DUNNAIR (Aust) Pty Ltd

R410a Refrigerant

SHS8

Split Ducted Model

PERFORMANCE DATA

INDOOR COIL ENTERING AIR TEMP ^{0}c		OUTDOOR COIL ENTERING TEMPERATURE ^{0}C											
		30			35			40			45		
DB °C	WB °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
21	17	8.0	4.9	11.2	7.3	4.7	11.4	7.1	4.6	11.8	6.8	4.6	12.0
	18	8.2	4.4	11.6	7.3	4.2	12.6	7.3	4.1	12.8	7.0	3.9	13.0
	19	8.5	3.8	13.2	7.4	3.7	12.8	7.6	3.5	13.8	7.3	3.4	14.0
	20	8.8	3.3	14.2	7.6	3.2	14.5	7.9	3.0	14.8	7.6	2.9	15.0
23	17	8.0	5.9	11.1	7.3	5.7	11.4	7.1	5.5	11.7	6.8	5.4	12.0
	18	8.2	5.4	12.2	7.4	5.2	12.3	7.3	5.0	12.7	7.0	4.9	12.9
	19	8.5	4.4	14.2	7.5	4.3	13.4	7.6	4.2	13.8	7.3	4.2	14.0
	20	8.8	4.3	14.2	7.6	4.2	14.4	7.8	4.0	14.8	7.6	3.9	15.0
	21	9.1	3.7	14.4	7.7	3.6	14.8	8.1	3.4	15.7	7.9	3.3	15.8
25	17	8.0	6.7	11.1	7.3	6.5	11.4	7.2	6.3	11.7	6.9	6.1	12.0
	18	8.2	6.5	12.2	7.5	6.4	12.5	7.3	5.8	12.8	7.0	5.8	13.0
	19	8.5	6.3	13.1	7.6	6.2	13.4	7.6	5.4	13.7	7.3	5.3	14.0
	20	8.8	6.0	14.2	7.7	5.6	14.5	7.8	5.0	14.8	7.5	4.8	15.0
	21	9.1	5.7	15.4	8.0	5.1	15.5	8.1	4.4	15.6	7.9	4.3	15.8
27	17	8.0	7.5	11.0	7.5	7.6	11.4	7.4	7.0	11.5	7.1	6.8	11.7
	18	8.2	7.2	12.1	7.6	7.3	12.3	7.5	6.8	12.6	7.2	6.6	12.8
	19	8.5	7.0	13.1	7.8	7.2	13.2	7.6	6.5	13.7	7.3	6.4	13.9
	20	8.8	6.8	14.2	7.9	7.0	14.3	7.8	5.9	14.8	7.5	5.8	15.0
	21	9.1	6.3	15.1	8.1	6.5	15.5	8.2	5.5	15.7	7.9	5.4	15.8
29	17	8.0	8.0	10.9	8.0	7.9	11.1	7.6	7.5	11.3	7.3	7.3	11.5
	18	8.2	7.9	11.9	8.1	7.7	12.2	7.7	7.4	12.5	7.4	7.2	12.7
	19	8.5	7.6	13.0	8.2	7.5	13.3	7.7	7.3	13.5	7.4	7.1	13.7
	20	8.8	7.2	14.1	8.3	7.1	14.4	7.9	6.9	14.7	7.6	6.8	14.9
	21	9.1	6.7	15.1	8.6	6.6	15.3	8.1	6.4	15.6	7.8	6.3	15.8
31	17	8.0	8.0	11.3	8.3	8.3	11.3	7.9	7.9	11.3	7.7	7.7	11.3
	18	8.2	8.0	11.7	8.3	8.2	11.9	7.9	7.9	12.2	7.7	7.7	12.4
	19	8.5	8.3	12.9	8.4	8.1	13.1	7.9	7.8	13.4	7.7	7.7	13.6
	20	8.8	8.2	14.1	8.4	8.0	14.4	7.9	7.8	14.7	7.7	7.7	14.9
	21	9.1	7.8	15.1	8.4	7.6	15.3	8.1	7.4	15.6	7.9	7.3	15.8

