DUNNAIR (Aust) Pty Ltd

WPR5

Ducted Water Cooled
R410a Refrigerant

Packaged Horizontal Type

TECHNICAL SPECIFICATION

Total Cooling Capacity	4.8kW	Refrigerant	R410A
Electrical Input (Cooling)	1.2 kW	Refrigerant Charge	1.0 kg
E.E.R.(Cooling)	4.0	Minimum Water Flow	0.24 l/s
Running Amps (Total)	7.9 A	Water Coil Pressure Drop	38 kPa
Fan Motor Full Load Amps	1.5A	Filter (Option)	EU1
Electrical Supply Required	1 Ph.240V.50Hz	Electric Heater (Option)	3.6 kW

COOLING CAPACITY (kW)

AIR FLOW RATE (L/S)			260		
COIL E.A.T.	DB ℃		23	27	31
	WB ℃		17	19	21
Entering Water Temperature (E.W.T) ℃	20	T	5.1	5.4	5.6
		S	3.7	4.3	4.8
		FL	0.3	0.3	0.3
		HR	6.2	6.5	6.8
	25	T	4.9	5.2	5.7
		S	3.7	4.2	4.8
		FL	0.3	0.3	0.3
		HR	6.0	6.3	6.9
	30	T	4.6	4.8	5.4
		S	3.5	4.0	4.7
		FL	0.3	0.3	0.3
		HR	5.7	6.0	6.6
	35	T	4.3	4.5	4.7
		S	3.4	3.9	4.4
		FL	0.3	0.3	0.3
		HR	5.5	5.7	5.9
	40	T	4.1	4.2	4.4
		S	3.3	3.8	4.3
		FL	0.3	0.3	0.3
		HR	5.3	5.3	5.6

T = Total Capacity (kW)
S = Sensible Capacity (kW)
FL = Water Flow (l/s)
E.A.T.= Entering Air Temperature (℃)
__ = 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℃ water temperature difference.

HEATING CAPACITY (kW)

