



DUNNAIR
(Aust) Pty Ltd

R407c Refrigerant
PHE140
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	135.1	82.1	11.4	128.2	79.2	11.7	120.8	76.1	12.1	115.7	76.1	12.3
	18	139.9	74.1	12.0	132.7	71.1	12.9	124.9	67.7	13.2	120.0	65.7	13.5
	19	145.0	65.7	13.8	137.3	62.7	14.1	129.2	59.3	14.5	124.5	57.4	14.7
	20	150.2	56.9	14.7	142.3	53.7	15.2	134.0	50.4	15.6	129.2	48.3	15.9
23	17	135.7	98.1	11.3	128.6	95.4	11.7	121.3	92.2	12.0	116.2	90.1	12.3
	18	139.9	89.9	12.4	132.7	87.0	12.8	124.9	83.6	13.2	120.0	81.5	13.5
	19	145.0	81.5	13.6	137.4	78.6	14.0	129.3	75.4	14.4	124.5	73.3	14.7
	20	150.3	72.8	14.7	142.3	69.6	15.2	134.0	66.3	15.6	129.3	64.2	15.8
	21	155.6	64.0	15.8	147.6	60.8	16.2	138.7	57.3	16.6	134.1	55.2	16.9
25	17	137.0	112.9	11.2	130.0	109.7	11.5	122.7	106.3	12.0	117.9	104.1	12.2
	18	140.3	109.1	12.5	133.1	103.5	12.9	125.3	100.2	13.3	120.4	98.1	13.6
	19	145.8	103.9	13.6	137.4	94.4	14.0	129.3	91.2	14.4	124.7	89.2	14.6
	20	150.3	97.9	14.7	142.5	85.6	15.2	134.0	82.1	15.6	129.3	80.2	15.8
	21	155.8	91.4	15.8	147.6	71.3	16.2	138.7	73.1	16.6	134.1	71.3	16.8
27	17	139.2	125.2	11.1	132.9	121.4	11.4	125.7	117.2	11.8	121.1	114.5	12.1
	18	141.9	122.4	12.3	134.4	119.4	12.7	126.6	116.1	13.1	123.0	114.0	13.3
	19	146.3	113.6	13.4	137.8	110.6	13.8	129.6	107.2	14.2	124.9	105.2	14.4
	20	150.5	105.6	14.6	142.5	102.4	14.9	134.0	99.1	15.4	129.3	97.2	15.6
	21	155.8	95.7	15.8	147.8	92.5	16.2	138.9	89.0	16.6	134.2	87.1	16.8
29	17	142.9	129.4	11.0	136.5	131.1	11.4	129.3	125.9	11.8	124.0	123.1	12.0
	18	144.2	127.2	12.2	137.2	129.1	12.7	129.6	125.2	13.1	124.9	119.4	13.3
	19	146.3	125.0	13.5	138.9	127.6	13.8	130.8	124.2	14.2	125.4	117.2	14.5
	20	150.5	121.1	14.6	142.7	117.9	14.9	134.2	114.2	15.5	129.5	112.5	15.7
	21	155.8	111.6	15.8	147.8	108.4	16.2	138.9	104.8	16.6	134.2	103.0	16.8
31	17	147.4	144.6	10.7	141.2	139.0	11.0	133.7	132.7	11.4	129.5	128.8	11.6
	18	148.2	124.9	12.0	141.4	138.4	12.3	134.2	132.3	12.8	130.2	128.3	13.1
	19	149.0	141.4	13.3	141.9	137.9	13.7	134.2	131.6	14.1	130.2	128.0	14.3
	20	151.4	137.7	14.5	143.9	134.7	14.9	135.3	130.0	15.4	130.5	127.6	15.7
	21	156.0	128.5	15.8	148.0	125.4	16.2	139.1	127.2	16.6	134.4	120.0	16.9



Technical Specification PHE140 Economy Cycle Rooftop Package

Total Cooling Capacity (kW)	137.8	Number of Compressors	2
Sensible Cooling Capacity (kW)	110.6	Power V / Ph	415 / 3
Heating Capacity (kW)	132.0	Nominal Max. Current (A)	125.4
Nominal Evaporator Air Flow (l/s)	7500	Power Input (kW)	57.2
*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	103.2	113.8	132.0	145.0	174.4
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	35.7 / 49.3
Locked Rotor Amps	2 × 230
Displacement (m³/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 (m²)	2 × 1.3