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

Technical Specification SHS8 Split Ducted Model

Indoor Unit Model Number	SHS8N	Nominal Evaporator Air Flow (l/s)	467
Outdoor Unit Model Number	SHS8W	Number of Compressors	1
Total Cooling Capacity (kW)*	7.8	Power Requirements (Volt /Phase)	240/1
Sensible Cooling Capacity (kW)*	7.2	Normal Max. Current (Amps /Phase)	10.46
Heating Capacity (kW) **	7.6	Power Input (kW)	2.51

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

Cooling Performance Correction

Capacity	% Rated Air Quantity - Nominal 467 l/s				
	80	90	100	110	120
Total Cooling	0.95	0.98	1.00	1.02	1.04
Sensible Cooling	0.89	0.95	1.00	1.05	1.09

Heating Performance Data

Outdoor Coil Entering DB temperature ℃					
	0	4	8	12	18
Heating Capacity (kW)	6.5	6.9	7.6	8.7	10.2

Heating Performance Correction

% Rated Air Quantity	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	0.75
110	1.03	24	0.97	6	0.87
120	1.05	27	0.95	8	1.06

Compressor

Number Per Unit	1
Type	Rotary
RPM (Nom)	2900
Normal Max. Current (amps /phase)	12.2
Locked Rotor Current (amps /phase)	45.5
Displacement (m^3/h)	5.1

Electrical Controls and Safeties

High Pressure Switch (Setting kPa)	4200	Defrost	
Low Pressure Switch (Setting kPa)	50	Timing cycle	
Indoor Fan Overload	Internal	Defrost time	4
Outdoor Fan Overload	Internal	Min. Period Between De-Ice (min)	45
Compressor Delay Timer	180 sec	Max De-Ice Period (min)	4

Standard Features

Auto 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

Evaporator (Indoor Coil)

Type	Copper Tube / Aluminium Fins
Face Area (m^2)	0.22
Air Quantity (l/s)	467

Evaporator (Indoor fan)

Number of Fans	1
Type	Centrifugal
Drive	Direct
Motor Voltage /Phase /Frequency	240 / 1 / 50
Motor Power (kW)	0.15
Maximum Fan Speed (rpm)	1155

Electrical

Power Requirements	1 phase / 240V / 50Hz
Normal Max. Current (Amps /Phase)	10.46

Condenser (Outdoor Coil)

