



**DUNNAIR**  
(Aust) Pty Ltd

**WPR9.5**

**Packaged Horizontal Type**

**Ducted Water Cooled  
R410a Refrigerant**

**TECHNICAL SPECIFICATION**

Total Cooling Capacity	9.3 kW	Refrigerant	R410A
Electrical Input (Cooling)	2.6kW	Refrigerant Charge	1.7 kg
E.E.R.(Cooling)	3.6	Minimum Water Flow	0.48 l/s
Running Amps (Total)	15.8A	Water Coil Pressure Drop	40 kPa
Fan Motor Full Load Amps	2.6A	Filter (Option)	EU1
Electrical Supply Required	1 Ph.240V.50Hz	Electric Heater (Option)	6.6 kW

**COOLING CAPACITY (kW)**

AIR FLOW RATE (L/S)		475				
COIL E.A.T.	DB °C	23	27	31		
	WB °C	17	19	21		
Entering Water Temperature (E.W.T) °C	20	T	9.9	10.4	10.9	
		S	7.1	8.1	9.0	
		FL	0.6	0.6	0.6	
		HR	12.6	13.1	13.7	
	25	T	9.4	10.0	11.0	
		S	7.1	7.9	9.0	
		FL	0.6	0.6	0.6	
		HR	12.1	12.6	13.8	
	30	T	8.8	<u>9.3</u>	10.4	
		S	6.6	<u>7.6</u>	8.8	
		FL	0.6	<u>0.6</u>	0.6	
		HR	11.4	<u>11.9</u>	13.1	
	35	T	8.3	8.7	9.0	
		S	6.3	7.3	8.3	
		FL	0.6	0.6	0.6	
		HR	10.8	11.2	11.6	
	40	T	7.9	8.1	8.5	
		S	6.3	7.1	8.0	
		FL	0.6	0.6	0.6	
		HR	10.4	10.6	11.1	

