



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	18.8	11.6	11.5	17.9	11.2	11.8	17.0	10.8	12.1	16.5	10.8	12.2
	18	19.4	10.3	12.1	18.5	12.9	12.9	17.6	9.5	13.2	17.1	9.3	13.3
	19	20.0	9.1	13.6	19.1	13.9	13.9	18.1	8.3	14.2	17.6	8.0	14.3
	20	20.7	7.8	14.7	19.7	15.0	15.0	18.7	7.0	15.3	18.2	6.8	15.5
23	17	18.8	14.0	11.4	18.0	13.7	11.6	17.0	13.3	11.9	16.5	13.1	12.1
	18	19.4	12.7	12.5	18.5	12.3	12.8	17.5	11.9	13.1	17.0	11.7	13.3
	19	20.0	11.4	13.6	19.1	11.0	13.9	18.1	10.6	14.2	17.6	10.4	14.3
	20	20.7	10.1	14.8	19.7	9.8	15.1	18.7	9.3	15.5	18.2	9.1	15.6
	21	21.3	8.9	15.9	20.4	8.5	16.2	19.3	8.1	16.5	18.9	7.9	16.7
25	17	18.9	16.4	11.4	18.0	16.1	11.7	17.1	15.7	12.0	16.6	15.5	12.2
	18	19.4	15.9	12.6	18.5	14.8	12.8	17.6	14.4	13.0	17.1	14.2	13.3
	19	20.0	15.2	13.5	19.1	13.4	13.8	18.1	13.0	14.0	17.6	12.8	14.3
	20	20.6	14.5	14.7	19.7	12.1	15.0	18.7	11.6	15.3	18.2	11.4	15.5
	21	21.3	13.7	15.9	20.3	10.3	16.6	19.3	10.5	16.5	18.8	10.3	16.6
27	17	19.2	17.9	11.2	18.4	17.5	11.5	17.5	17.0	11.8	17.0	16.7	12.0
	18	19.5	17.4	12.4	18.6	17.0	12.7	17.6	17.1	13.0	17.1	16.4	13.2
	19	20.0	16.2	13.6	19.9	15.9	13.4	18.1	17.6	14.2	17.6	18.2	14.3
	20	20.6	14.8	14.7	20	15.0	14.6	18.6	18.2	15.3	18.2	13.8	15.4
	21	21.3	13.6	15.8	20.3	13.2	16.1	19.3	18.8	16.5	18.8	12.6	16.6
29	17	19.7	19.3	11.1	18.9	18.7	11.3	18.0	18.0	11.6	17.5	17.5	11.8
	18	19.8	19.1	12.3	18.9	18.6	12.6	18.0	18.0	12.9	17.5	17.5	13.0
	19	21.2	18.5	13.6	21.0	18.2	13.9	18.2	17.8	14.2	17.7	17.6	14.4
	20	21.6	17.1	14.7	21.5	16.7	15.0	18.7	16.3	15.3	18.2	16.1	14.4
	21	22.2	16.0	15.8	21.6	15.8	16.1	19.2	15.2	16.4	18.8	15.0	16.4
31	17	20.3	20.3	10.8	19.7	19.7	11.1	18.7	18.7	11.4	18.3	18.3	11.5
	18	20.4	20.3	12.2	19.7	19.7	12.4	18.7	18.7	12.8	18.3	18.3	12.9
	19	21.4	20.3	13.3	21.0	21.0	14.0	18.7	18.7	13.9	18.3	18.3	14.1
	20	21.7	19.7	14.6	21.5	21.1	15.0	18.7	18.7	15.2	18.3	18.3	15.3
	21	21.8	18.2	15.8	21.6	19.0	16.3	19.3	17.4	16.5	18.8	17.2	16.6

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

Technical Specification SHSE20 Economy Cycle Split Ducted

Indoor Unit Model Number	SHSE20N	Nominal Evaporator Air Flow (l/s)	1110
Outdoor Unit Model Number	SHSE20W	Number of Compressors	1
Total Cooling Capacity (kW)*	19.9	Power Requirements (Volt / Phase)	415 / 3
Sensible Cooling Capacity (kW)*	15.9	Normal Max. Current (Amps / Phase)	16.0
Heating Capacity (kW)**	19.5		

