



PH95

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	95.2	68.6	10.9	89.6	66.8	11.3	85.3	64.9	11.3	82	63.1	11.8
	18	98.6	62.7	11.8	93	60.9	12.2	88.7	59	12.2	85.4	57.2	12.7
	19	101.4	56.5	12.9	95.8	54.7	13.3	91.5	52.8	13.3	88.2	51	13.8
	20	103.5	50.2	14.1	97.9	48.4	14.5	93.6	46.5	14.5	90.3	44.7	15
23	17	95.5	74.5	10.9	89.9	72.7	11.3	85.6	70.8	11.3	82.3	69	11.8
	18	98.7	68.6	11.9	93.1	66.8	12.3	88.8	64.9	12.3	85.5	63.1	12.8
	19	101.4	62.4	12.9	95.8	60.6	13.3	91.5	58.7	13.3	88.2	56.9	13.8
	20	103.8	56.2	14	98.2	54.4	14.4	93.9	52.5	14.4	90.6	50.7	14.9
	21	106	49.8	15.1	100.4	48	15.5	96.1	46.1	15.5	92.8	44.3	16
25	17	95.8	80.4	10.8	90.2	78.6	11.2	85.9	76.7	11.2	82.6	74.9	11.7
	18	98.9	74.5	11.8	93.3	72.7	12.2	89	70.8	12.2	85.7	69	12.7
	19	101.4	68.3	12.9	95.8	66.5	13.3	91.5	64.6	13.3	88.2	62.8	13.8
	20	103.7	61.9	14	98.1	60.1	14.4	93.8	58.2	14.4	90.5	56.4	14.9
	21	106.3	55.6	15	100.7	53.8	15.4	96.4	51.9	15.4	93.1	50.1	15.9
27	17	96.5	85.7	10.7	90.9	83.9	11.1	86.6	82	11.1	83.3	80.2	11.6
	18	99.6	80.4	12.2	94	78.6	12.6	89.7	76.7	12.6	86.4	74.9	13.1
	19	101.4	74.1	12.9	95.8	72.3	13.3	91.5	70.4	13.3	88.2	68.6	13.8
	20	104.3	67.8	14.1	98.7	66	14.5	94.4	64.1	14.5	91.1	62.3	15
	21	107.1	61.5	15.4	101.5	59.7	15.8	97.2	57.8	15.8	93.9	56	16.3
29	17	97.8	85.7	10.6	92.2	83.9	11	87.9	82	11	84.6	80.2	11.5
	18	100	81.2	12.1	94.4	79.4	12.5	90.1	77.5	12.5	86.8	75.7	13
	19	101.6	80	12.9	96	78.2	13.3	91.7	76.3	13.3	88.4	74.5	13.8
	20	104.3	73.7	14	98.7	71.9	14.4	94.4	70	14.4	91.1	68.2	14.9
	21	107.2	67.4	15.3	101.6	65.6	15.7	97.3	63.7	15.7	94	61.9	16.2
31	17	100.3	89.7	10.4	94.7	87.9	10.8	90.4	86	10.8	87.1	84.2	11.3
	18	102.2	88.2	11.9	96.6	86.4	12.3	92.3	84.5	12.3	89	82.7	12.8
	19	105.8	87.8	12.8	100.2	86	13.2	95.9	84.1	13.2	92.6	82.3	13.7
	20	107	81.9	14	101.4	80.1	14.4	97.1	78.2	14.4	93.8	76.4	14.9
	21	109.4	79.3	15.1	103.8	77.5	15.5	99.5	75.6	15.5	96.2	73.8	16

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



Technical Specification PH95 Rooftop Packaged Model

Total Cooling Capacity (kW)*	95.8	Number of Compressors	2
Sensible Cooling Capacity (kW)*	72.3	Power Requirements (Volt /Phase)	415 / 3
Heating Capacity (kW) **	96.2	Normal Max. Current (Amps /Phase)	74.4
Nominal Evaporator Air Flow (L/S)	5200	Power Input (kW)	34.2
*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 4300 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)	77.9	85.8	99.1	108.8	125