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

**HEATING CAPACITY (kW)**

**WPR Reverse Cycle Version**

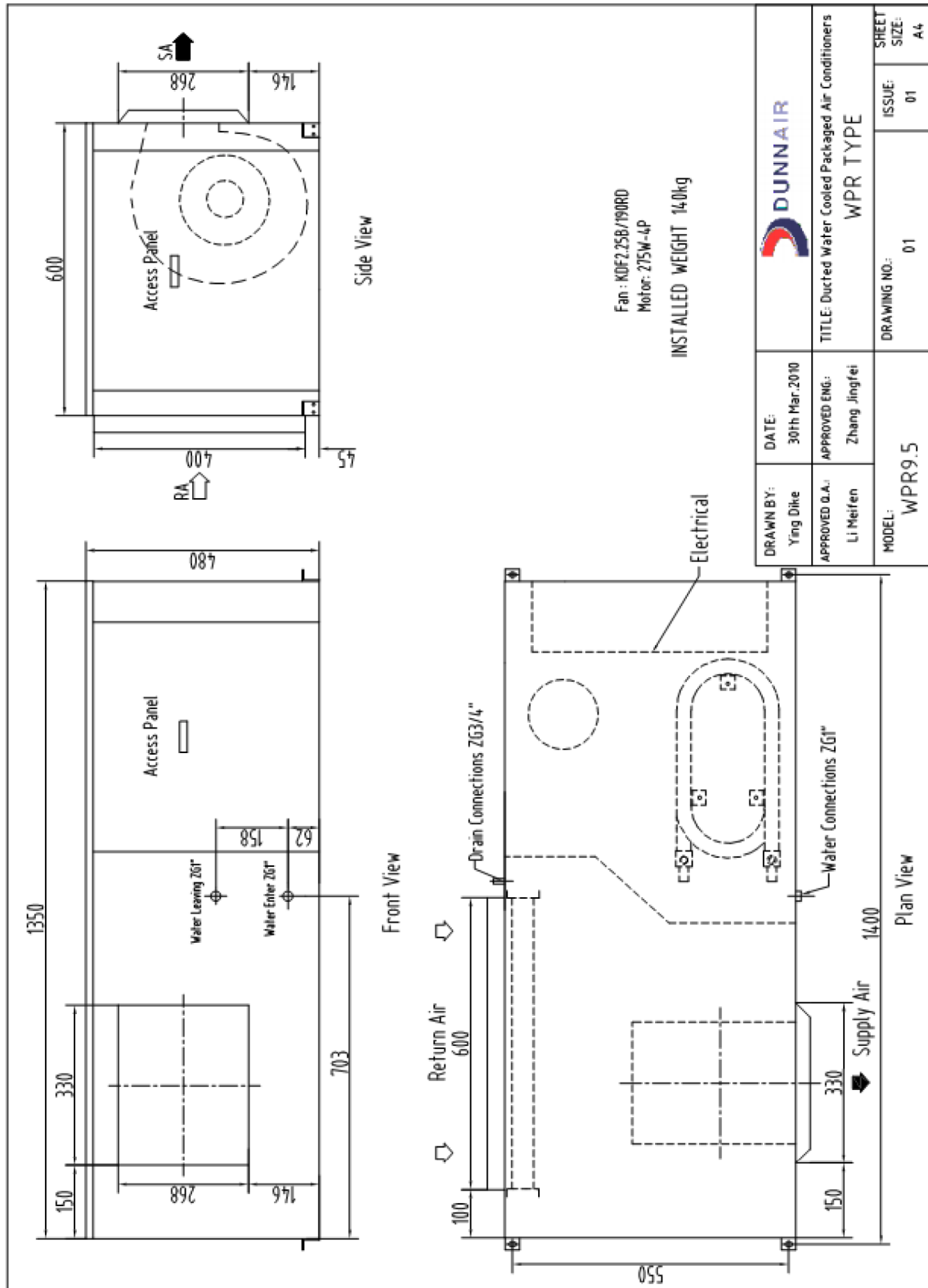
AIR FLOW RATE (L/S)		475				
WATE FLOW RATE (L/S)		0.6				
COIL E.A.T.	DB °C	18	21	25		
Entering Water Temperature (E.W.T) °C	15	HC	9.4	9.3	8.9	
		Hab	6.9	6.8	6.3	
		LWT	11.3	11.3	11.5	
		INPT	2.5	2.5	2.6	
		20	HC	10.0	<u>9.9</u>	9.4
	Hab		7.5	<u>7.4</u>	7.0	
	LWT		16.0	<u>16.1</u>	16.3	
	INPT		2.5	<u>2.5</u>	2.4	
	25	HC	10.9	10.7	10.3	
		Hab	8.2	8.0	7.7	
		LWT	20.7	20.7	20.9	
		INPT	2.7	2.7	2.7	

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)

