



DUNNAIR
(Aust) Pty Ltd

WPR12

Packaged Horizontal Type

**Ducted Water Cooled
R410a Refrigerant**

TECHNICAL SPECIFICATION

Total Cooling Capacity	11.6 kW	Refrigerant	R410A
Electrical Input (Cooling)	3.28kW	Refrigerant Charge	2.0 kg
E.E.R.(Cooling)	3.5	Minimum Water Flow	0.528 l/s
Running Amps (Total)	20.9A	Water Coil Pressure Drop	40 kPa
Fan Motor Full Load Amps	3.0A	Filter (Option)	EU1
Electrical Supply Required	1 Ph.240V.50Hz	Electric Heater (Option)	9.0 kW

COOLING CAPACITY (kW)

AIR FLOW RATE (L/S)		660			
COIL E.A.T.	DB °C	23	27	31	
	WB °C	17	19	21	
Entering Water Temperature (E.W.T) °C	20	T	12.3	13.0	13.6
		S	8.2	9.2	10.1
		FL	0.7	0.7	0.7
		HR	15.4	16.0	16.8
	25	T	11.7	12.5	13.7
		S	8.3	9.0	10.2
		FL	0.7	0.7	0.7
		HR	15.0	14.9	16.3
	30	T	11.0	<u>11.6</u>	13.0
		S	8.3	<u>9.0</u>	9.9
		FL	0.7	<u>0.7</u>	0.7
		HR	14.2	<u>14.9</u>	16.3
	35	T	10.3	<u>10.8</u>	11.3
		S	7.2	8.3	9.2
		FL	0.7	0.7	0.7
		HR	13.5	14.0	14.5
	40	T	9.8	10.1	10.6
		S	7.0	7.9	8.9
		FL	0.7	0.7	0.7
		HR	13.0	13.2	13.9

T = Total Capacity (kW) S = Sensible Capacity (kW)
 FL = Water Flow (l/s) E.A.T.= Entering Air Temperature (°C)
 ___ = Nominal Capacity (kW) HR = Heat Rejection

Note: 1. Capacities are gross and do not include allowance for fan motor heat loss. For fan motor heat loss refers to Air Handling Performance.
 2. Water flow and cooling capacity based on 5°C water temperature difference.

HEATING CAPACITY (kW)