Condenser Coil

Type	Copper tube alum. fins
Face Area (m²)	2 × 1.68

Evaporator Fan

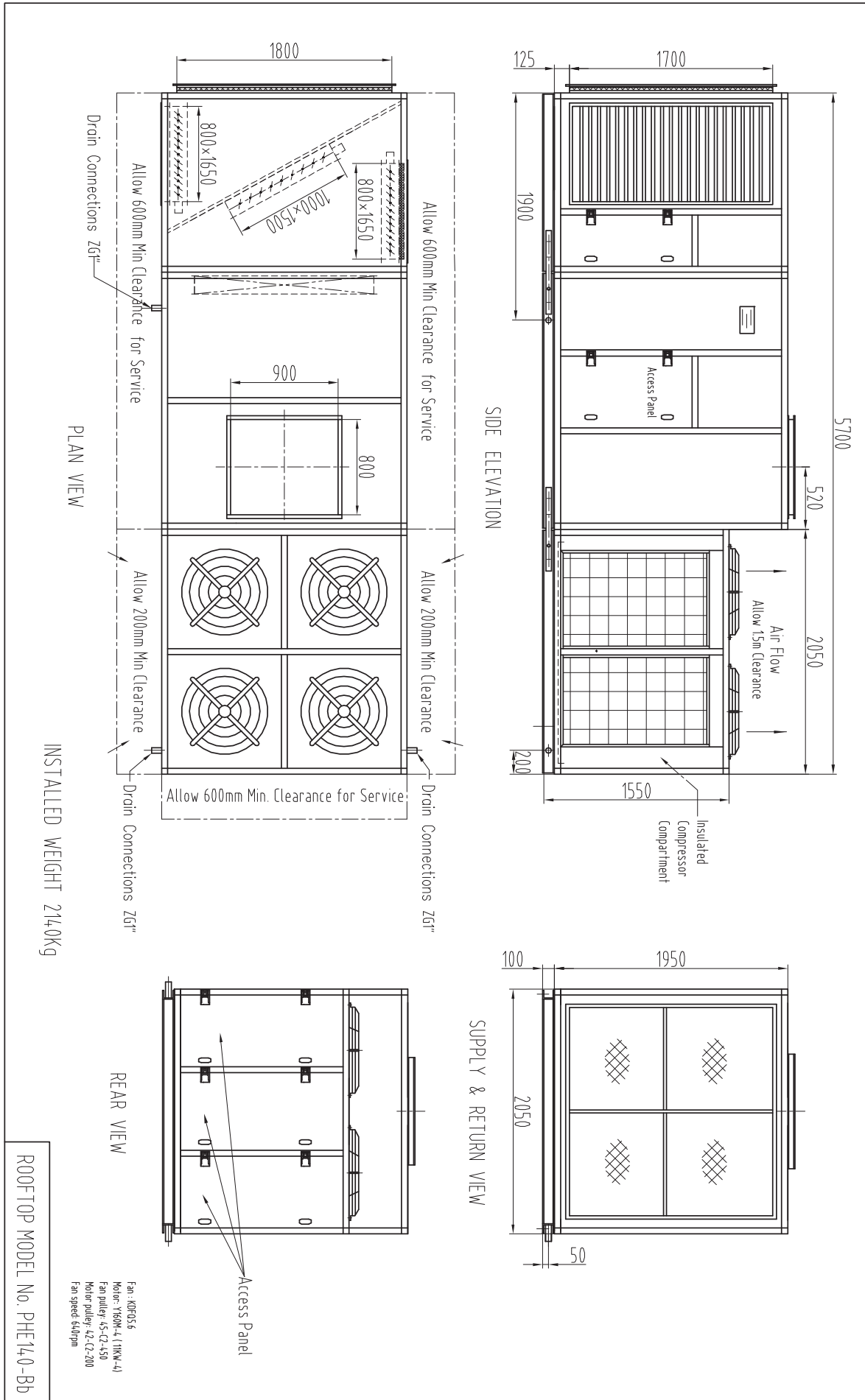
Number of Fans	1
Type	Centrifugal
Drive	Belt
Motor V / Ph / Hz	415 / 3 / 50
Motor Output Power (kW)	11
Max. Fan Speed (rpm)	640