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 29.3
Locked Rotor Current (amps /phase)	2 x 180
Displacement (m ³ /h)	2 x 29.6

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)	1.98
Air Quantity (l/s)	5200

Evaporator Fan

Number of Fans	1
Type	Centrifugal
Drive	Belt
Motor Voltage /Phase /Frequency	415 / 3 / 50
Motor Power (kW)	5.5
Maximum Fan Speed (rpm)	726

Electrical

Power Requirements	3 phase / 415V / 50Hz
Normal Max. Current (Amps /Phase)	74.4

Condenser Coil

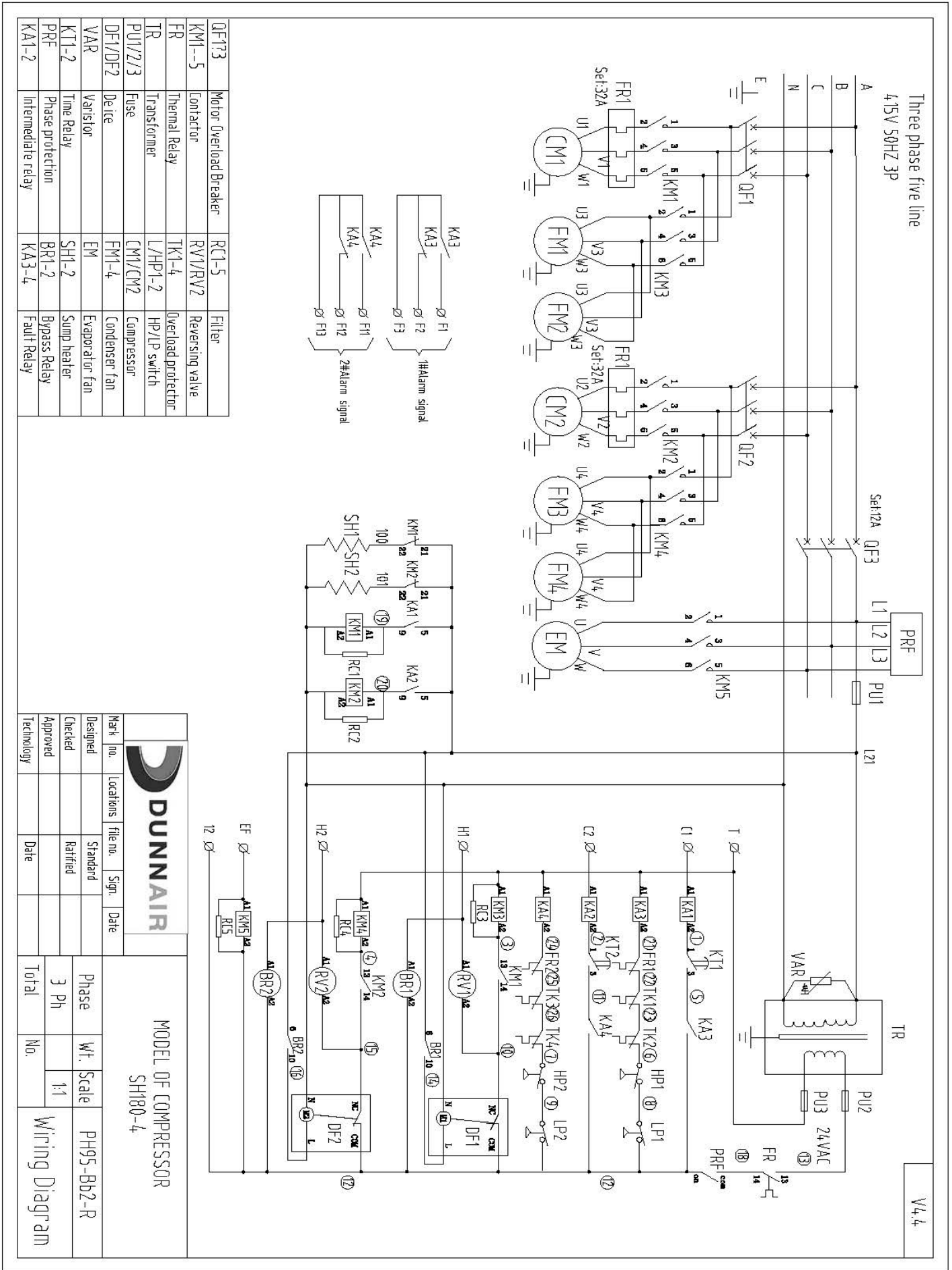
Type	Copper Tube / Aluminium Fins
Face Area (m ²)	2 x 1.625

