 x 25.4
Service Connections	Rotor Lock Valves
Expansion Control - In / Outdoor unit	TX Valve

# Evaporator unit is supplied with a variable speed motor pulley.



DRAWN BY: Chen Chang APPROVED BY: Zhu Junqian MODEL: PH200B2-R	DATE: 07th Dec 15 APPROVED BY: LI Peifan DRAWING NO.: 91 ISSUE: 91 SHEET: 3/25 44	TITLE: Package Air Cooled Heat Pump Unit PH TYPE	DUNNAIR
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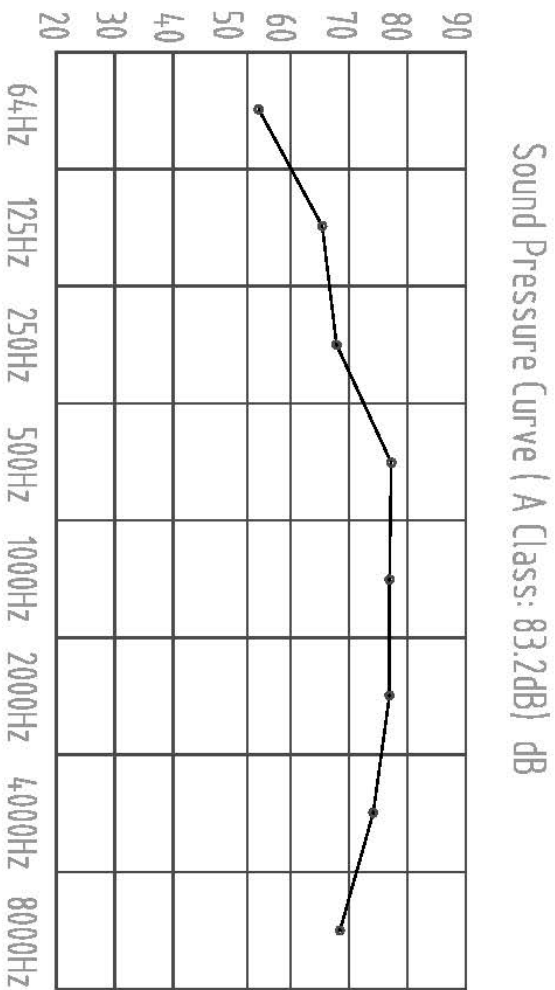
Note:  
PH200 FAN: SYD630K, FAN MOTOR: Y180L-6, Fan speed: 604 r/min.  
FAN pulley: 50-SPB2-450; Motor pulley: 48-SPB2-280

ROOFTOP AIR COOLED HEAT PUMP UNIT  
MODEL NO. PH200


PH200 Sound Pressure Curve

A Class: 83.2dB

Hz	dB
64Hz	53
125Hz	66
250Hz	68
500Hz	78
1000Hz	77
2000Hz	78
4000Hz	75
8000Hz	68



Note: Occupant at least 1.0m from sound source.

<b>DRAWN BY:</b> Chen Cheng	<b>DATE:</b> 13th Feb 2014	
<b>APPROVED O.A.:</b> Zhu Junquan	<b>APPROVED ENG.:</b> Li Meifen	
<b>TITLE:</b> Packaged Air Cooled Heat Pump Unit <b>PH TYPE</b>		
<b>MODEL:</b> PH200	<b>DRAWING NO.:</b> 01	<b>ISSUE:</b> 01
		<b>SHEET SIZE:</b> A4