



**DUNNAIR**  
(Aust) Pty Ltd

R407c Refrigerant  
**PHE120**  
*Economy Cycle Rooftop Package*

Performance Data

INDOOR COIL ENTERING AIR TEMP °C		OUTDOOR COIL ENTERING AIR 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	115.3	70.7	11.5	109.3	68.2	11.8	103.1	65.5	12.2	98.3	65.5	12.4
	18	119.3	63.8	12.1	113.2	61.2	13.0	106.6	58.3	13.3	102.4	56.5	13.6
	19	123.7	56.5	13.9	117.2	53.9	14.2	110.2	51.0	14.6	106.3	49.5	14.8
	20	128.1	49.0	14.8	121.5	46.3	15.3	114.3	43.4	15.7	110.2	41.6	16.0
23	17	115.8	84.5	11.4	109.7	82.1	11.8	103.5	79.4	12.1	99.1	77.5	12.4
	18	119.3	77.4	12.5	113.2	74.8	12.8	106.6	71.9	13.3	102.4	70.2	13.6
	19	123.7	70.2	13.7	117.3	67.6	14.1	110.3	64.9	14.5	106.3	63.1	14.8
	20	128.2	62.6	14.8	121.5	59.9	15.3	114.4	57.0	15.7	110.3	55.3	15.9
	21	132.8	55.1	15.9	126.1	52.4	16.3	118.4	49.3	16.7	114.4	47.5	17.1
25	17	117	97.2	11.3	110.8	94.4	11.6	104.6	91.6	12.1	100.6	89.6	12.3
	18	119.6	94.0	12.6	113.5	89.1	13.0	106.9	86.2	13.4	102.7	84.5	13.7
	19	123.9	89.4	13.7	117.3	81.3	14.1	110.3	78.6	14.5	106.5	76.8	14.7
	20	128.2	84.4	14.8	121.6	73.7	15.3	114.4	70.7	15.7	110.3	69.0	15.9
	21	132.9	78.7	15.9	126.1	61.4	16.3	118.4	62.9	16.7	114.4	61.4	17.0
27	17	118.7	107.7	11.2	113.3	104.5	11.5	107.2	100.9	11.9	103.4	98.6	12.2
	18	121.1	105.4	12.4	114.7	102.8	12.7	108.1	99.8	13.2	104.9	98.1	13.4
	19	124.8	97.8	13.5	117.6	95.2	13.9	110.6	92.3	14.3	106.6	90.6	14.5
	20	128.3	90.9	14.7	121.6	88.2	15.1	114.4	85.4	15.5	110.3	83.7	15.7
	21	132.9	82.4	15.9	126.2	79.7	16.3	118.5	76.6	16.7	114.5	75.0	17.0
29	17	121.9	111.4	11.1	116.4	112.9	11.5	110.3	108.4	11.9	105.8	105.8	12.1
	18	123.1	109.5	12.3	117.1	111.2	12.7	110.6	107.7	13.2	106.6	102.9	13.4
	19	124.8	107.6	13.6	118.5	109.5	13.9	111.6	106.9	14.3	107.0	100.9	14.6
	20	128.3	104.2	14.7	121.8	101.5	15.1	114.5	98.3	15.6	110.4	96.8	15.8
	21	132.9	95.2	15.9	126.2	93.2	16.3	118.5	90.2	16.7	114.5	88.7	17.0
31	17	125.9	124.5	10.7	120.5	119.6	11.1	114.1	114.1	11.5	110.5	110.5	11.7
	18	126.5	123.1	12.1	120.7	119.1	12.4	114.5	113.9	12.8	111.2	110.5	13.2
	19	127.1	121.7	13.4	121.1	118.7	13.8	114.5	113.3	14.2	111.2	110.1	14.4
	20	129.2	118.5	14.6	122.8	115.9	15.1	115.5	111.9	15.5	111.4	109.9	15.8
	21	133.1	110.6	15.9	126.3	108.0	16.3	118.7	109.5	16.7	114.7	103.3	17.1



## Technical Specification PHE120 Economy Cycle Rooftop Package

Total Cooling Capacity (kW)	117.6	Number of Compressors	2
Sensible Cooling Capacity (kW)	95.2	Power V / Ph	415 / 3
Heating Capacity (kW)	116.2	Nominal Max. Current (A)	106
Nominal Evaporator Air Flow (l/s)	6500	Power Input (kW)	51.6
*Cooling cap entering air 27°/19°C (DB/WB) Ambient 35°C		** Heating cap entering air 21°C Outdoor ambient 7°C	

### Cooling Performance Correction

Capacity	% Rated Air Flow				
	80	90	100	110	120
Total	0.95	0.98	1.00	1.02	1.04
Sensible	0.89	0.95	1.00	1.05	1.09

### Heating Capacity

Amb. °C DB	0	4	8	12	18
Cap kW	91.2	100.7	116.6	128.1	154.1
Heating cap is based on 21°C DB. Frost formation will have greatest effect at amb 4 to 6°C. Above 8°C defrost is unlikely and a factor of 1 may be used.					