Condenser Fan

Number of Fans	4
Type	Axial
Drive	Direct
Motor Watts /rpm	4 x 550 / 950
Motor Voltage /Phase /Frequency	415 / 3 / 50

Refrigeration System

Refrigerant Type	R410A
Charge (kg)	2 x 12.0
Service Connections	Rotor Lock Valves
Expansion Control - In / Outdoor Unit	TX Valve

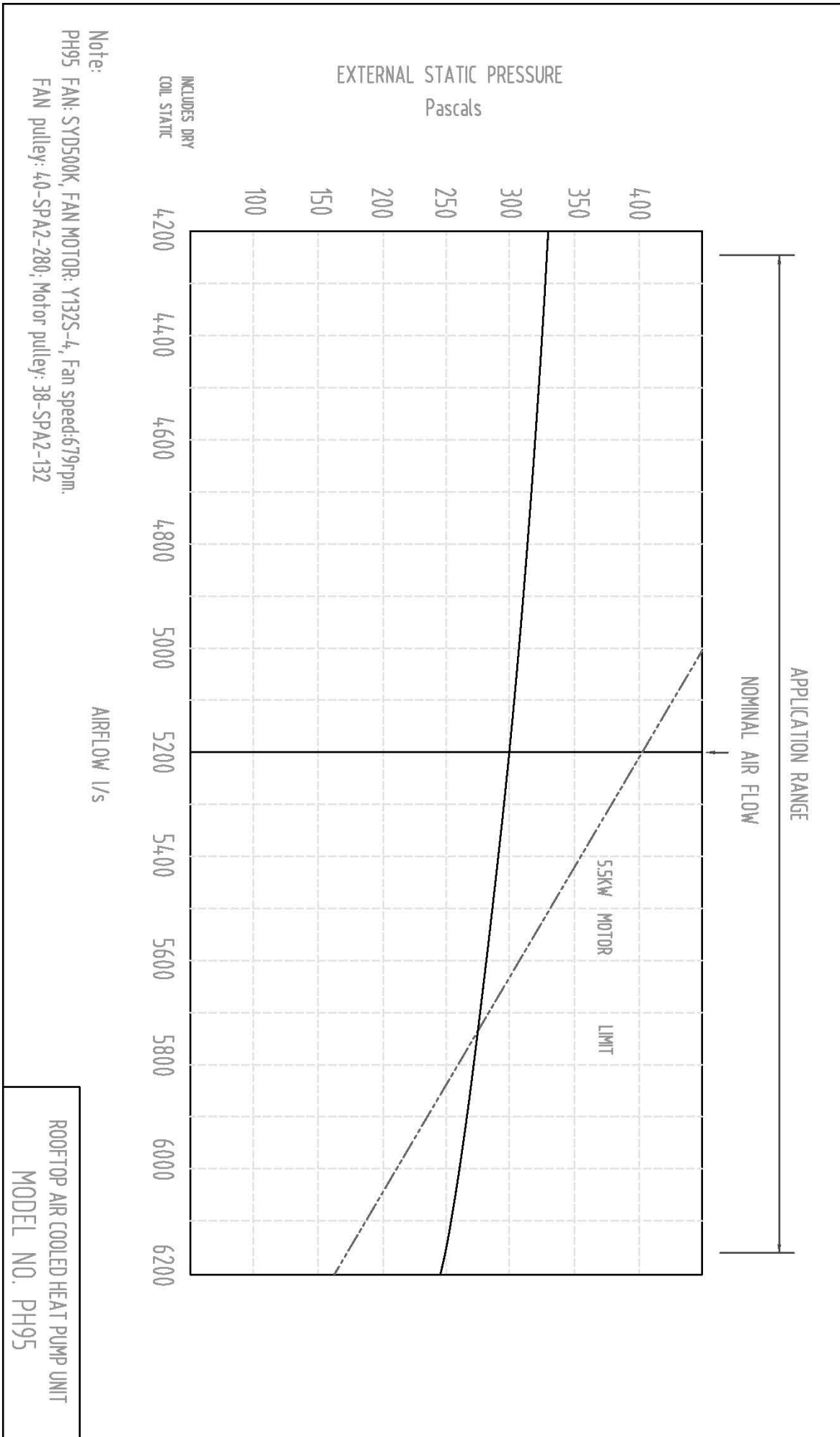


QF1/3	Motor Overload Breaker	RC1-5	Filter
KM1--5	Contactors	RV1/RV2	Reversing valve
FR	Thermal Relay	TK1-4	Overload protector
TR	Transformer	L/HP1-2	HP/LP switch
PU1/2/3	Fuse	CM1/CM2	Compressor
DF1/DF2	Device	FM1-4	Condenser fan
VAR	Varistor	EM	Evaporator fan
KT1-2	Time Relay	SH1-2	Sump heater