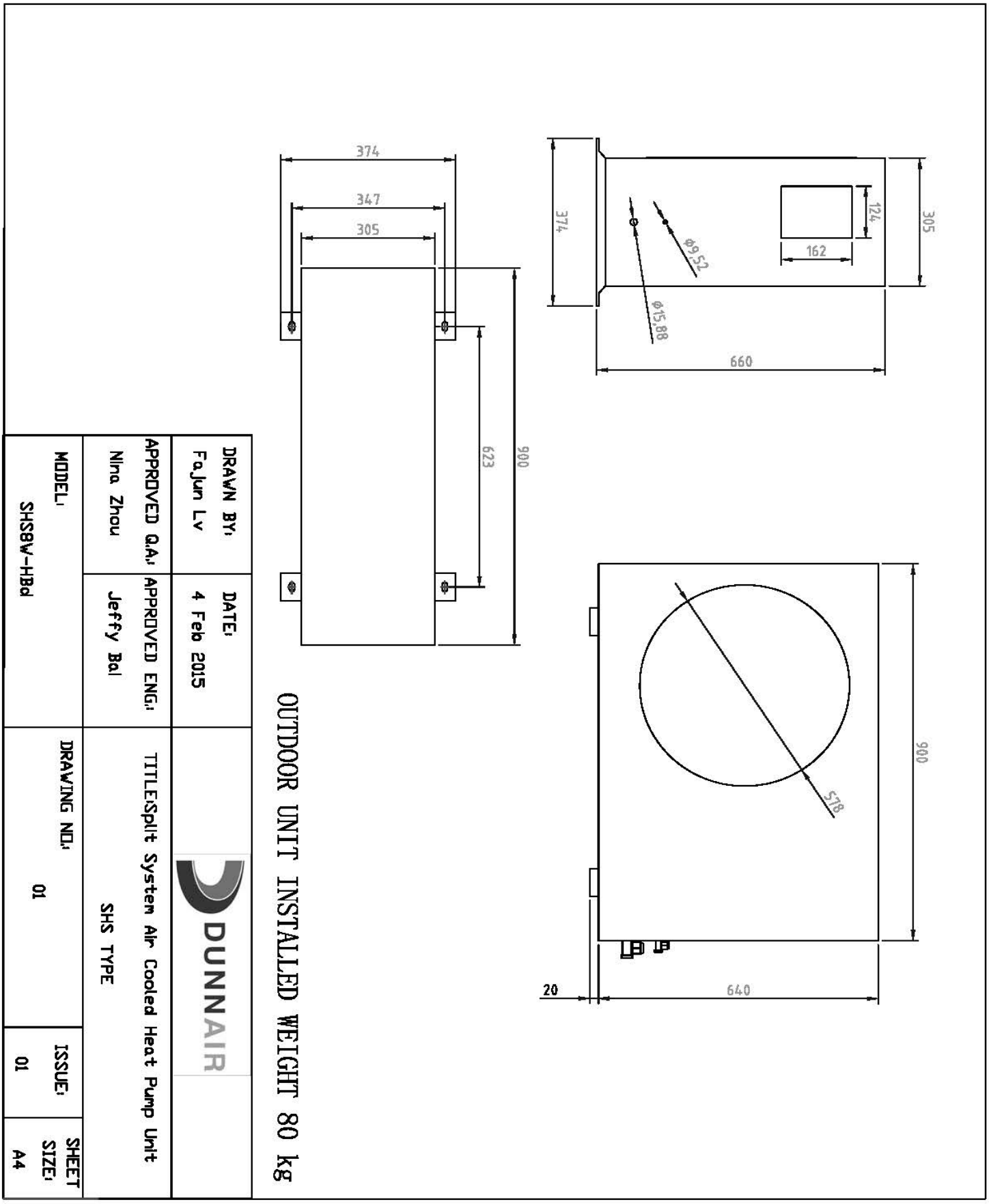
Type	Copper Tube / Aluminium Fins
Face Area (m^2)	0.58

Condenser (Outdoor Fan)

Number of Fans	1
Type	Axial
Drive	Direct
Motor Watts /rpm	75 /800
Motor Voltage /Phase /Frequency	240 / 1 / 50