*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 1110 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	14.4	15.6	20	22	24

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	1
Type	Scroll
RPM (Nom)	2900
Normal Max. Current (Amps / Phase)	12.0
Locked Rotor Current (Amps / Phase)	101
Displacement (m ³ /h)	19.2

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)	0.48
Air Quantity (l/s)	1110

Indoor Fan

Number of Fans	2
Type	Centrifugal
Drive	Direct
Motor Voltage / Phase / Frequency	240 / 1 / 50
Motor (kW) Standard	2 × 0.55
Max. Fan Speed (rpm)	1290

Electrical

Power Requirements	3 Phase / 415V / 50Hz
Normal Max. Current (Amps / Phase)	16.0

Outdoor Coil

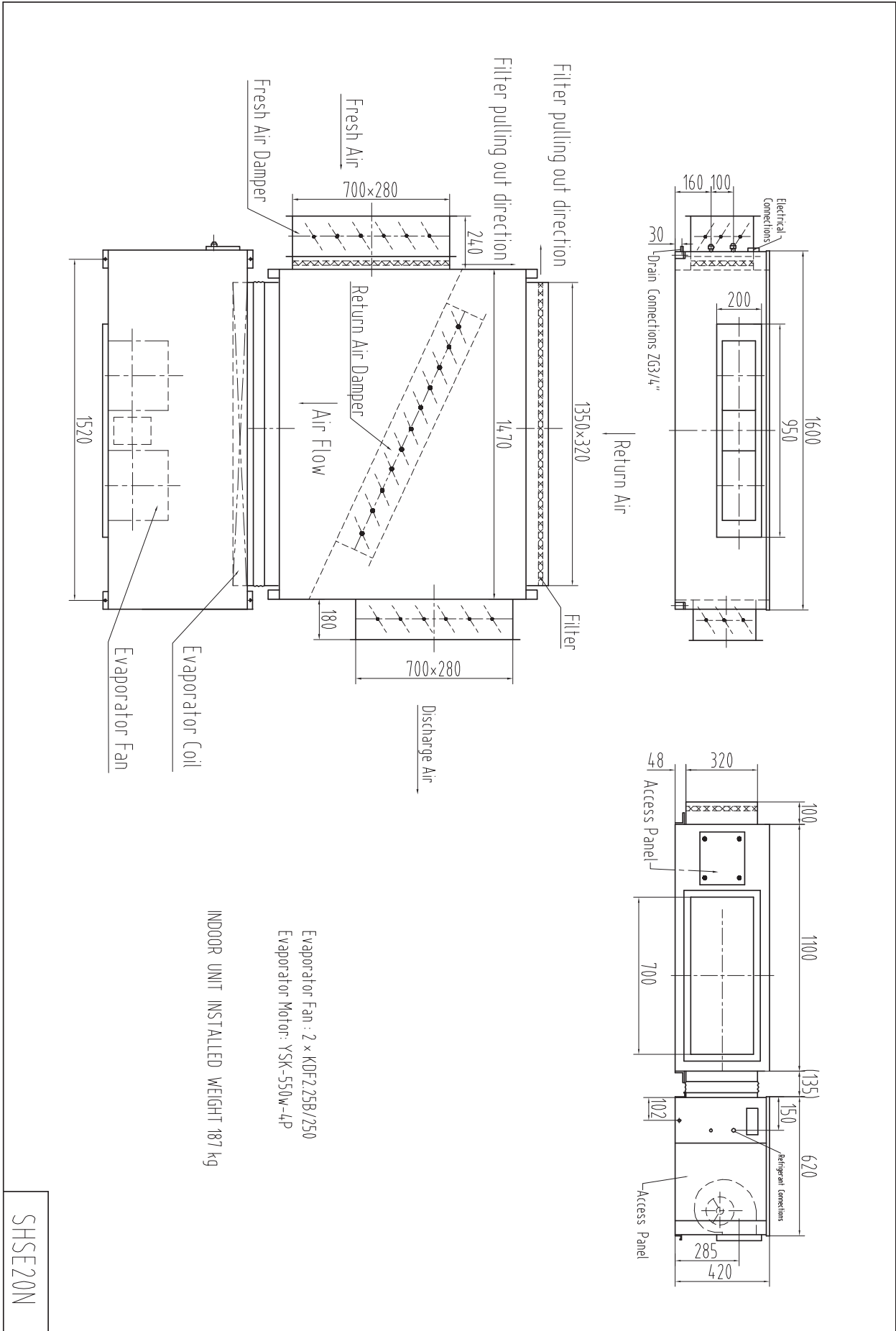
Type	Copper Tube / Aluminium Fins
Face Area	0.70

