



DUNNAIR
(Aust) Pty Ltd

SH90

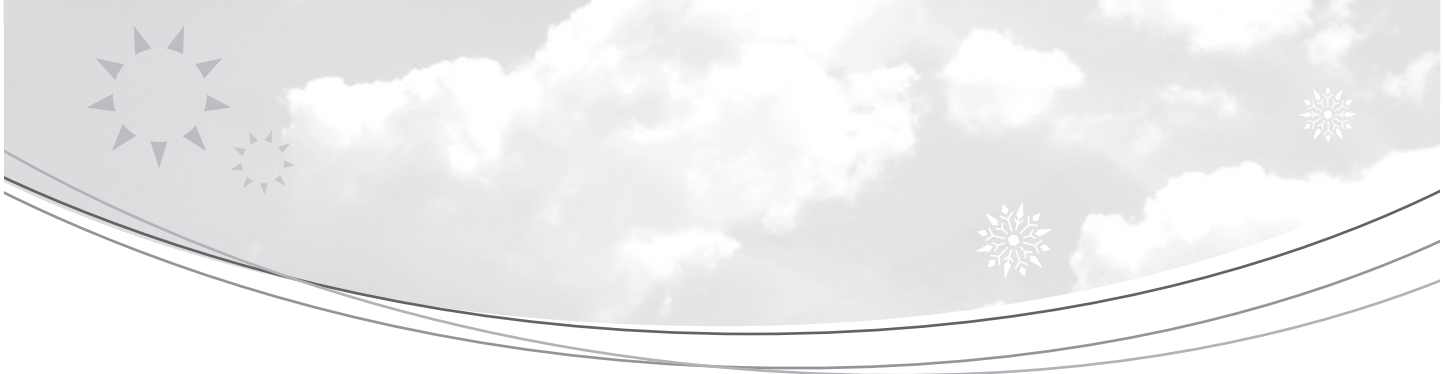
Split Ducted Model

R407c Refrigerant

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	86.7	67.3	12.3	82.3	65.5	12.4	77.5	63.7	12.4	74.6	61.9	12.6
	18	90.0	61.2	13.2	85.7	59.6	13.3	80.9	57.8	13.5	77.8	56.2	13.8
	19	92.5	55.1	14.4	88.5	53.4	14.4	83.1	51.5	14.7	80.3	49.6	14.9
	20	94.8	48.7	15.3	90.6	47.1	15.6	85.4	45.4	15.6	82.9	43.8	15.7
23	17	87.1	73.2	12.1	82.6	71.4	12.4	78.0	69.6	12.6	74.6	67.8	12.9
	18	90.0	67.1	13.1	85.8	65.5	13.4	81.1	63.7	13.6	77.9	62.1	13.8
	19	92.9	61.0	14.2	88.5	59.3	14.4	83.2	57.4	14.7	80.4	55.6	15.0
	20	95.3	54.6	15.2	90.9	53.1	15.5	85.8	51.1	15.8	83.1	49.4	16.1
	21	98.3	48.4	16.3	93.1	46.7	16.6	88.0	44.8	16.8	84.5	43.1	17.2
25	17	87.4	79.1	12.0	82.9	77.3	12.3	78.0	75.4	12.5	74.9	73.3	12.9
	18	90.1	73.0	13.3	86.0	71.4	13.3	81.2	69.5	13.6	78.0	67.7	13.9
	19	93.2	66.8	14.2	88.5	65.2	14.4	83.0	63.2	14.5	80.4	61.4	14.8
	20	95.3	60.5	15.1	90.8	58.8	15.5	86.1	57.0	15.7	83.2	55.2	15.9
	21	98.6	54.2	16.3	93.4	52.5	16.5	88.2	50.7	16.8	84.8	49.1	17.1
27	17	88.1	84.9	11.9	83.6	82.6	12.2	79.1	78.0	12.5	75.1	73.7	12.8
	18	90.8	78.8	13.7	86.7	77.3	13.7	81.0	75.4	13.4	78.4	72.9	13.9
	19	94.1	72.8	14.0	88.5	71.0	14.4	84.2	69.1	14.4	80.9	67.3	14.9
	20	96.0	66.3	15.1	91.4	64.7	15.6	86.9	62.9	15.6	83.5	61.2	16.0
	21	99.2	60.1	16.6	94.2	58.4	16.9	89.3	56.6	16.5	86.0	54.8	17.0
29	17	89.4	88.1	11.8	84.9	82.6	12.1	80.4	78.5	12.5	76.1	74.1	12.7
	18	91.4	84.7	13.6	87.1	78.1	13.6	82.2	76.3	13.4	78.7	74.1	13.8
	19	94.1	78.5	14.1	88.7	76.9	14.4	85.3	75.0	14.5	81.4	73.2	14.8
	20	96.2	72.2	15.0	91.4	70.6	15.5	88.1	68.8	15.6	83.9	66.9	15.9
	21	99.3	66.0	16.5	94.3	64.3	16.8	90.4	62.5	16.5	87.1	60.5	16.8
31	17	91.8	91.6	11.6	87.4	86.6	11.9	83.7	82.8	12.1	78.7	78.1	12.4
	18	93.5	90.2	13.4	89.3	85.1	13.4	85.6	84.9	13.2	81.5	80.8	13.5
	19	96.4	89.8	14.0	92.9	84.7	14.3	89.2	83.2	14.3	84.2	80.4	14.6
	20	98.6	84.1	14.8	94.1	78.8	15.5	90.8	76.4	15.5	85.9	73.9	15.8
	21	101.5	77.8	16.3	96.5	76.2	16.6	93.1	73.5	16.5	89.3	70.5	16.7