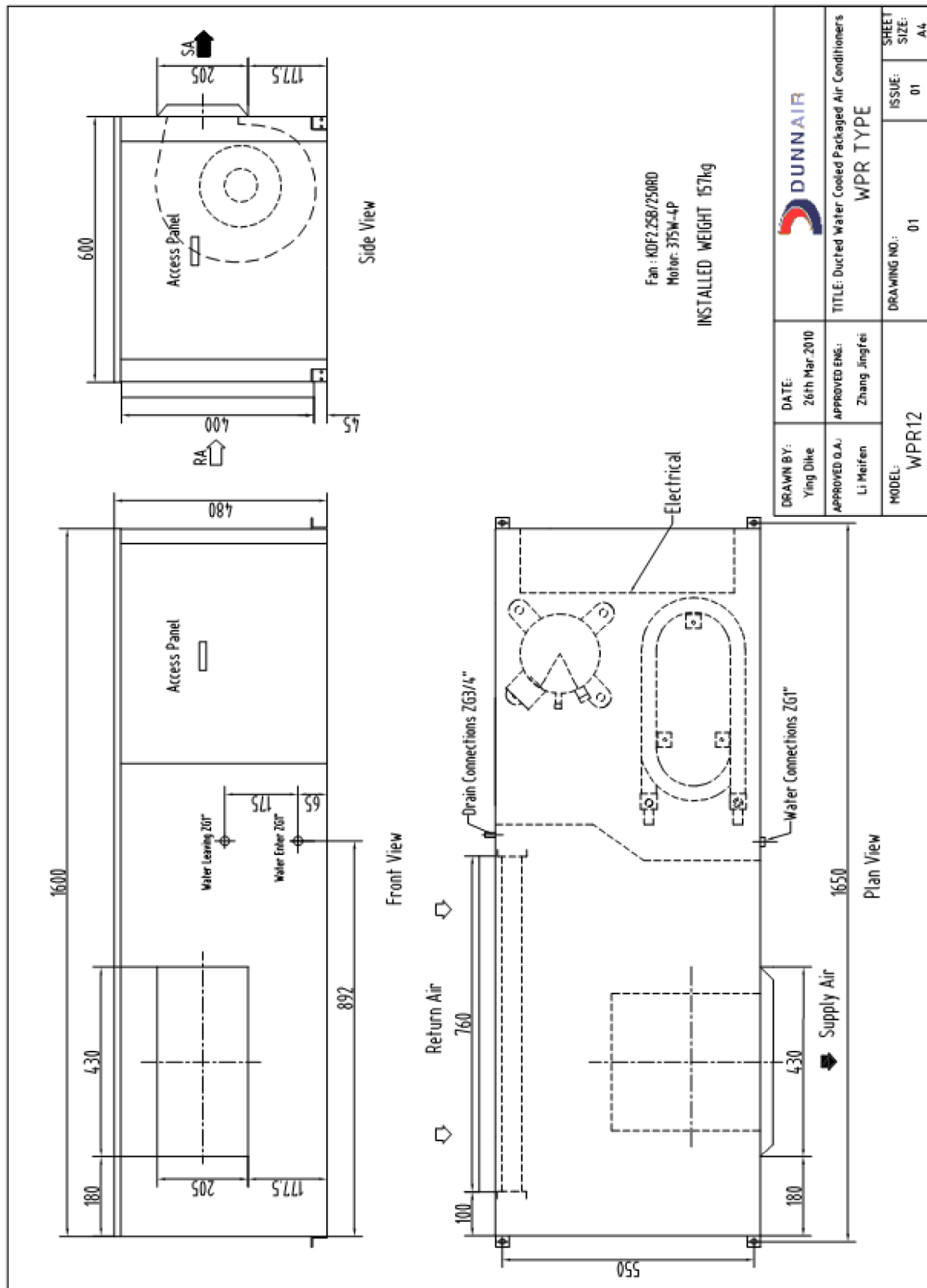
WPR Reverse Cycle Version

AIR FLOW RATE (L/S)		660			
WATE FLOW RATE (L/S)		0.6			
COIL E.A.T.	DB °C	18	21	25	
Entering Water Temperature (E.W.T) °C	15	HC	11.8	11.7	11.1
		Hab	8.4	8.3	7.8
		LWT	11.0	11.0	11.2
		INPT	3.3	3.3	3.3
	20	HC	12.5	<u>12.4</u>	11.8
		Hab	9.2	<u>9.0</u>	8.6
		LWT	15.7	<u>15.8</u>	16.0
		INPT	3.3	<u>3.3</u>	3.3
	25	HC	13.6	13.4	12.9
		Hab	10.1	9.9	9.3
		LWT	20.4	20.4	20.6
		INPT	3.5	3.5	3.6

HC = Heating Capacity (kW) Hab = Heat Absorbed (kW)
 L.W.T.= Leaving Water Temperature (°C) E.A.T.= Entering Air Temperature (°C)
 INPT = Compressor Input Power (kW) ___ = Nominal Capacity (kW)