Outdoor Fan

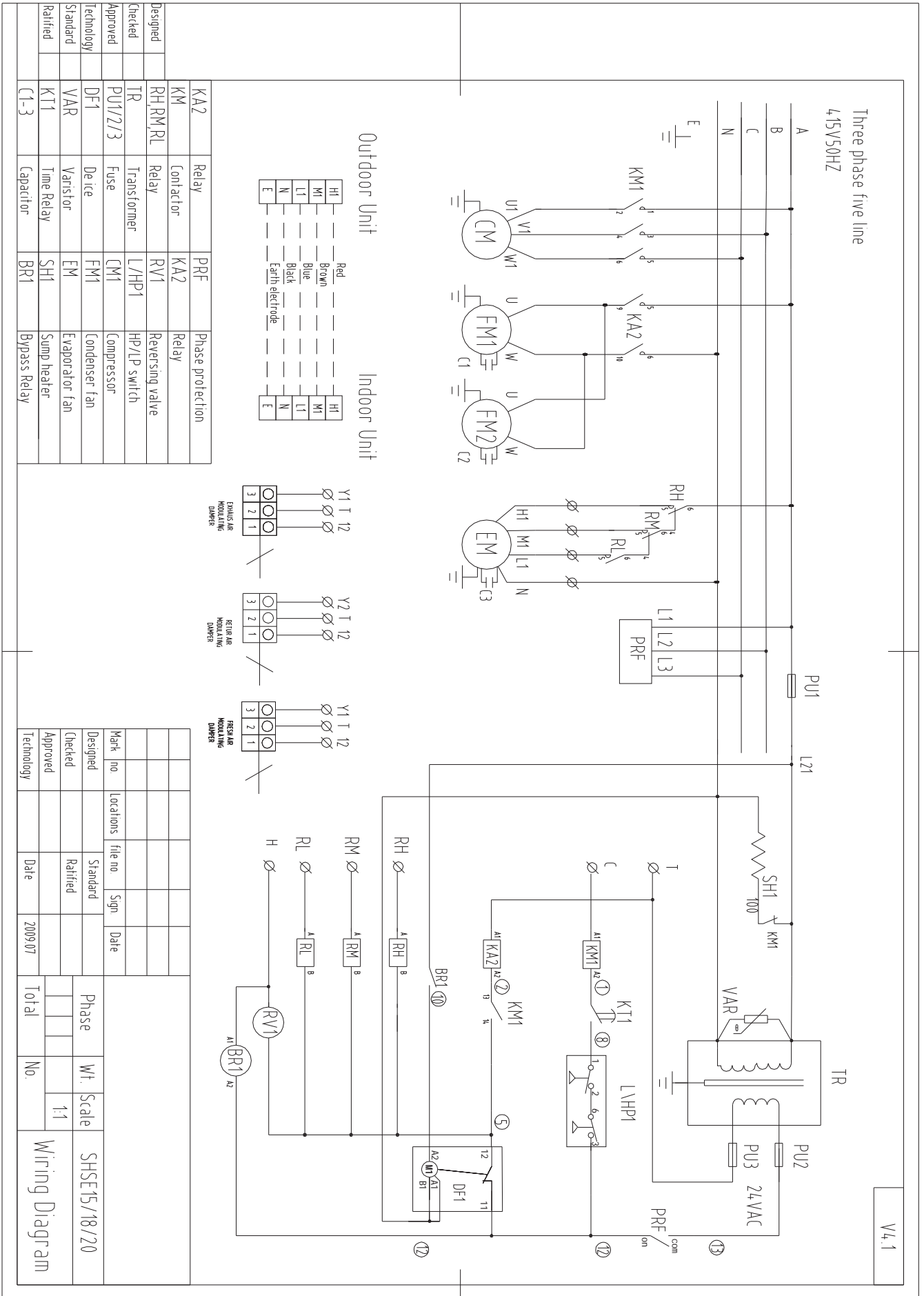
Number of Fans	2
Type	Axial
Drive	Direct
Motor Watts / rpm	2 × 300 / 950
Motor Voltage / Phase / Frequency	2 × 240 / 1 / 50