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



Technical Specification SH90 Split Ducted Model

Indoor Unit Model Number	SH90N	Nominal Evaporator Air Flow (l/s)	4800
Outdoor Unit Model Number	SH90W	Number of Compressors	2
Total Cooling Capacity (kW)*	88.5	Power Requirements (Volt / Phase)	415 / 3
Sensible Cooling Capacity (kW)*	71.0	Normal Max. Current (Amps / Phase)	72.6
Heating Capacity (kW)**	85.0		

*Entering air @ 27/19°C and ambient 35°C ** Entering air @ 21°C DB and 7°C ambient

Air Quantity Multiplying Factors

% Rated Air Quantity-Nominal 4800 l/s					
Capacity	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 Performance Data

Outdoor Coil Entering DB temp					
	0	4	8	12	18
Heating Capacity kW	68.9	75.8	87.6	96.1	114

Heating Performance Correction

% Rated Air Quality	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 × 29
Locked Rotor Current (Amps / Phase)	2 × 175
Displacement (m³/h)	2 × 43.5

Electrical Controls and Safeties

High Pressure Switch (Setting kPa)	2800	Defrost	
Low Pressure Switch (Setting kPa)	100	Initiation Temperature (°C)	-4
Indoor Fan Overload	Internal	Termination Temperature (°C)	10
Outdoor Fan Overload	Internal	Min. Period Between De-Ice (min)	33
Compressor Delay Timer	300 sec	Max. De-Ice Period (min)	4

Standard Features

Manual 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

Indoor Coil

Type	Copper Tube / Aluminium Fins
Face Area (m)	2.0
Air Quantity (l/s)	4800

Indoor Fan

Number of Fans	1
Type	Centrifugal
Drive	Belt
Motor Voltage / Phase / Frequency	415 / 3 / 50
Motor (kW) Standard	5.5
Max. Fan Speed (rpm)	700