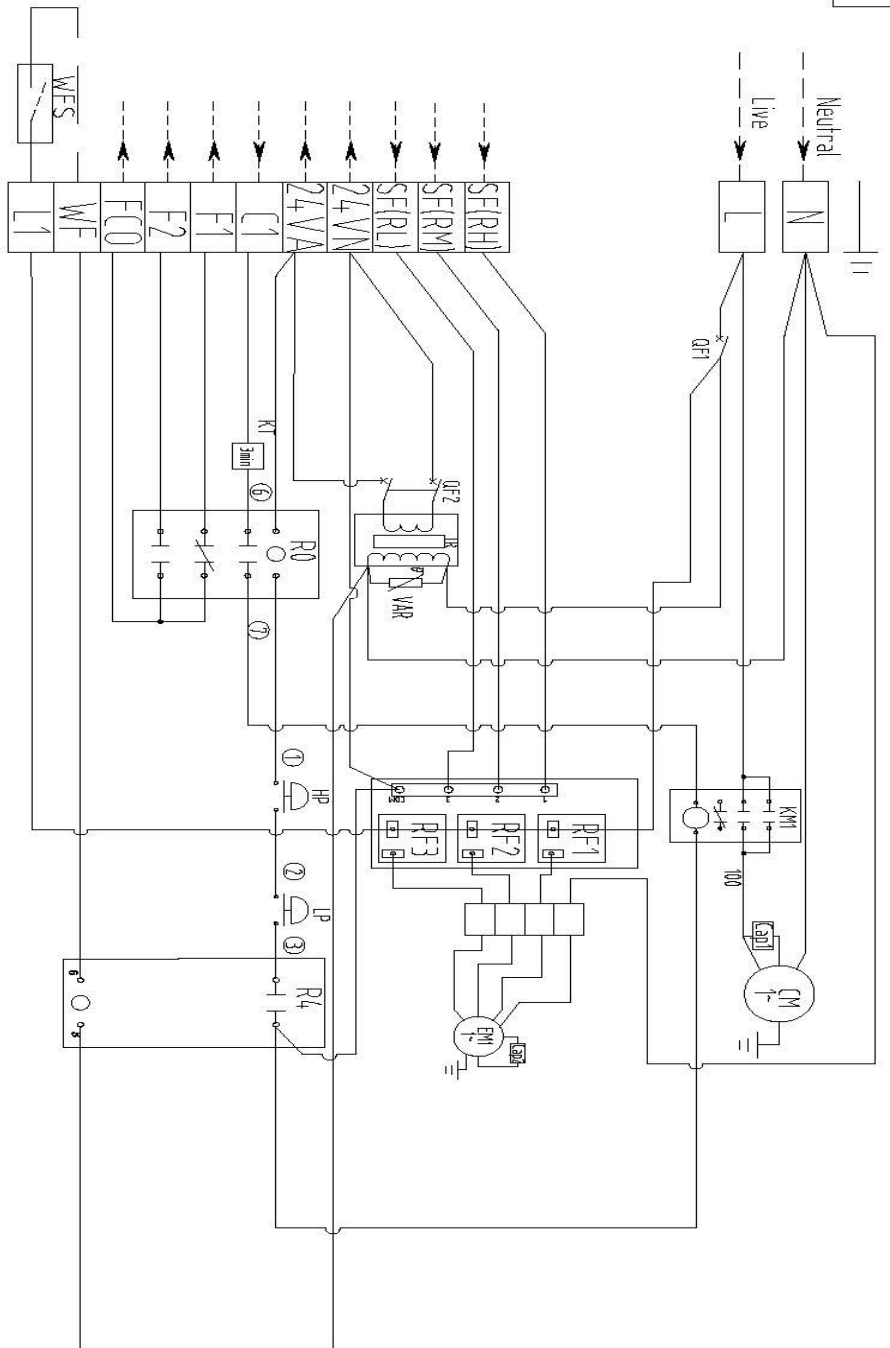
Note: All units are reverse cycle heat pump units. Models can also be provided as cooling only or cooling only with electric heater.

DIMENSIONS (mm)



WIRING DIAGRAMS – Cooling Only

Cooling Only
Power supply
240V 50Hz Phase



Code instruction:

