



DUNNAIR
(Aust) Pty Ltd

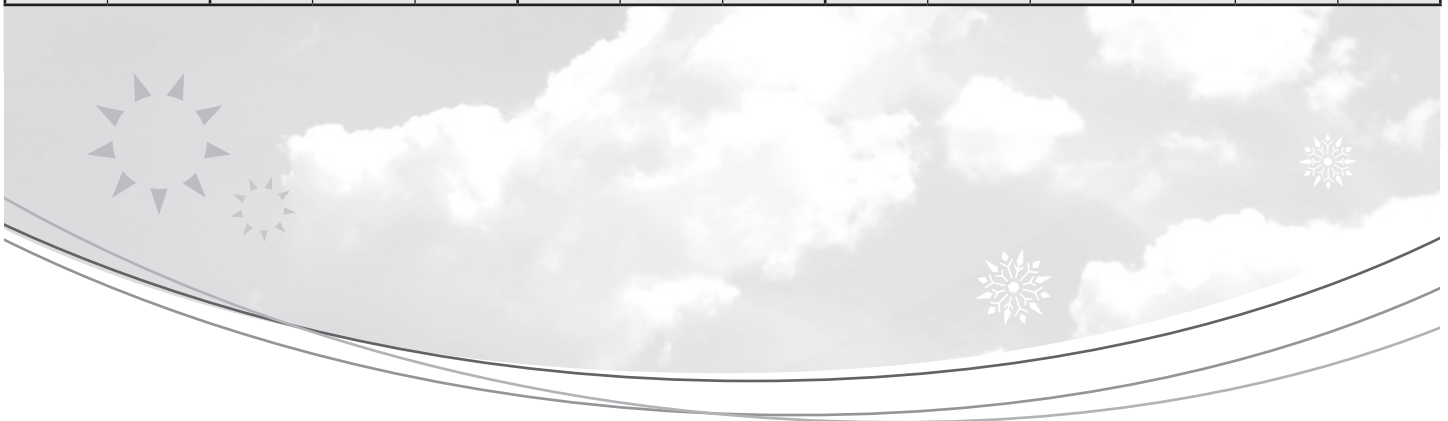
R407c Refrigerant

SH120

Split Ducted Model

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 SH120 Split Ducted Model

Indoor Unit Model Number	SH120N	Nominal Evaporator Air Flow (l/s)	6500
Outdoor Unit Model Number	SH120W	Number of Compressors	2
Total Cooling Capacity (kW)	117.6	Power V / Ph	415 / 3
Sensible Cooling Capacity (kW)	95.2	Nominal Max. Current (A)	98.9
Heating Capacity (kW)	116.2	Power Input (kW)	48.1
*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 (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)	2.4