Electrical

Power Requirements	3 Phase / 415V / 50Hz
Normal Max. Current (Amps / Phase)	72.6

Outdoor Coil

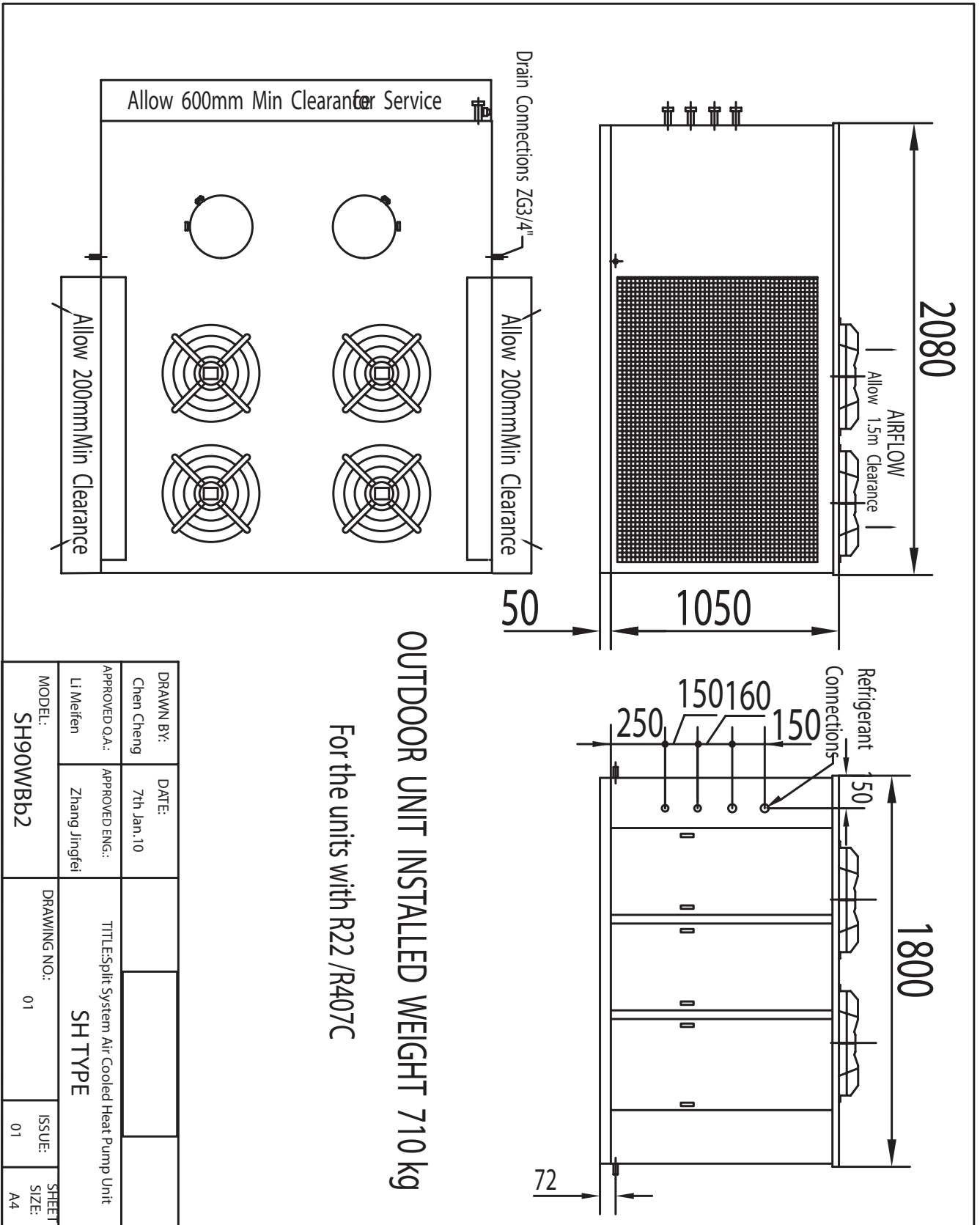
Type	Copper Tube / Aluminium Fins
Face Area	2 × 1.36