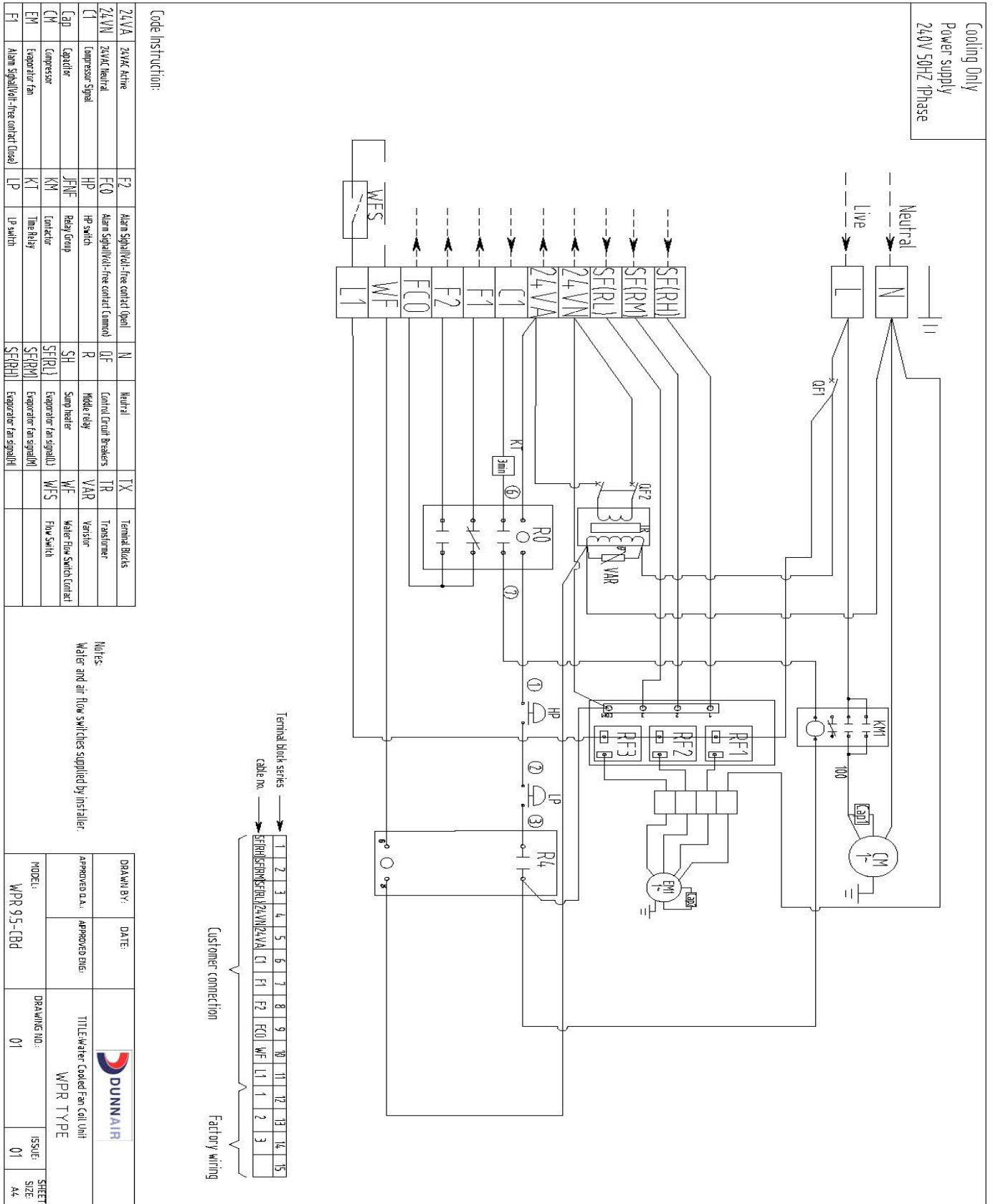
**Note:** All units are reverse cycle heat pump units. Models can also be provided as cooling only or cooling only with electric heater.