WPR Reverse Cycle Version

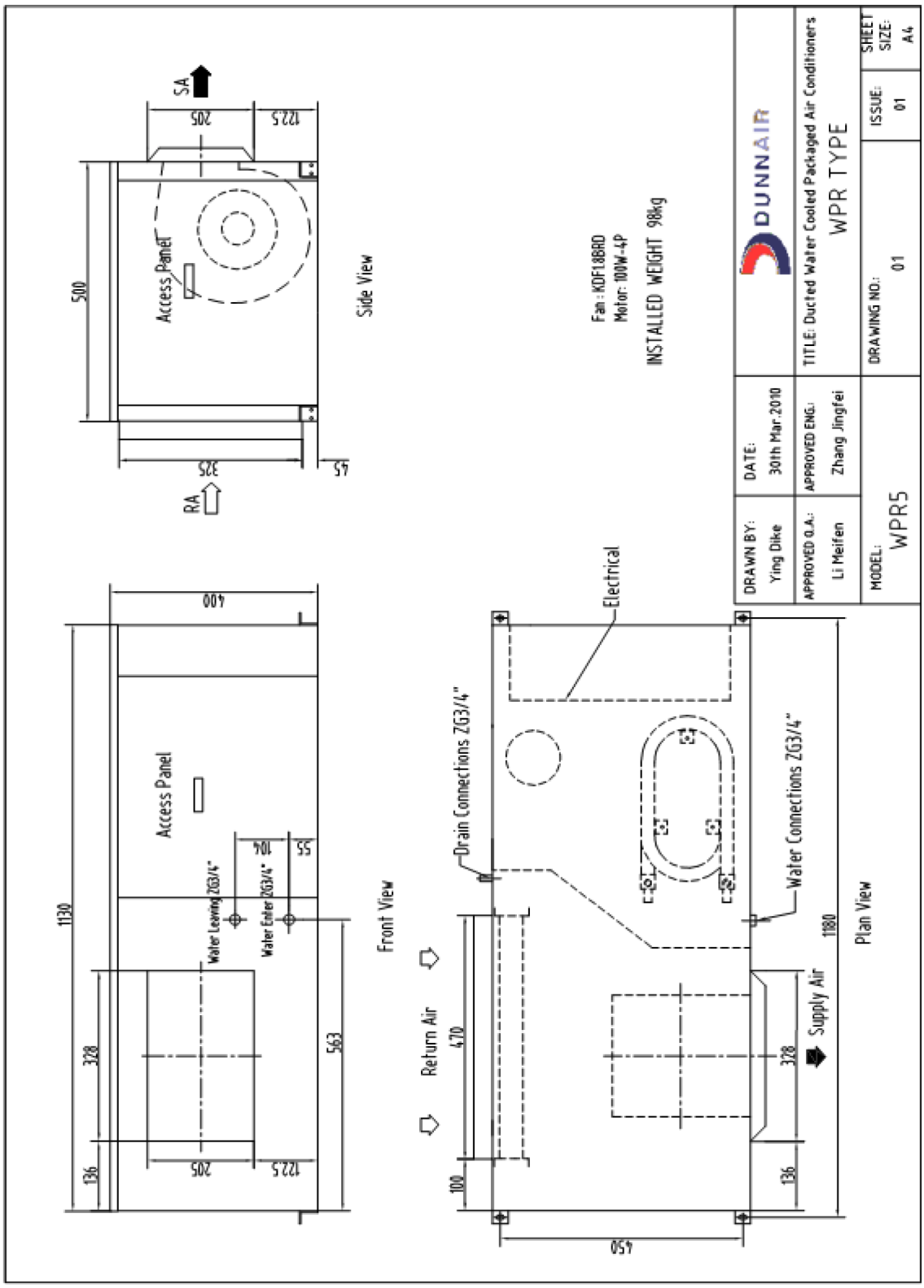
AIR FLOW RATE (L/S)			260		
WATE FLOW RATE (L/S)			0.3		
COIL E.A.T.	DB ℃		18	21	25
Entering Water Temperature (E.W.T) ℃	15	HC	4.8	4.8	4.5
		Hab	3.6	3.6	3.3
		LWT	11.1	11.2	11.4
		INPT	1.2	1.2	1.2
	20	HC	5.2	5.1	4.8
		Hab	3.9	3.8	3.6
		LWT	15.9	15.9	16.1
		INPT	1.2	1.2	1.3
	25	HC	5.6	5.5	5.3
		Hab	4.2	4.2	4.0
		LWT	20.5	20.6	20.8
		INPT	1.3	1.3	1.3