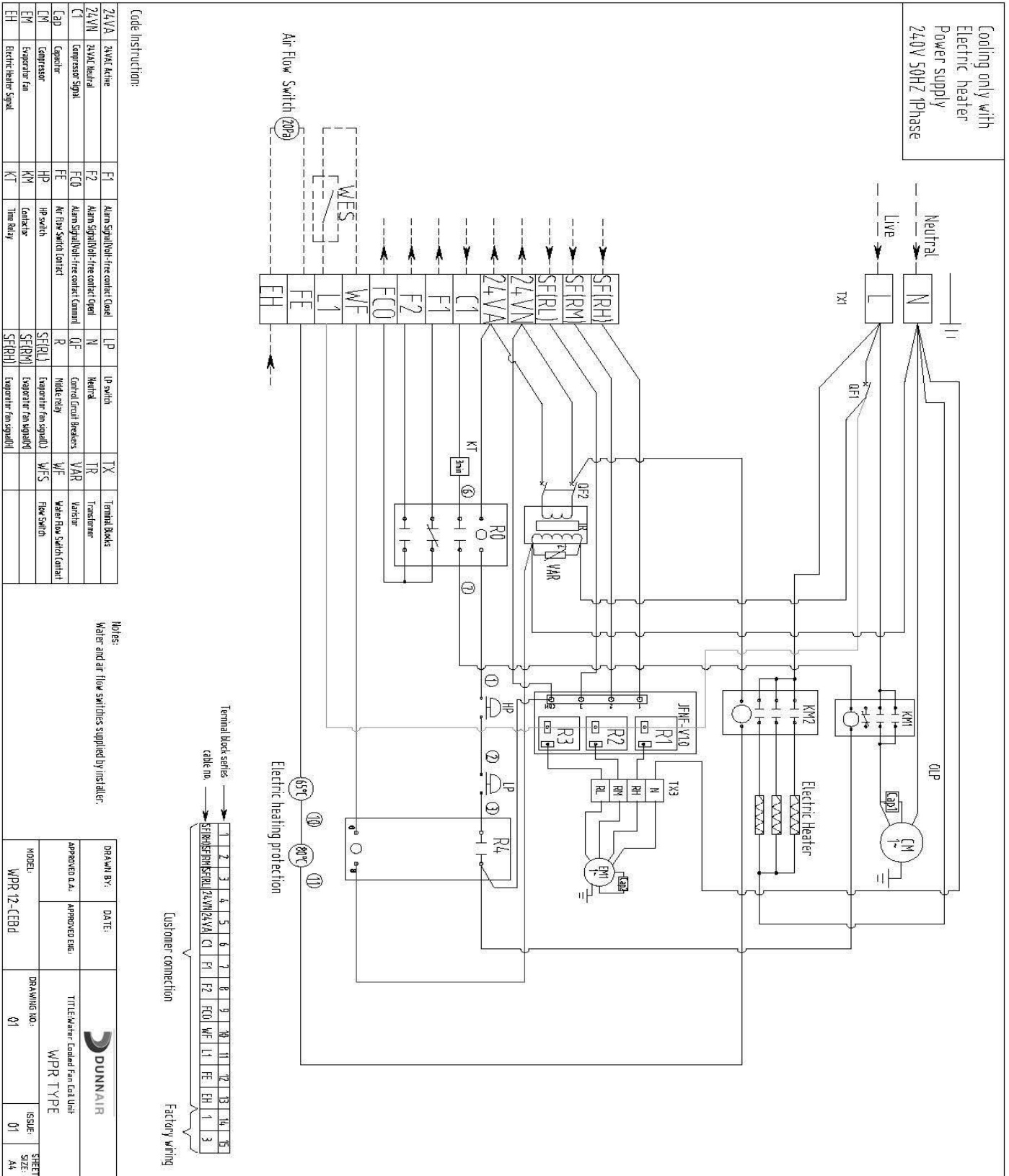
24VA	24VAC Active	F2	Alarm signal/Volt-free contact (open)	N	Neutral	TX	Terminal Blocks
24VN	24VAC Neutral	F0	Alarm signal/Volt-free contact (Common)	DF	Control Circuit Breakers	TR	Transformer
C1	Compressor signal	HP	HP switch	R	Middle relay	VAR	Varistor
CM	Compressor	JNF	Relay Group	SH	Sump heater	WFS	Water Flow Switch Contact
EM	Evaporator fan	KN	Contact	SEFR1	Evaporator fan signal(1)		
F1	Alarm signal/Volt-free contact (closed)	K1	Line Relay	SEFR2	Evaporator fan signal(2)		
		LP	LP switch	SEFR3	Evaporator fan signal(3)		

Notes:
Water and air flow switches supplied by installer.