Condenser Coil

Type	Copper tube alum. fins
Face Area (m²)	2×1.7

Evaporator Fan

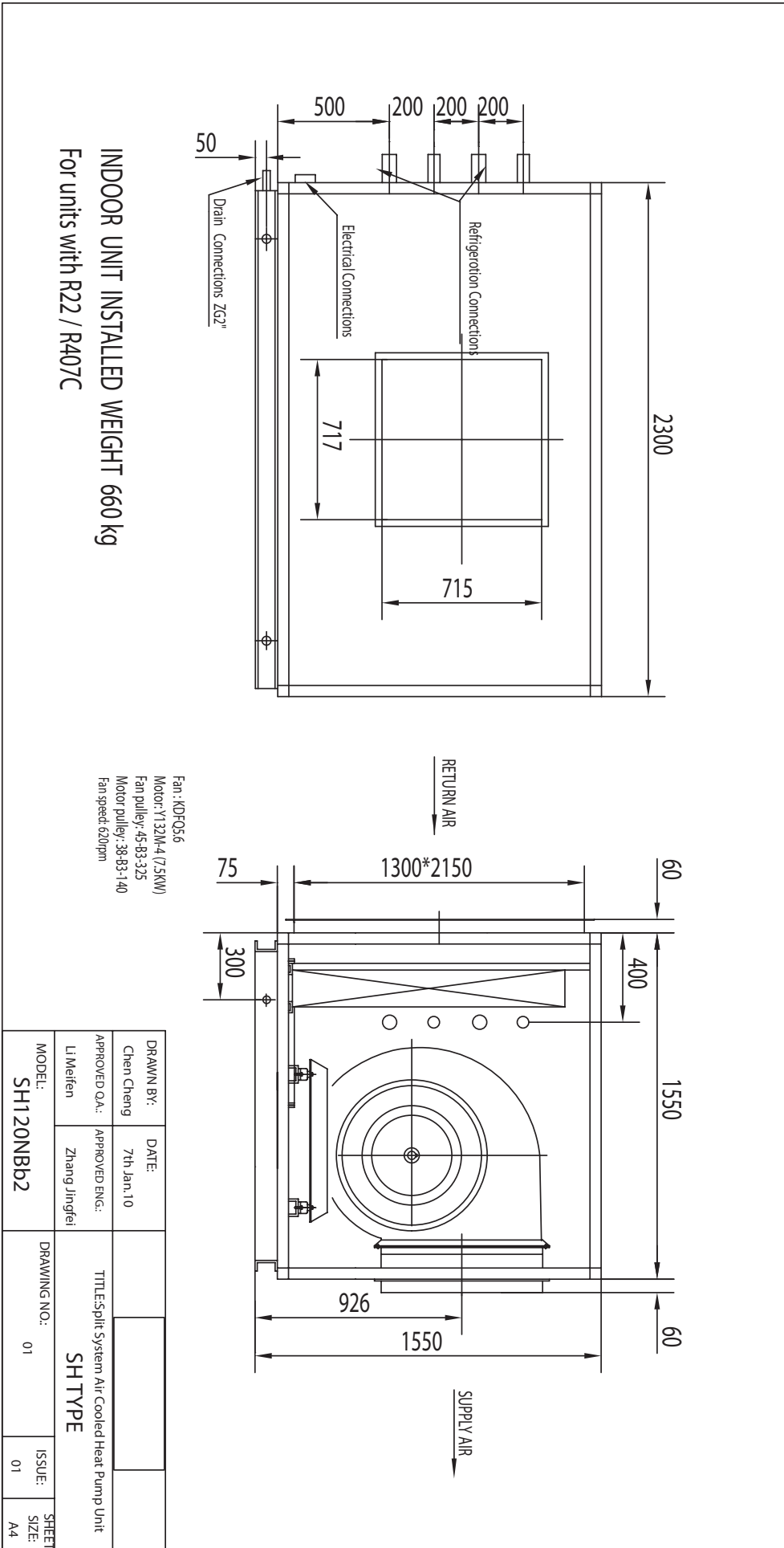
Number of Fans	1
Type	Centrifugal
Drive	Belt
Motor V / Ph / Hz	415 / 3 / 50
Motor Output Power (kW)	7.5
Max. Fan Speed (rpm)	620