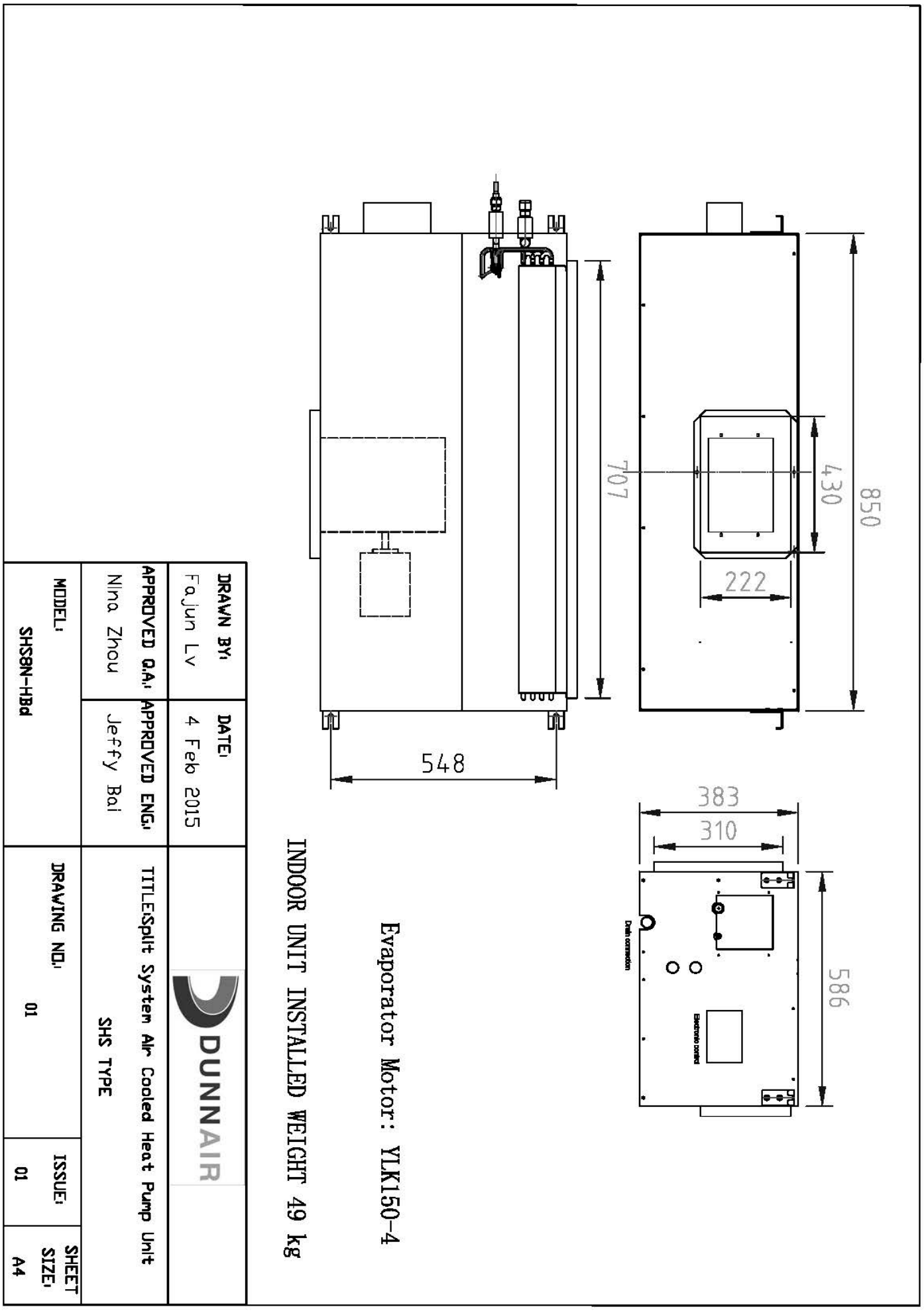
Refrigeration System

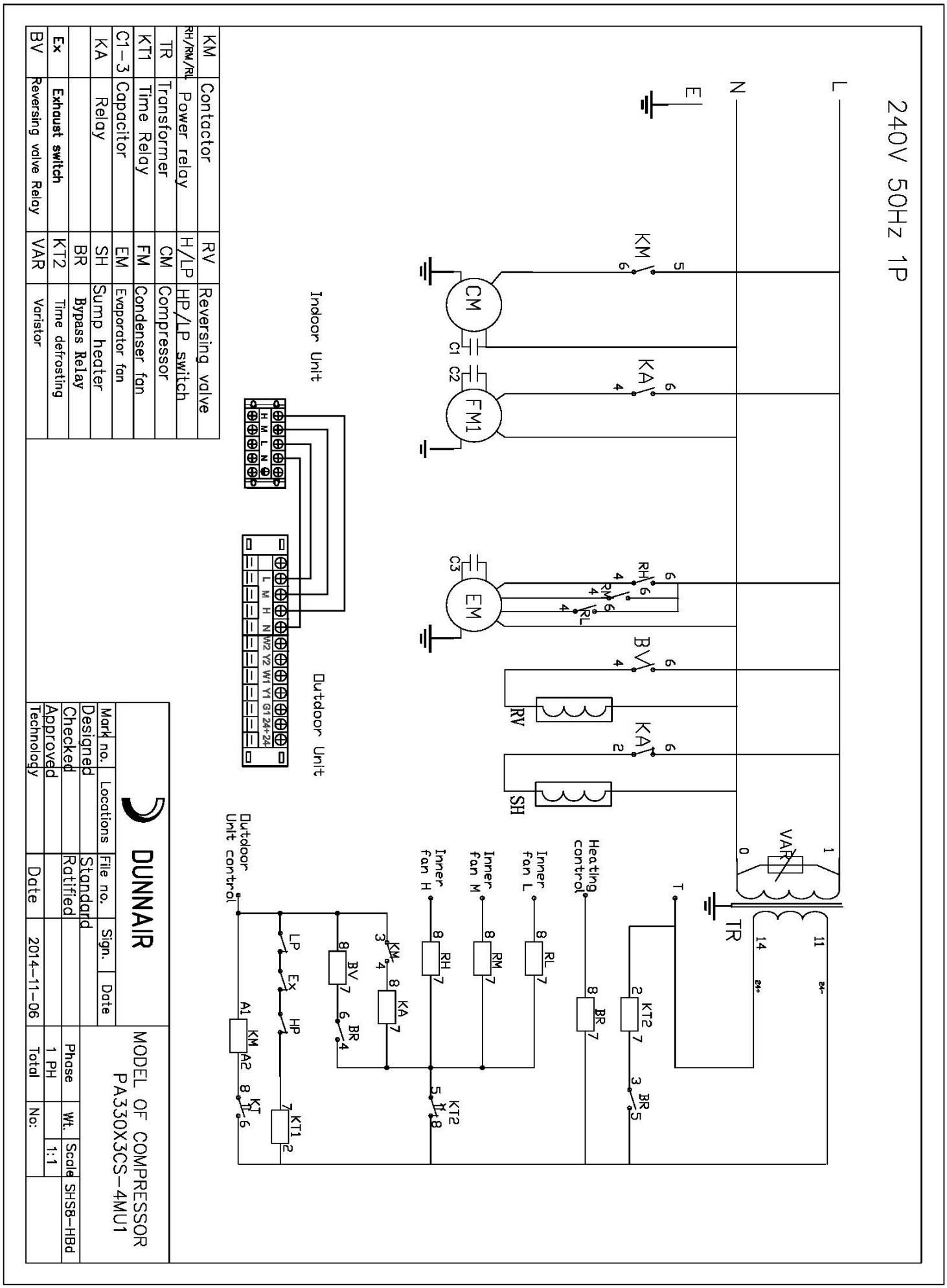
Refrigerant Type	R410A
Charge (kg)	2.7
Service Connections	Rotor Lock Valves
Expansion Control - In / Outdoor Unit	TXV
Line Size (mm)	
Liquid Line 0 – 50 Meters	9.52
Gas Line 0 – 50 Meters	15.88