**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.

## DIMENSIONS (mm)

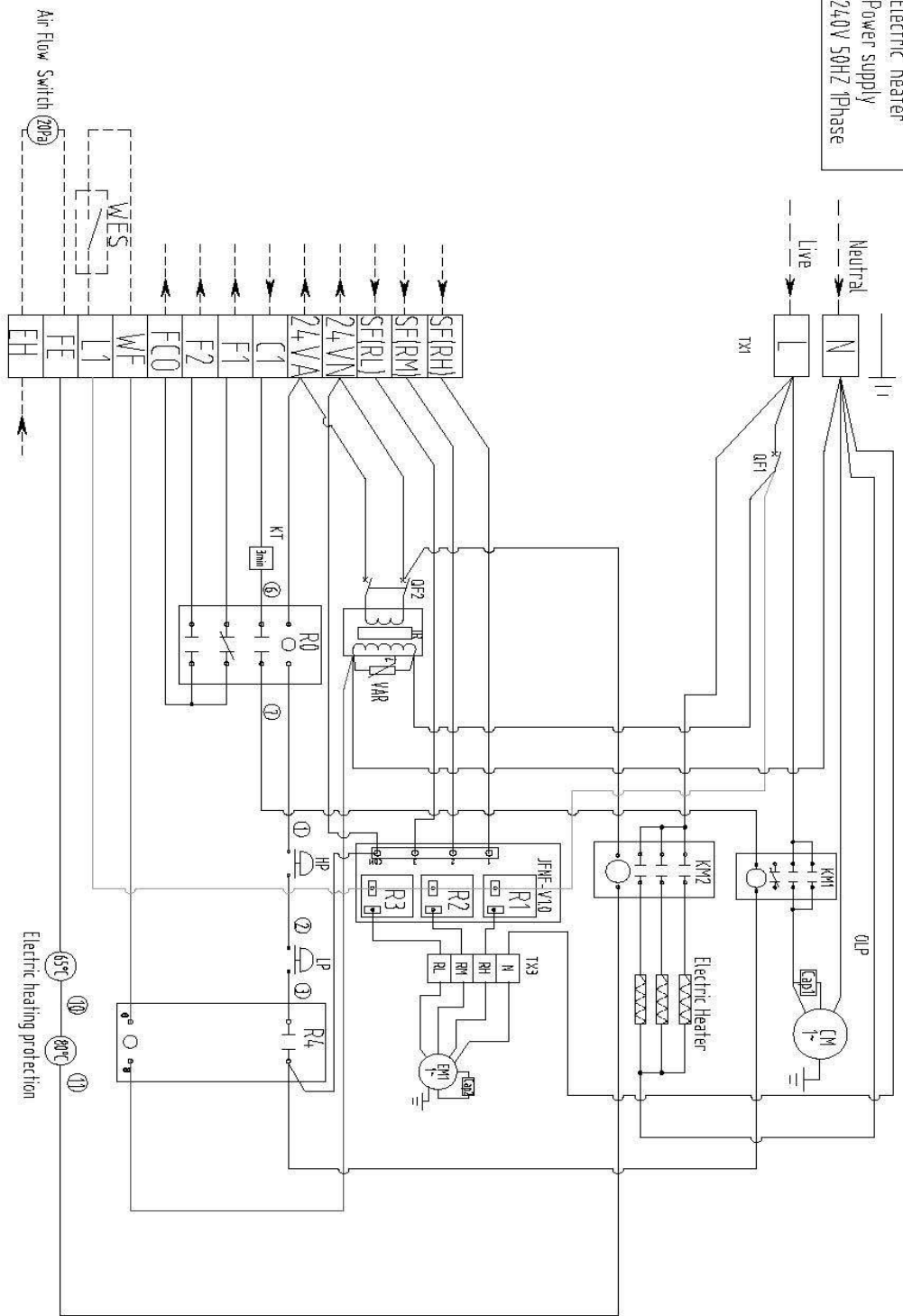


# WIRING DIAGRAMS – Cooling Only



# WIRING DIAGRAMS – Cooling Only with Electric Heater

Cooling only with  
 Electric heater  
 Power supply  
 240V 50HZ 1Phase



Code Instruction:

Z4VA	24VAC Active	F1	Alarm signal/Volt-free contact Closed	LP	LP switch	TX	Terminal Blocks
Z4VN	24VAC Neutral	F2	Alarm signal/Volt-free contact Open	N	Neutral	TR	Transformer
C1	Compressor Signal	FCO	Alarm signal/Volt-free contact (common)	QF	Central Circuit Breakers	VAR	Variator
CAD	Condenser fan	FE	Air flow switch contact	R	Relay	WF	Water Flow Switch contact
CFM	Compressor	HP	HP switch	SEFRL1	Expander fan signal(L)	WFS	Flow Switch
EFM	Evaporator fan	KM	Contactor	SEFRM1	Expander fan signal(M)		
EH	Electric heater signal	KT	Time Delay	SEFRH1	Expander fan signal(H)		

Notes:  
 Water and air flow switches supplied by installer.