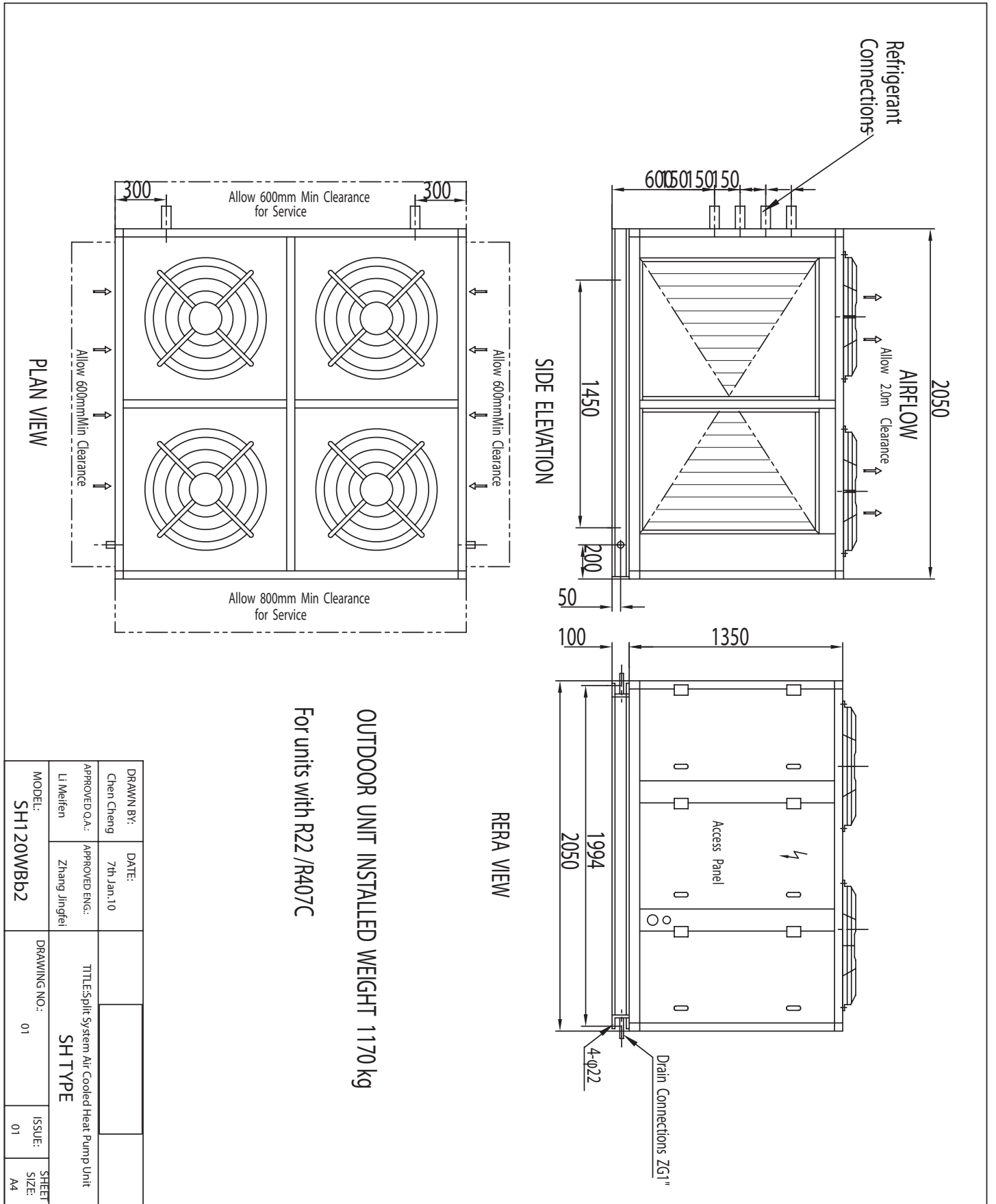
Condenser Fan

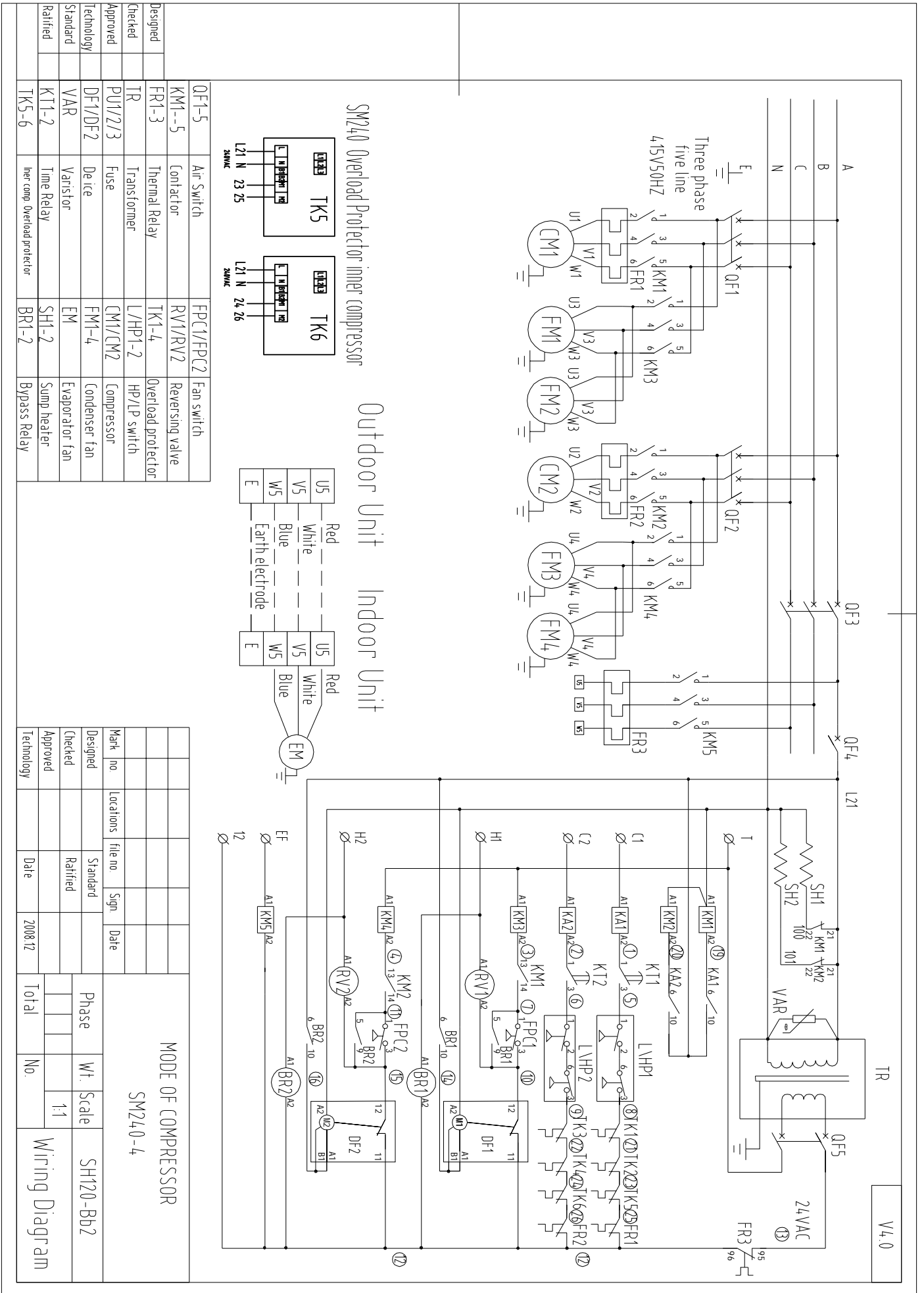
Number of Fans	4
Type	Axial
Drive	Direct
Motor Output Power (kW)	4 × 0.75
Motor V / Ph / Hz	415 / 3 / 50