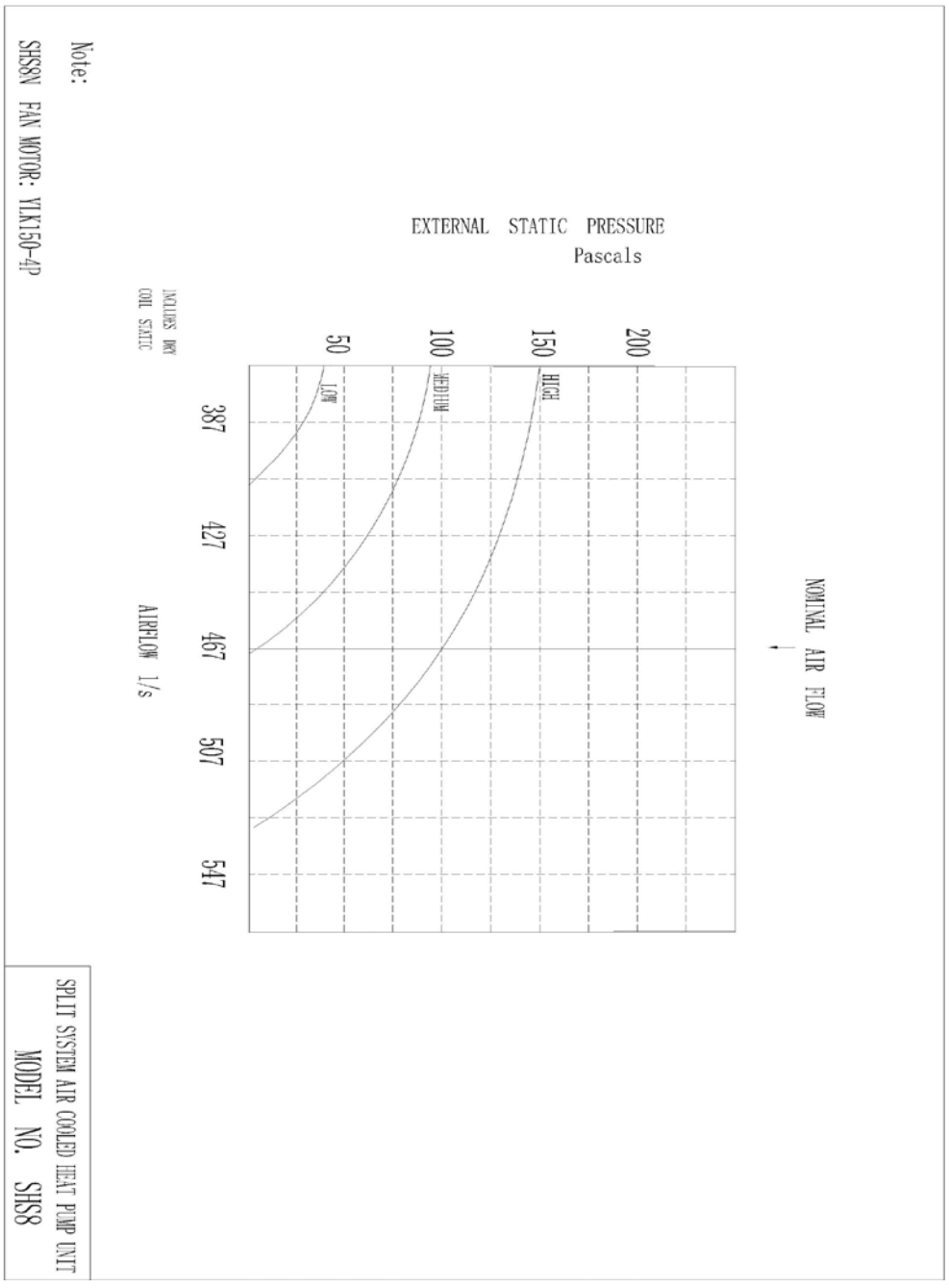


OUTDOOR UNIT INSTALLED WEIGHT 80 kg

DRAWN BY: Fajun Lv	DATE: 4 Feb 2015	DUNNAIR	
APPROVED Q.A.: Nina Zhou	APPROVED ENG.: Jeffy Bai	TITLE:Split System Air Cooled Heat Pump Unit SHS TYPE	
MODEL: SHS8W-HBai	DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4

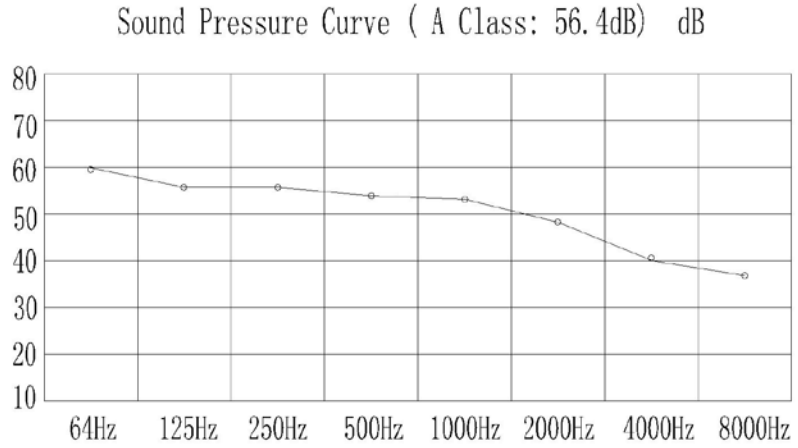

850
430
222
707
548
383
310
586
Drain connection
Electronic control
Evaporator Motor: YLK150-4
INDOOR UNIT INSTALLED WEIGHT 49 kg
DRAWN BY: Fajun Lv
DATE: 4 Feb 2015
APPROVED Q.A.: Nina Zhou
APPROVED ENG.: Jeffy Bai
TITLE:Split System Air Cooled Heat Pump Unit
SHS TYPE
MODEL: SHS8N-HBd
DRAWING NO.: 01
ISSUE: 01
SHEET SIZE: A4
DUNNAIR