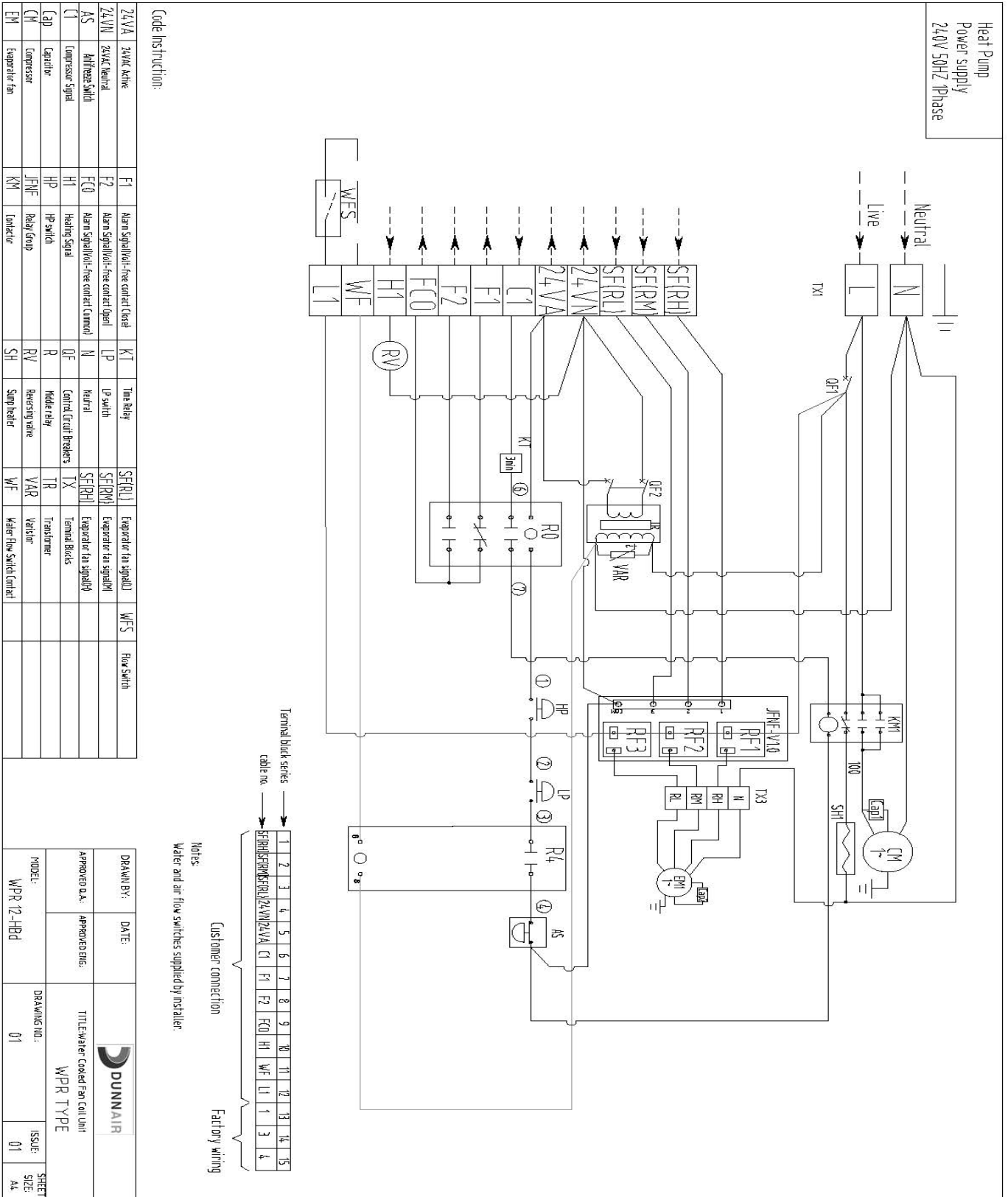


DRAWN BY:	DATE:	
APPROVED D.A.:	APPROVED ENG.:	
TITLE: Water Cooled Fan Coil Unit		WPR TYPE
MODEL:	WPR 12-CBD	
DRAWING NO.:	01	ISSUE:
		SIZE:
		SHEET:
		A4