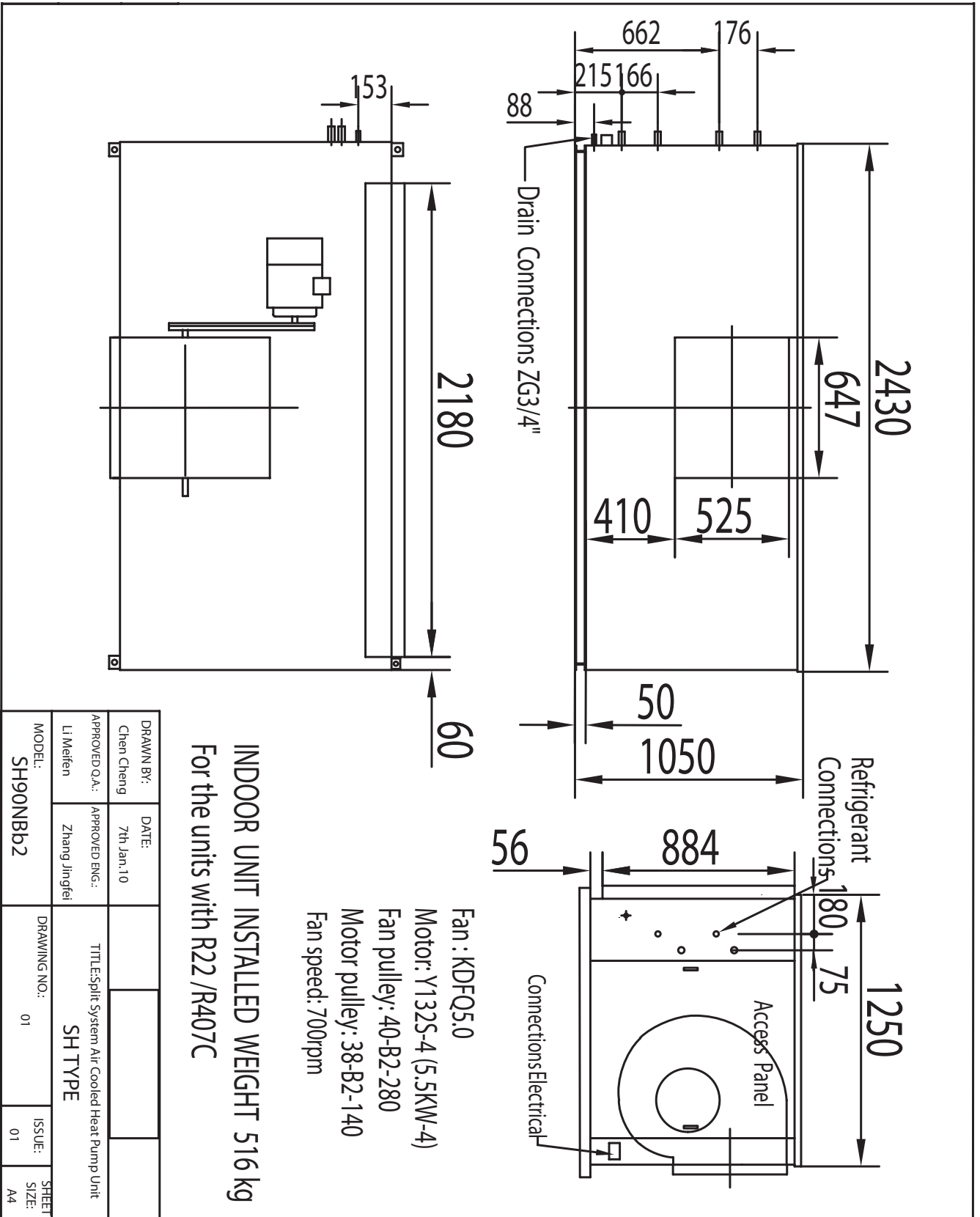
Outdoor Fan

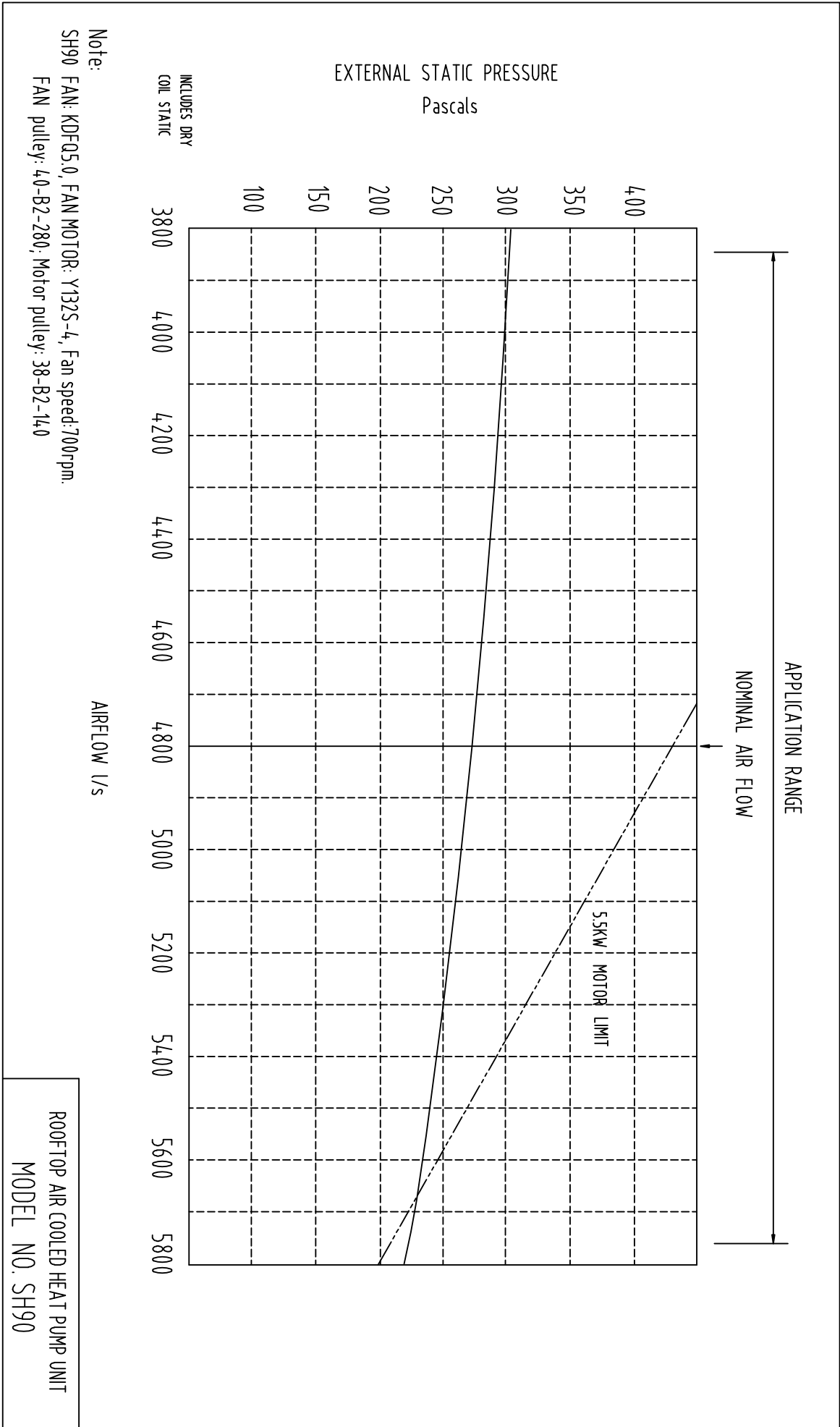
Number of Fans	4
Type	Axial
Drive	Direct
Motor Watts / rpm	4 × 300 / 950
Motor Voltage / Phase / Frequency	415 / 3 / 50