### Heating Performance Correction

% Air Flow	×	Return Air Temp °C	×	O/door 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

### Compressors

Number Per Unit	2
Type	Hermetic Scroll
Nominal RPM	2900
Nominal Max. Amps	2 × 35.7
Locked Rotor Amps	2 × 230
Displacement (m <sup>3</sup> /h)	2 × 60.5

### Electrical Controls and Safeties

Indoor Fan Overload	Internal	Defrost Cycle Start °C	-4
Outdoor Fan Overload	Internal	Defrost Cycle End °C	10
Compressor Delay Timer	300 sec	Min. Defrost Cycle	33 mins
High Pressure Switch (kPa)	2800	Max. Defrost Period	4 mins
Low Pressure Switch (kPa)	100		

### Standard Features

HP/LP Cutouts	Thermal Overload Protection
Crankcase Heater	Limit Start Timer
Automatic De-Ice	Indoor 25mm Insulation
Gas Separator	240 Volt Control

### Evaporator Coil

Type	Copper tube alum. fins
Face Area (m <sup>2</sup> )	1.38

### Condenser Coil

Type	Copper tube alum. fins
Face Area (m <sup>2</sup> )	2 × 1.63

### Evaporator Fan

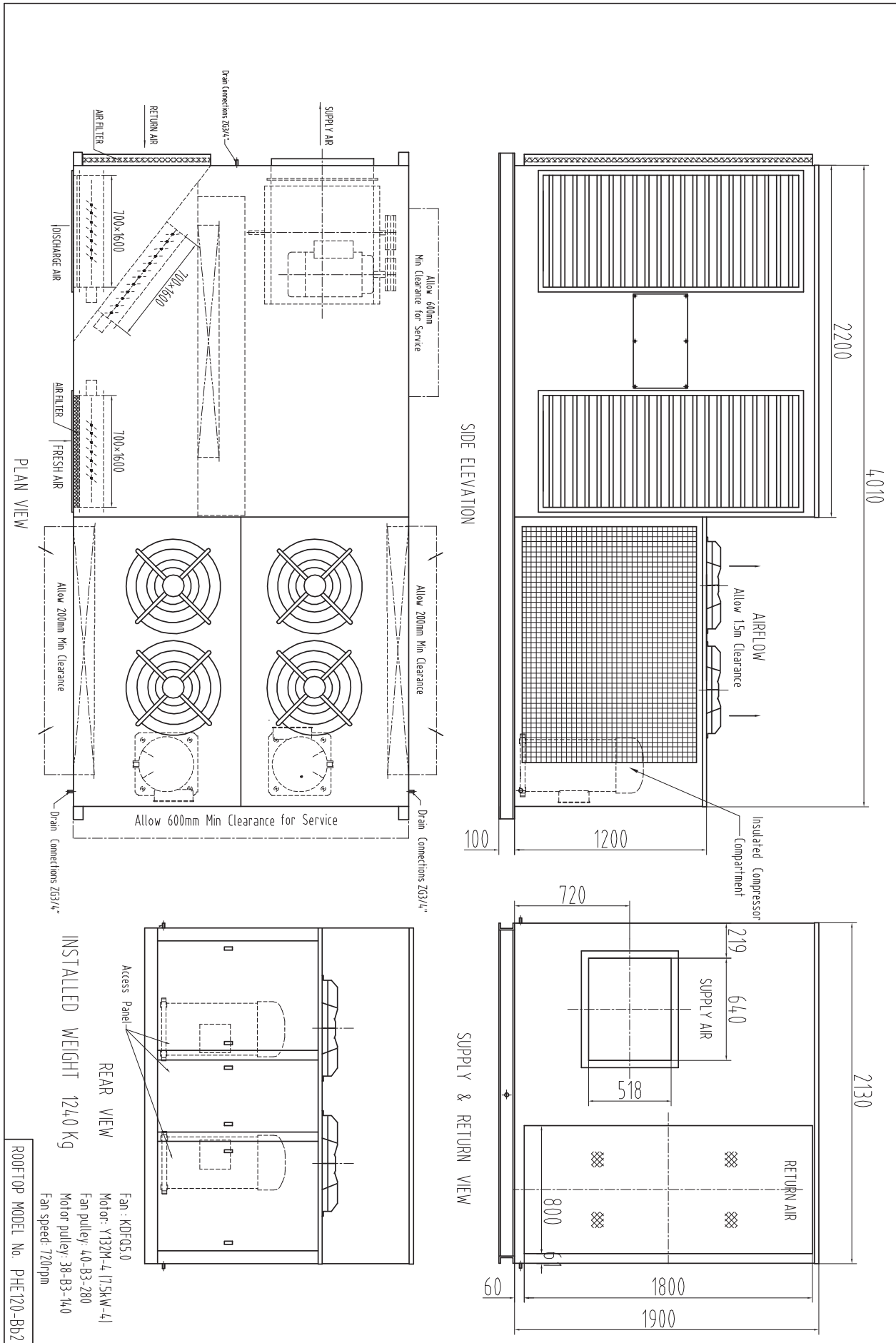
Number of Fans	1
Type	Centrifugal
Drive	Belt
Motor V / Ph / Hz	415 / 3 / 50
Motor Output Power (kW)	7.5
Max. Fan Speed (rpm)	620