WIRING DIAGRAMS – Cooling Only with Electric Heater

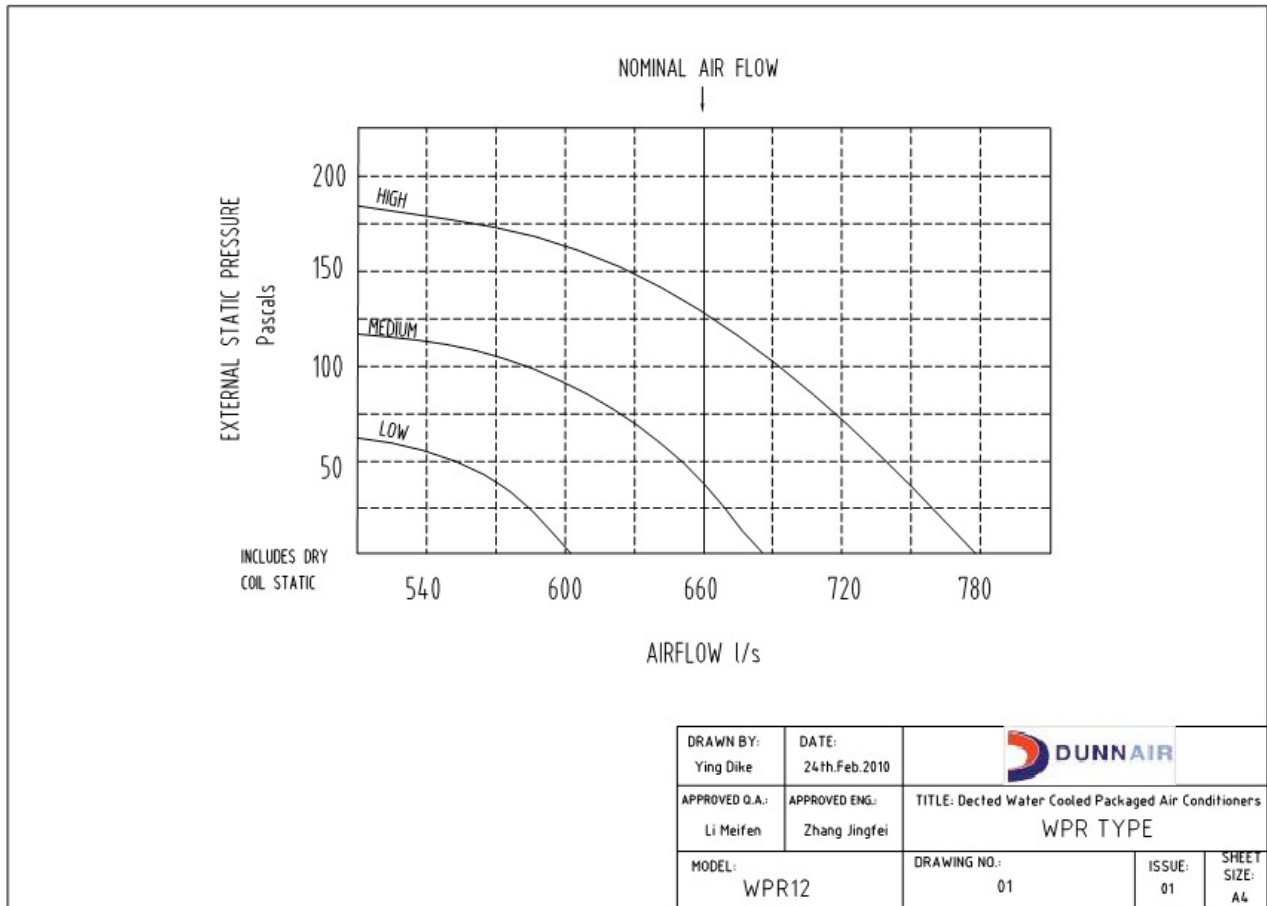


WIRING DIAGRAMS – Reverse Cycle



AIR HANDLING PERFORMANCE

Fan Curve (Without Filter)



Note:

1. In tropical (high humidity) conditions, care must be taken to select an air flow which gives a suitable coil face air velocity, to prevent water carry over.
2. For applications with low resistance, be sure not to exceed the fan motor full load Amps.
3. Applications using full or high proportions of fresh air should be referred to DUNNAIR engineering office to establish of unit model.
4. EU1 rate filter pressure loss 15Pa.

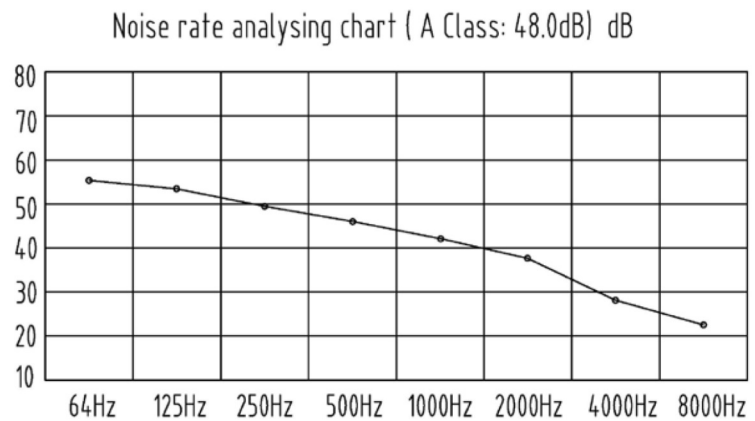
AIR HANDLING PERFORMANCE

Sound Levels


WPR12 Noise rate analysing chart

A Class: 48.0dB

Hz	dB
64Hz	54.9
125Hz	53.1
250Hz	49.2
500Hz	45.8
1000Hz	41.6
2000Hz	38.1
4000Hz	28.1
8000Hz	22.6



Note:1m from source with 1m insulated duct and fully reflective surface surrounding unit.

DRAWN BY: Ying Dike	DATE: 24th.Feb.2010			
APPROVED Q.A.: Li Meifen	APPROVED ENG.: Zhang Jingfei	TITLE: Ducted Water Cooled Packaged Air Conditioners WPR TYPE		
MODEL: WPR12		DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4