Refrigerant System

Refrigerant Type	R410a
Charge (kg)	5.2
Line Size (mm)	
Liquid 0-10 metres	13
Gas 0-10 metres	19
Liquid 10-20 metres	19
Gas 10-20 metres	28
Service Connections	Rotor Lock Valve
Expansion Control – in outdoor unit	TX Valve



SHSE20N

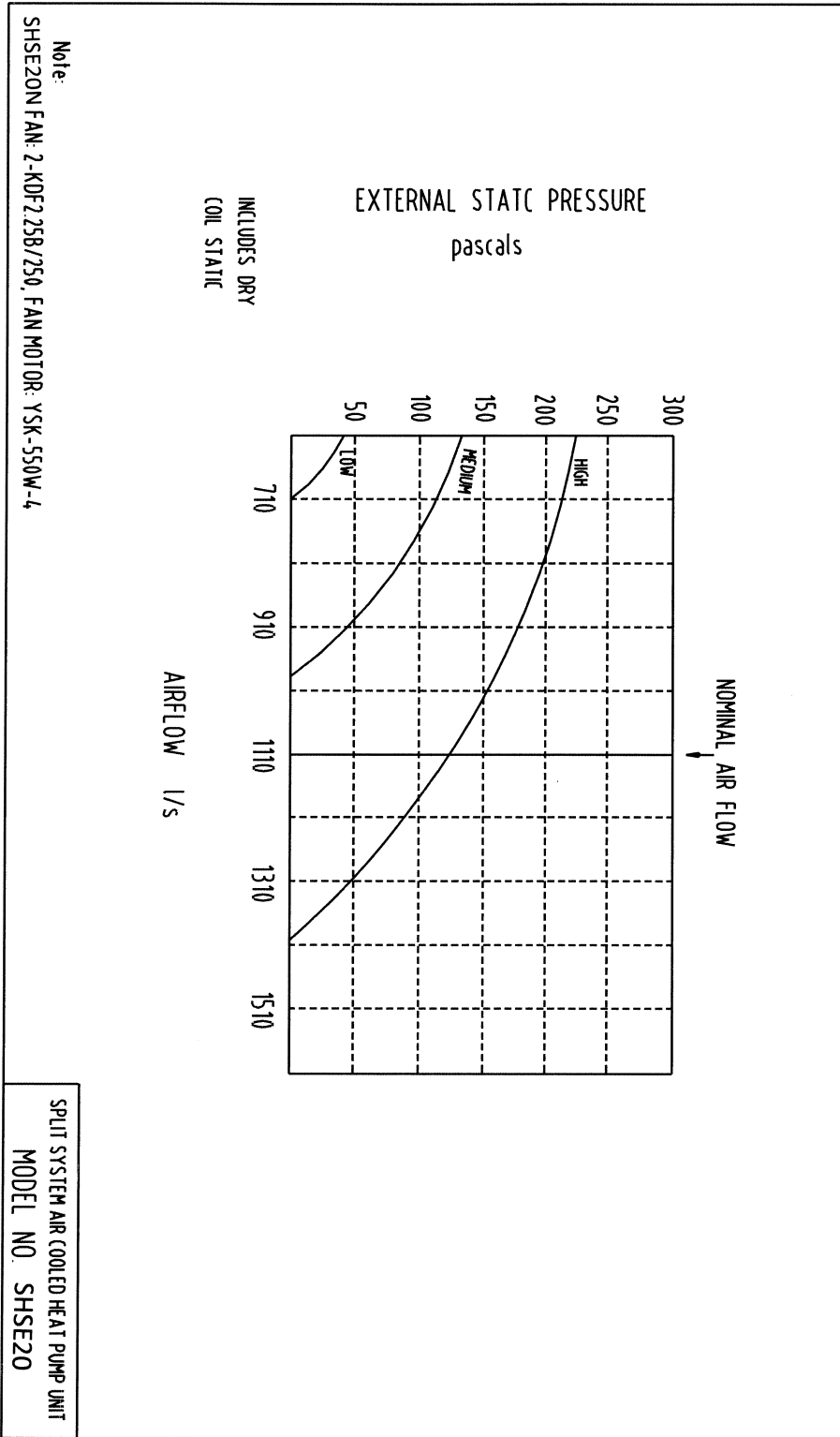


Designed	KA2	Relay	PRF	Phase protection
Checked	KM	Contactors	KAZ	Relay
Approved	RH, RM, RL	Relay	RV1	Reversing valve
Technology	TR	Transformer	L/HP1	HP/LP switch
Standard	PU1/2/3	Fuse	CM1	Compressor
Ratified	DF1	De Ice	FM1	Condenser fan
	VAR	Varistor	EM	Evaporator fan
	KT1	Time Relay	SH1	Sump heater
	C1-3	Capacitor	BR1	Bypass Relay

Mark no.	Locations	file no.	Sign	Date