Refrigerant System

Refrigerant Type	R407c
Nominal Charge Required	2 × 14.6kg
Line Size (mm)	
Liquid 0–15 metres	22
Gas 0–15 metres	35
Liquid 15–30 metres	28
Gas 15–30 metres	42
Service Connection	Rotor Lock Valve
Expansion Control	TX Valve

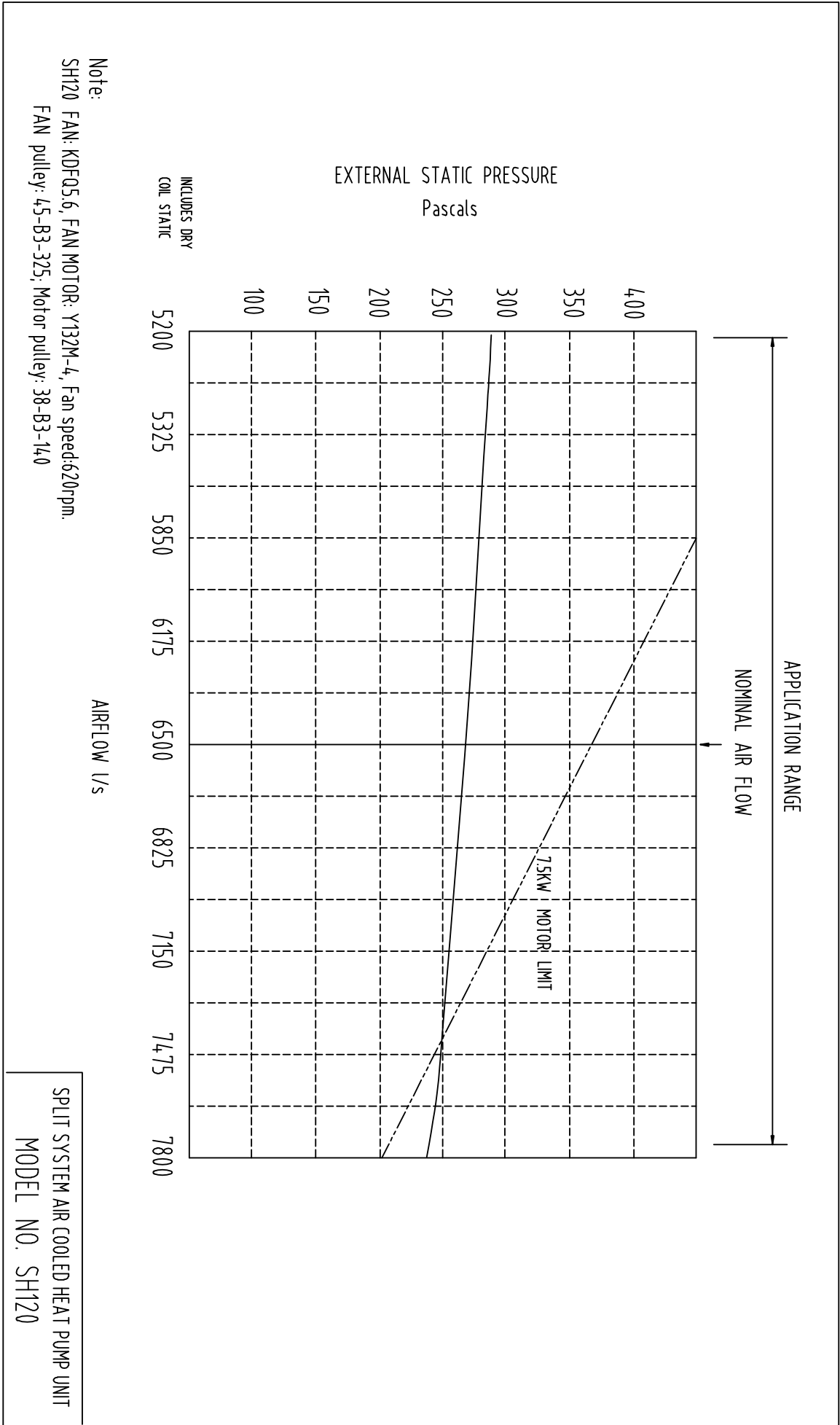






QF1-5	Air Switch	FP1/FP2	Fan switch
KM1-5	Contactors	RV1/RV2	Reversing valve
FR1-3	Thermal Relay	TK1-4	Overload protector
TR	Transformer	L/HP1-2	HP/LP switch
PU1/2/3	Fuse	CM1/CM2	Compressor
DF1/DF2	De ice	FM1-4	Condenser fan
VAR	Varistor	EM	Evaporator fan
KT1-2	Time Relay	SH1-2	Sump heater
TK5-6	ther-comp Overload protector	BR1-2	Bypass Relay

Mark no.	Locations	file no.	Sign	Date	Phase	Wt. Scale	SH120-BJ2
Designed		Standard				1:1	
Checked		Ratified					
Approved							
Technology		Date	2008.12		Total	No.	Wiring Diagram



Note:
 SH120 FAN: KDF05.6, FAN MOTOR: Y132M-4, Fan speed: 620rpm.
 FAN pulley: 45-B3-325; Motor pulley: 38-B3-140

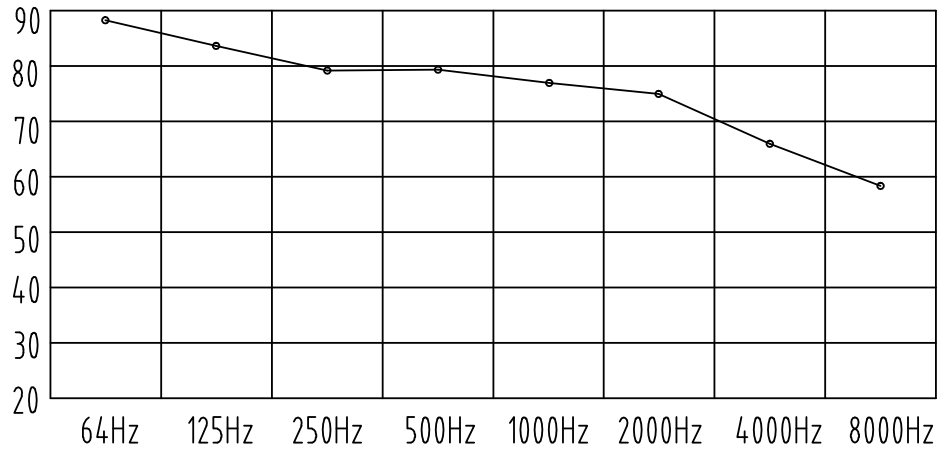
SPLIT SYSTEM AIR COOLED HEAT PUMP UNIT
 MODEL NO. SH120

SH120W Noise rate analysing chart

A Class: 82.2dB

Hz	dB
64Hz	88.1
125Hz	83.4
250Hz	79.2
500Hz	79.4
1000Hz	77.2
2000Hz	75.6
4000Hz	66.7
8000Hz	58.8

Noise rate analysing chart (A Class: 82.2dB) dB



SH120N Noise rate analysing chart

A Class: 77.1dB

Hz	dB
64Hz	86.4
125Hz	82.4
250Hz	75.4
500Hz	72.5
1000Hz	73.2
2000Hz	67.8
4000Hz	65.1
8000Hz	58.3

Noise rate analysing chart (A Class: 77.1dB) dB