240V 50Hz 1P
L
N
E
KM
CM
C1
C2
FM1
KA
RH
RM
RL
C3
EM
BV
RV
SH
VAR
TR
T
KT2
BR
Indoor Unit
Outdoor Unit
L M H N W2 Y2 W1 Y1 G1 24+ 24-
Heating contral
Inner fan L
Inner fan M
Inner fan H
Outdoor Unit control
LP
Ex
HP
A1
A2
KT1
11
14
24+
24-
KM Contactor
RH/RM/RL Power relay
TR Transformer
KT1 Time Relay
C1–3 Capacitor
KA Relay
Ex Exhaust switch
BV Reversing valve Relay
RV Reversing valve
H/LP HP/LP switch
CM Compressor
FM Condenser fan
EM Evaporator fan
SH Sump heater
BR Bypass Relay
KT2 Time defrosting
VAR Varistor
DUNNAIR
MODEL OF COMPRESSOR
PA330X3CS–4MU1
Mark no. Locations File no. Sign. Date
Designed Standard
Checked Ratified
Approved
Technology Date 2014–11–06
Phase 1 PH
Wt.
Scale 1:1
Total
No:
SHS8–HBd


EXTERNAL STATIC PRESSURE
Pascals
50
100
150
200
LOW
MEDIUM
HIGH
NOMINAL AIR FLOW
387
427
467
507
547
AIRFLOW l/s
INCLUDES 1MKV COIL STATIC
Note:
SHS8N FAN MOTOR: YLK150-4P
SPLIT SYSTEM AIR COOLED HEAT PUMP UNIT
MODEL NO. SHS8

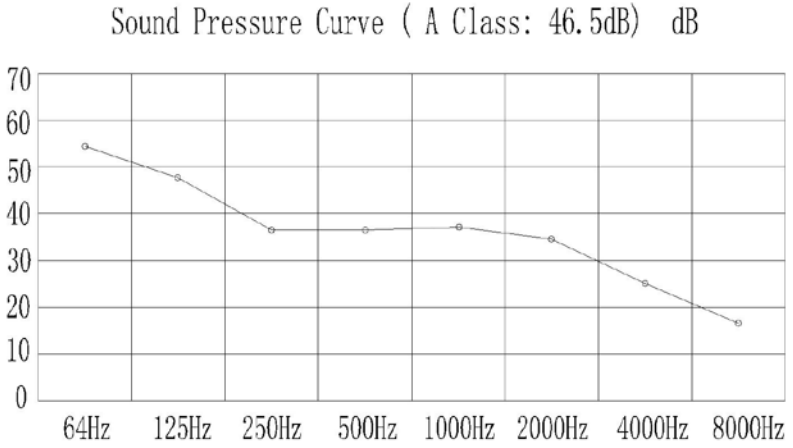
SHS8W Sound Pressure Curve
A Class: 56.4dB

Hz	dB
64Hz	59.7
125Hz	55.4
250Hz	56.0
500Hz	52.6
1000Hz	52.4
2000Hz	49.0
4000Hz	40.2
8000Hz	37.0



SHS8N Sound Pressure Curve
A Class: 46.5dB

Hz	dB
64Hz	54.6
125Hz	48.7
250Hz	36.8
500Hz	36.7
1000Hz	37.5
2000Hz	33.8
4000Hz	26.1
8000Hz	18.1



Note: Occupant at least 1.0m from sound source.

DRAWN BY:	DATE: 2014-10-09	DUNNAIR	
APPROVED Q.A.:	APPROVED ENG.:	TITLE: Split System Air Cooled Heat Pump Unit SHS TYPE	
MODEL: SHS8	DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4