Designed		Standard		
Checked		Ratified		
Approved				
Technology		Date	2009/07	

Y1 T 12	Y2 T 12	Y1 T 12
3 2 1	3 2 1	3 2 1
Outdoor Unit	Indoor Unit	Indoor Unit

Phase	Wt.	Scale	SHSE15/18/20
		1:1	
Total			Wiring Diagram

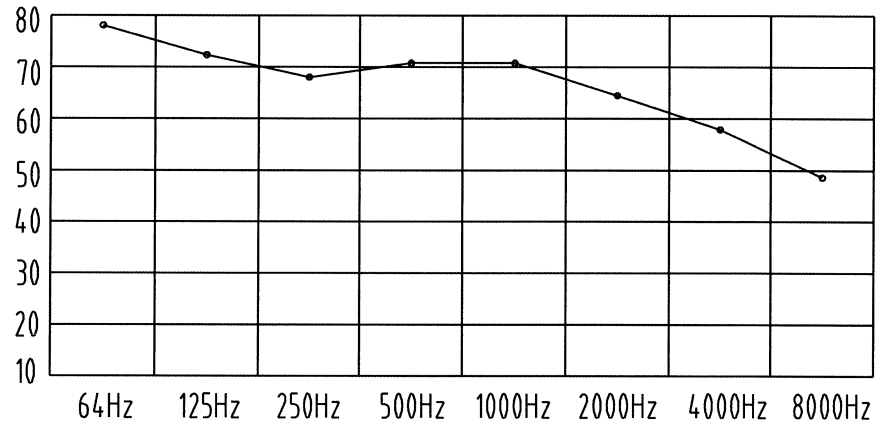


SHSE20W Noise rate analysing chart

A Class: 73.7dB

Hz	dB
64Hz	78.4
125Hz	72.5
250Hz	68.8
500Hz	70.5
1000Hz	70.6
2000Hz	64.8
4000Hz	58.0
8000Hz	49.3

Noise rate analysing chart (A Class: 73.7dB) dB



SHSE20N Noise rate analysing chart

A Class: 70.5dB

Hz	dB
64Hz	78.2
125Hz	76.1
250Hz	76.8
500Hz	72.3
1000Hz	68.8
2000Hz	63.0
4000Hz	58.4
8000Hz	53.1

Noise rate analysing chart (A Class: 70.5dB) dB