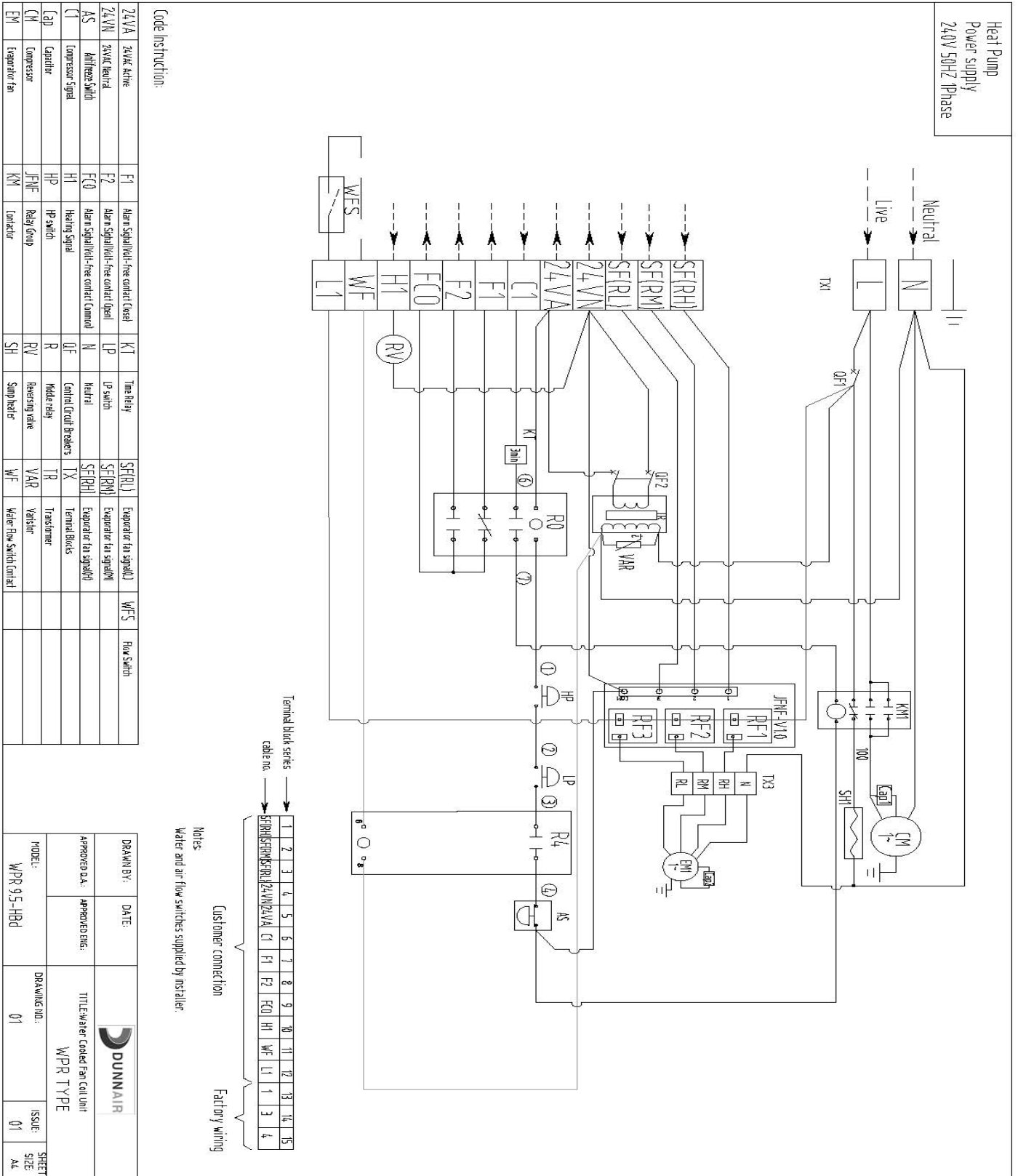


Customer connection

Factory wiring

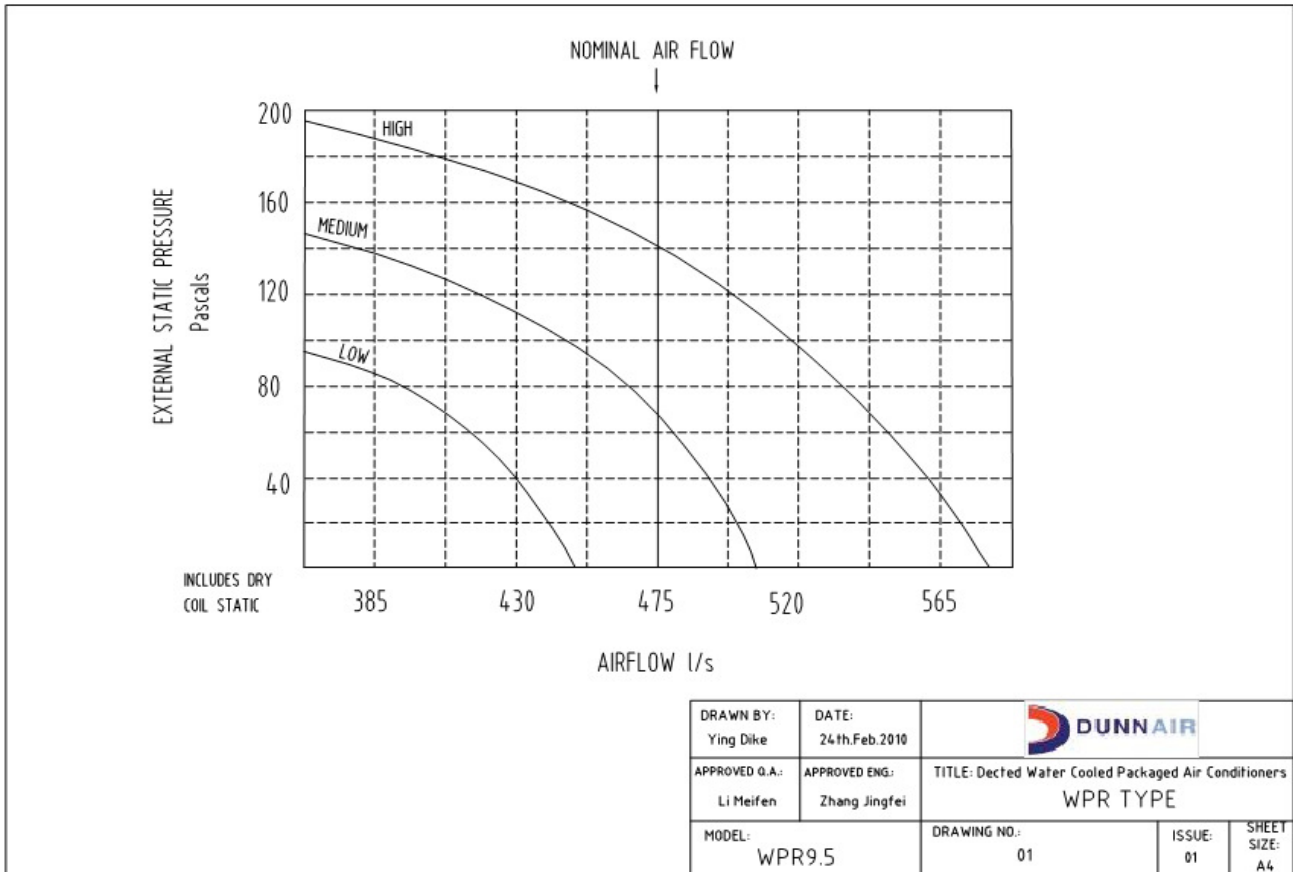
DRAWN BY:	DATE:	DUNNAIR
APPROVED A.S.	APPROVED ENG.	TITLE: Water Cooled Fan Coil Unit WPR TYPE
MODEL:	DRAWING NO.:	ISSUE:
WPR 9.5-CEBD	01	01
		SHEET SIZE: A4

# 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

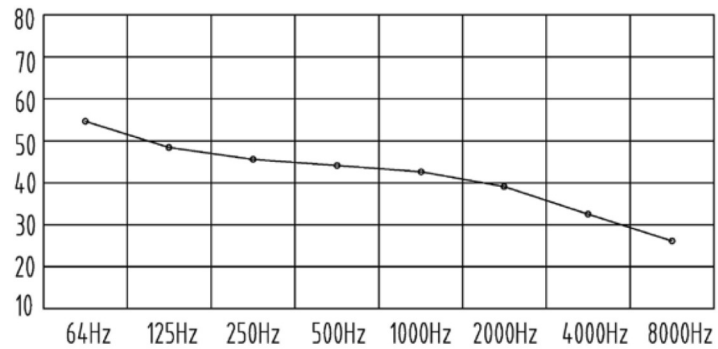
## Sound Levels

WPR9.5 Noise rate analysing chart


A Class: 48.1dB

Hz	dB
64Hz	54.7
125Hz	48.6
250Hz	46.8
500Hz	43.4
1000Hz	41.8
2000Hz	39.8
4000Hz	32.6
8000Hz	26.2

Noise rate analysing chart ( A Class: 48.1dB) dB



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

DRAWN BY: Ying Dike	DATE: 10th.Dec.2010			
APPROVED Q.A.: Li Meifen	APPROVED ENG.: Zhang Jingfei	TITLE: Ducted Water Cooled Packaged Air Conditioners WPR TYPE		
MODEL: WPR9.5	DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4	