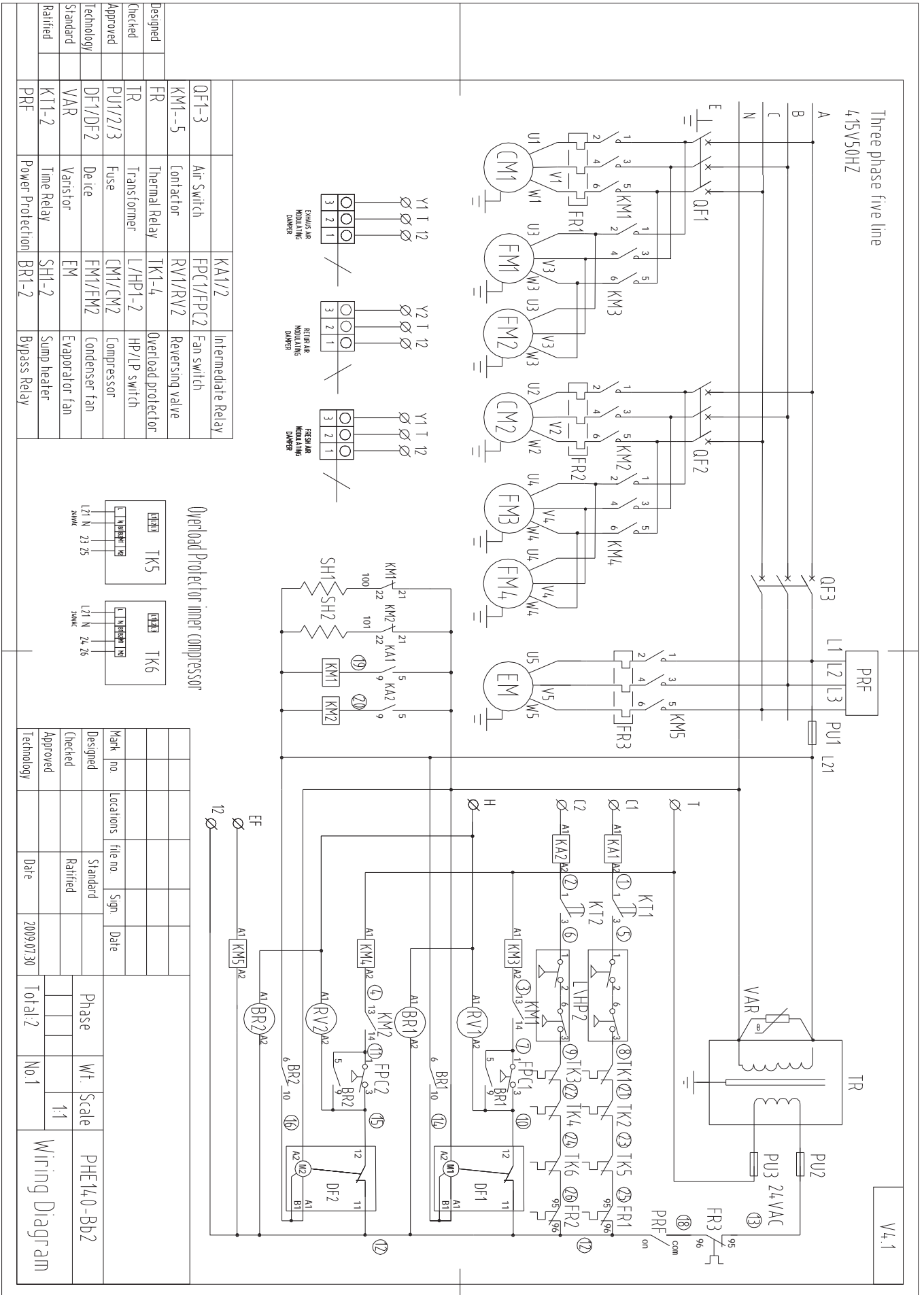
Condenser Fan

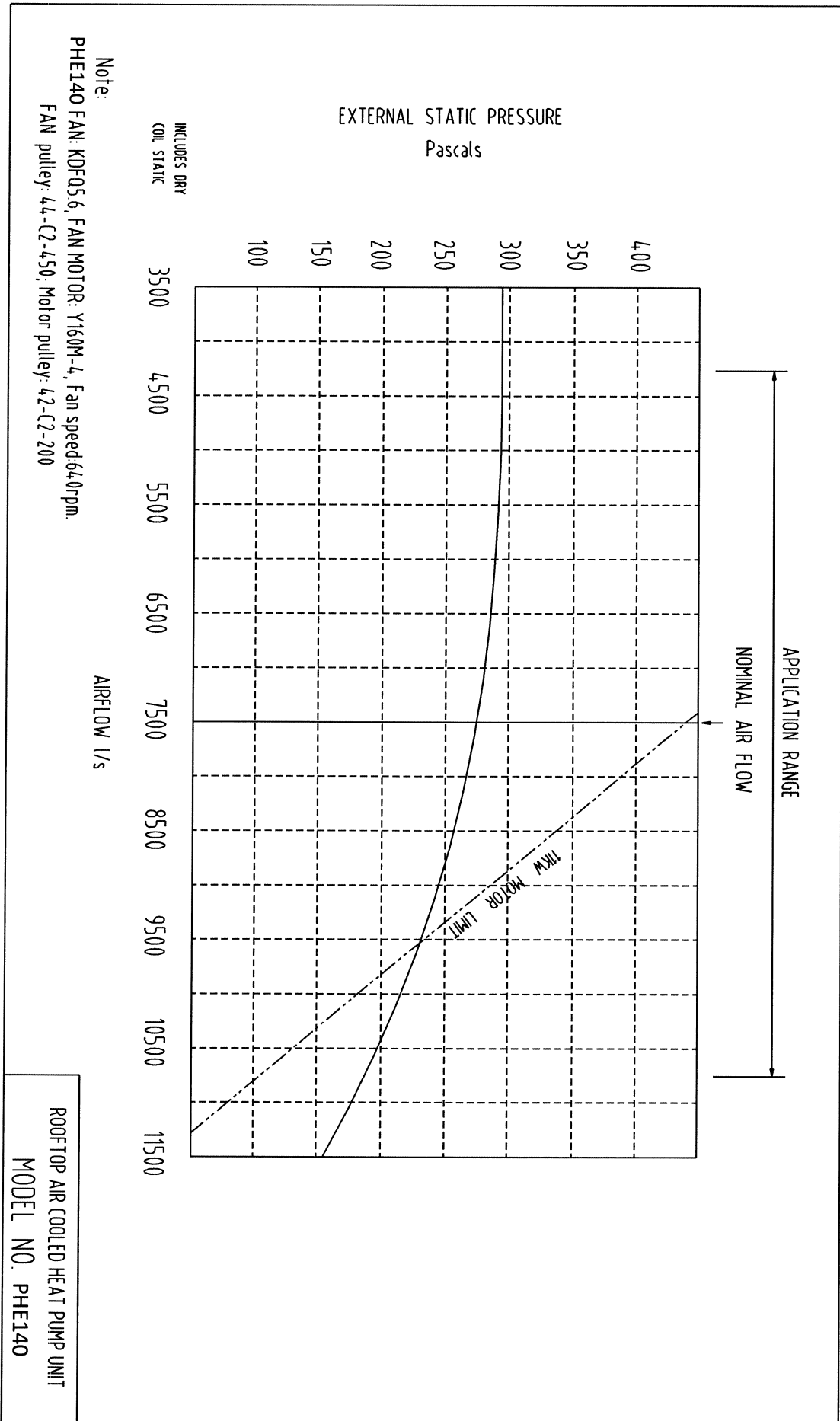
Number of Fans	4
Type	Axial
Drive	Direct
Motor Output Power (kW)	4 × 750
Motor V / Ph / Hz	415 / 3 / 50

Refrigerant System

Refrigerant Type	R407c
Nominal Charge Required	14.6 / 18.8
Service Connection	Rotor Lock Valve
Expansion Control	TX Valve







PHE140 Noise rate analysing chart

A Class: 83.8dB

Hz	dB
64Hz	88.4
125Hz	86.5
250Hz	82.6
500Hz	79.5
1000Hz	79.0
2000Hz	76.6
4000Hz	72.4
8000Hz	67.3

Noise rate analysing chart (A Class: 83.8dB) dB