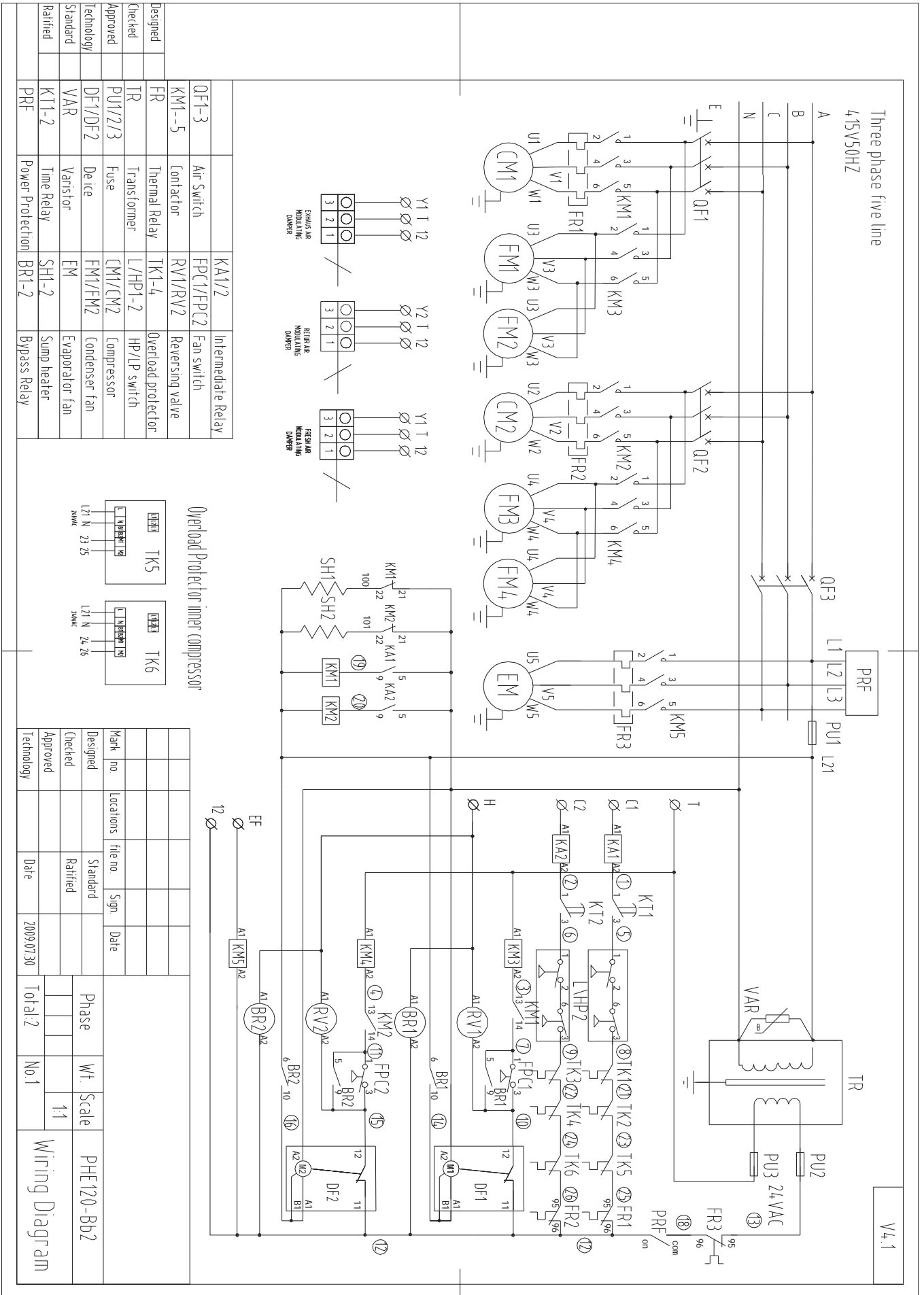
### Condenser Fan

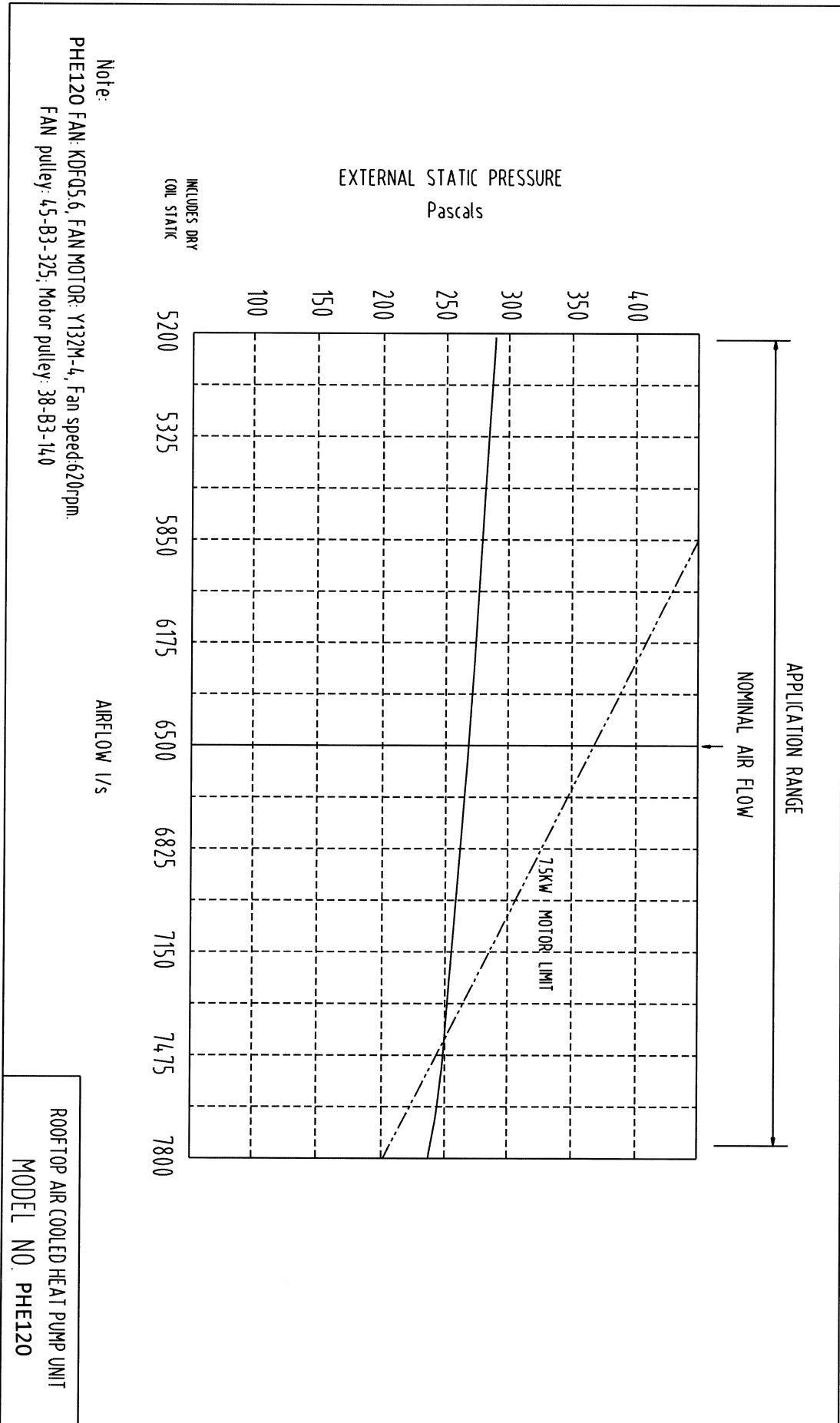
Number of Fans	4
Type	Axial
Drive	Direct
Motor Output Power (kW)	4 × 0.75
Motor V / Ph / Hz	415 / 3 / 50

### Refrigerant System

Refrigerant Type	R407c
Nominal Charge Required	2 × 14.6kg
Service Connection	Rotor Lock Valve
Expansion Control	TX Valve







PHE120 Noise rate analysing chart

A Class: 82.5dB

Hz	dB
64Hz	85.5
125Hz	84.0
250Hz	80.1
500Hz	78.6
1000Hz	79.1
2000Hz	72.6
4000Hz	70.4
8000Hz	68.1

Noise rate analysing chart ( A Class: 82.5dB) dB