PRF	Phase protection	BR1-2	Bypass Relay
KA1-2	Intermediate relay	KA3-4	Fault Relay

MODEL OF COMPRESSOR
SH180-4

Mark Ino.	Locations	file no.	Sign.	Date
Designed		Standard		
Checked		Ratified		
Approved				
Technology				

Phase	Wt. Scale	PH95-Bd2-R
3 Ph	1:1	
Total	No.	Wiring Diagram

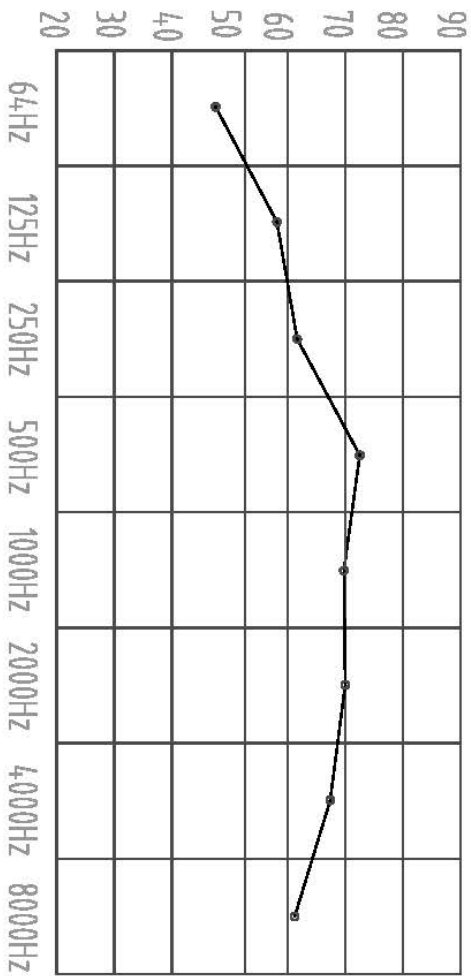


PH95 Sound Pressure Curve


A Class: 76.0dB

Hz	dB
64Hz	48
125Hz	59
250Hz	62
500Hz	72
1000Hz	70
2000Hz	70
4000Hz	68
8000Hz	61

Sound Pressure Curve (A Class: 76.0dB) dB



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 Air-Cooled Heat Pump Unit		PH TYPE	
MODEL: PH95	DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4