Refrigerant System

Refrigerant Type	R407c
Charge (kg)	2 × 10.8
Line Size (mm)	
Liquid 0–10 metres	22
Gas 0–10 metres	28
Liquid 10–20 metres	28
Gas 10–20 metres	35
Service Connections	Rotor Lock Valve
Expansion Control – in outdoor unit	TX Valve





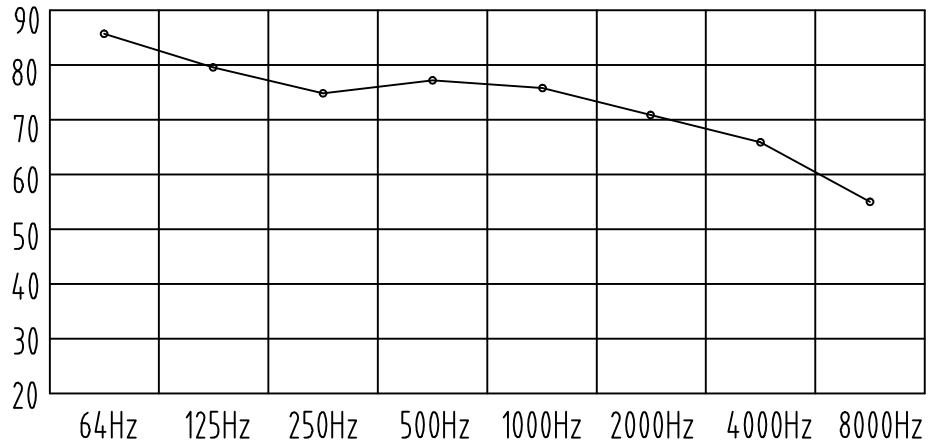


SH90W Noise rate analysing chart

A Class: 79.6dB

Hz	dB
64Hz	85.1
125Hz	79.5
250Hz	75.4
500Hz	77.5
1000Hz	76.0
2000Hz	70.6
4000Hz	66.0
8000Hz	54.5

Noise rate analysing chart (A Class: 79.6dB) dB



SH90N Noise rate analysing chart

A Class: 75.5dB

Hz	dB
64Hz	84.1
125Hz	81.5
250Hz	74.3
500Hz	72.1
1000Hz	70.2
2000Hz	67.3
4000Hz	62.0
8000Hz	60.2

Noise rate analysing chart (A Class: 75.5dB) dB