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

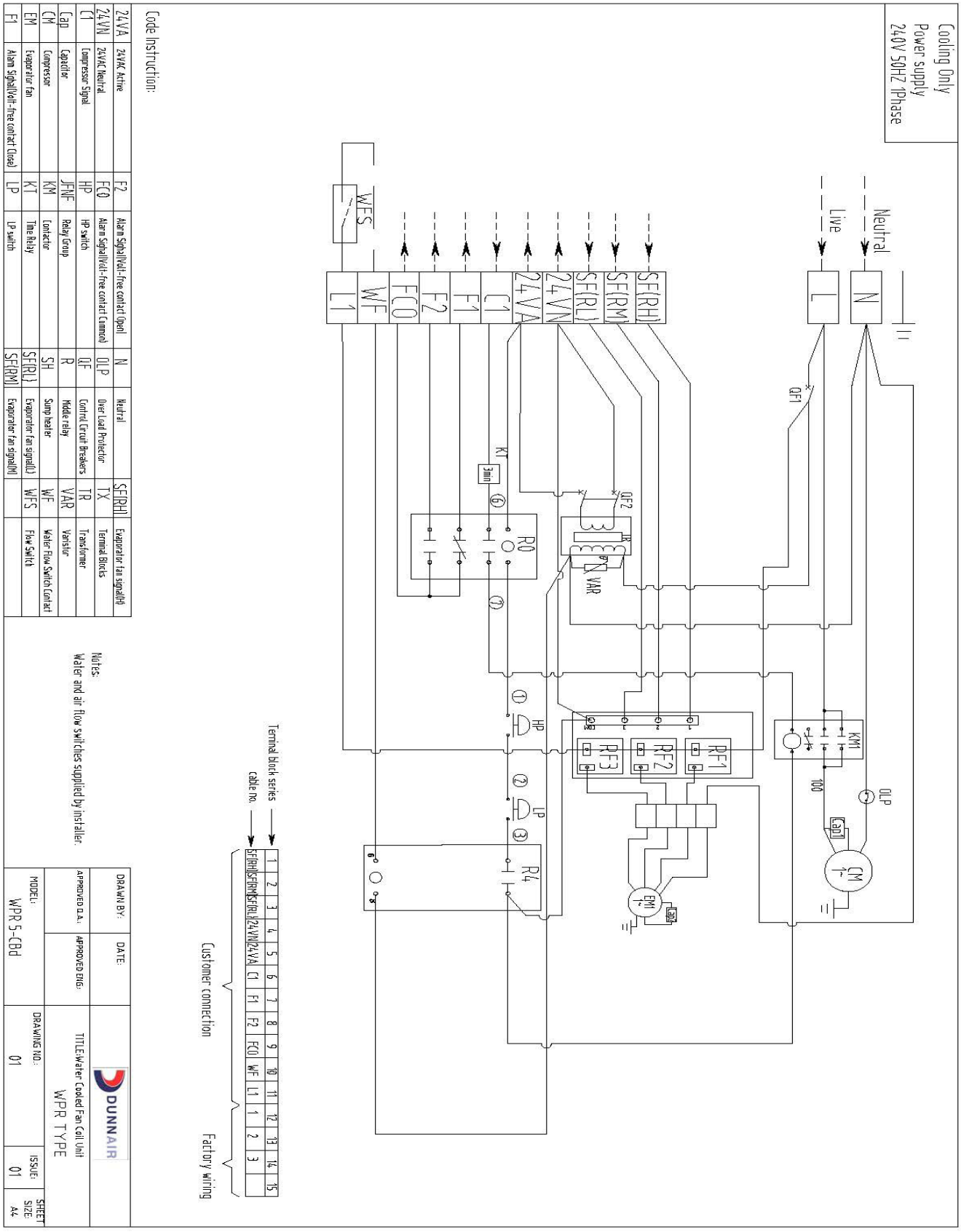
Note: All units are reverse cycle heat pump units. Models can also be provided as cooling only or cooling only with electric heater.

May 2014

DIMENSIONS (mm)



WIRING DIAGRAMS – Cooling Only



Code Instruction:

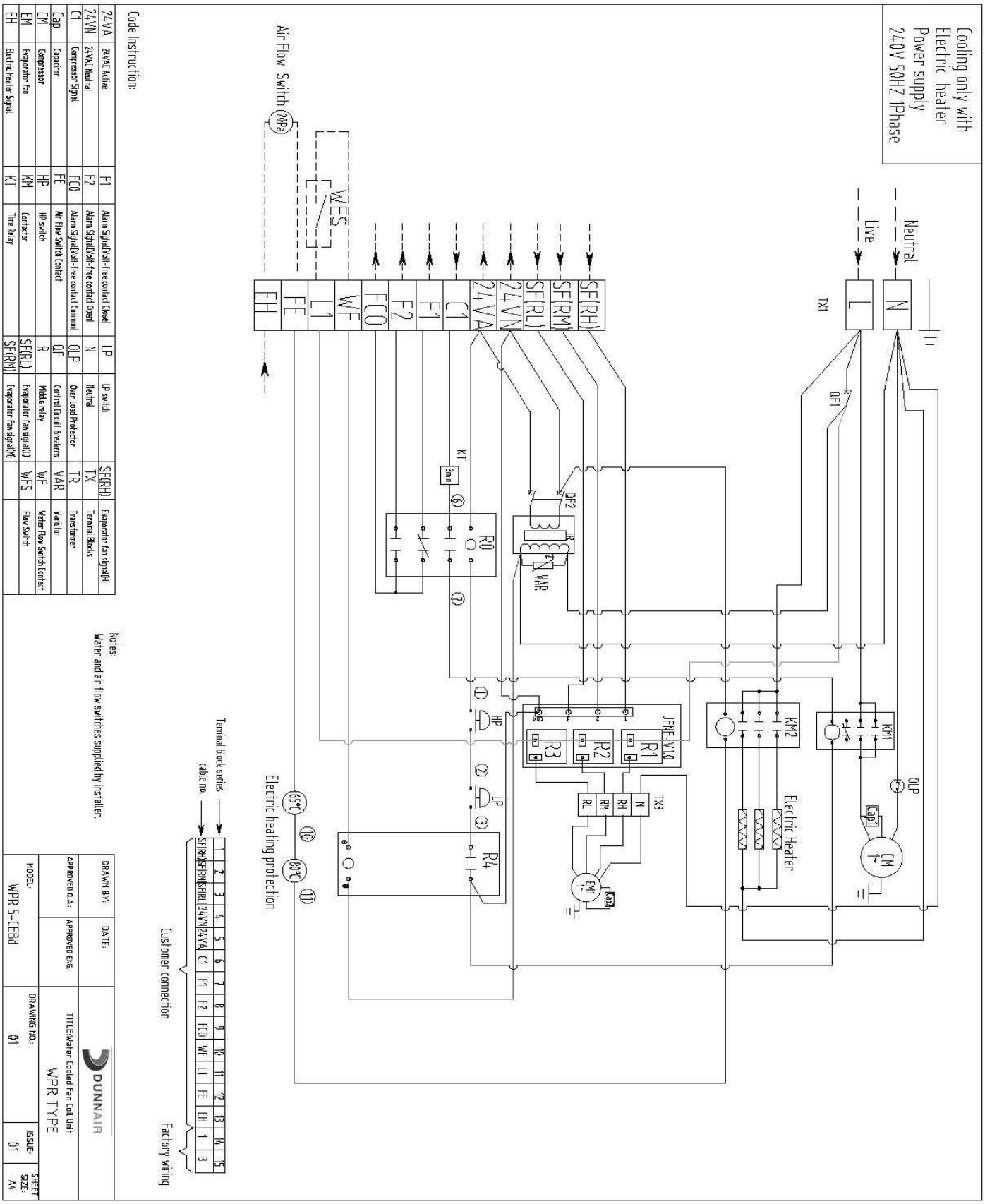
24VA	24VAC Active	F2	Alarm Signal(Volt-free contact Open)	N	Neutral	SF(RH)	Evaporator fan signal(H)
24VN	24VAC Neutral	FCO	Alarm Signal(Volt-free contact Common)	OLP	Over Load Protector		Terminal Blocks
C1	Compressor Signal	HP	HP switch	QF	Control Circuit Breakers	TR	Transformer
Cap	Capacitor	JFNF	Relay Group	R	Middle relay	VAR	Varistor
CM	Compressor	KM	Contactor	SH	Sump heater	WF	Water Flow Switch Contact
EM	Evaporator fan	KT	Time Relay	SF(RL)	Evaporator fan signal(L)	WFS	Flow Switch
F1	Alarm Signal(Volt-free contact Close)	LP	LP switch	SF(RM)	Evaporator fan signal(M)		

Notes:
Water and air flow switches supplied by installer.

DRAWN BY:	DATE:	DUNNAIR	
APPROVED D.A.:	APPROVED ENG.:	TITLE:Water Cooled Fan Coil Unit WPR TYPE	
MODEL: WPR 5-CBd	DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4

DUNNAIR (Aust) Pty Ltd

WIRING DIAGRAMS – Cooling Only with Electric Heater



Code Instruction:

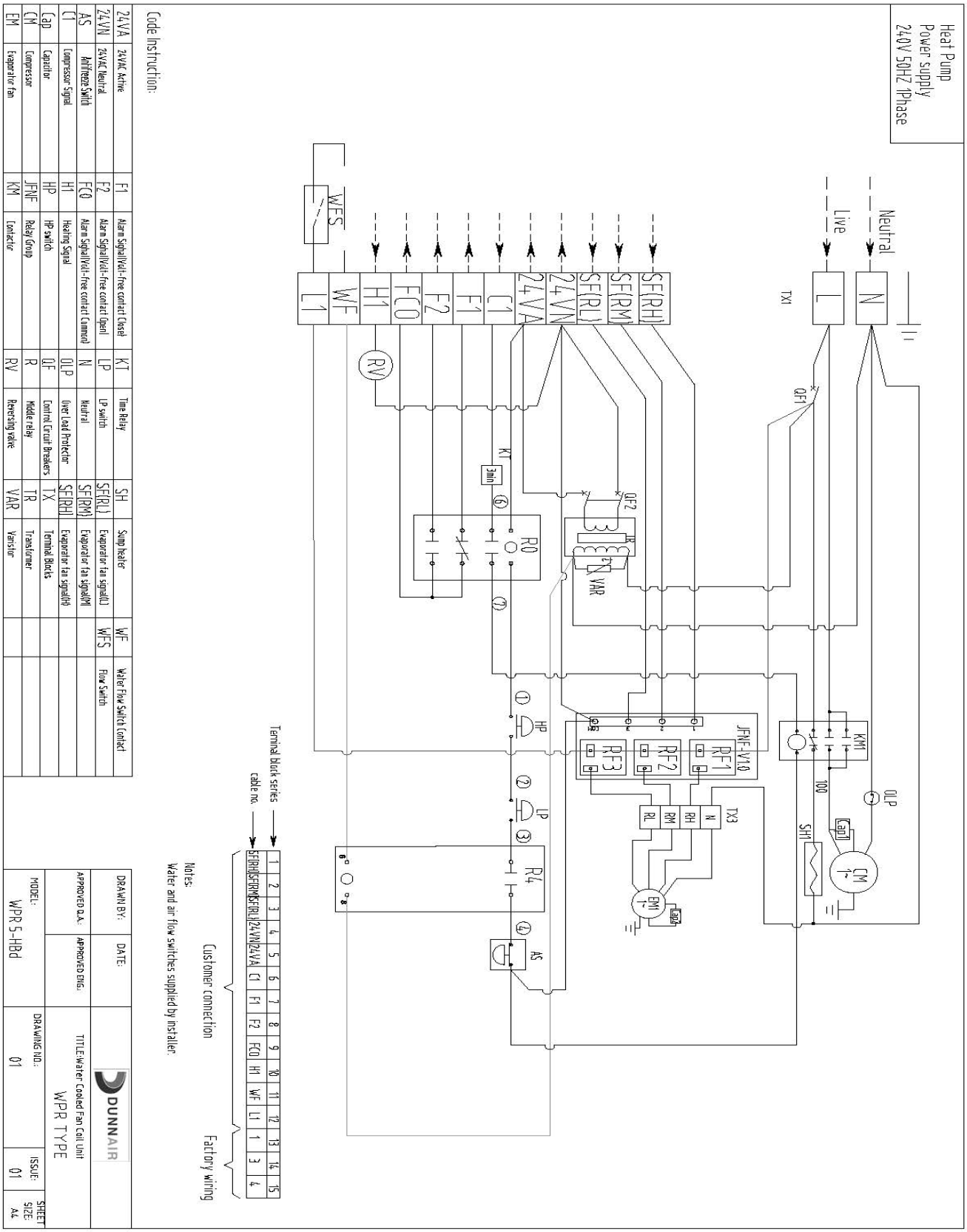
24VA	24VAC Active	F1	Alarm Signal(Volt-free contact Close)	LP	LP switch	SF(RH)	Evaporator fan signal(Hi)
24VN	24VAC Neutral	F2	Alarm Signal(Volt-free contact Open)	N	Neutral	TX	Terminal Blocks
C1	Compressor Signal	FCO	Alarm Signal(Volt-free contact Common)	OLP	Over Load Protector	TR	Transformer
Cap	Capacitor	FE	Air Flow Switch Contact	QF	Control Circuit Breakers	VAR	Varistor
CM	Compressor	HP	HP switch	R	Middle relay	WF	Water Flow Switch Contact
EM	Evaporator Fan	KM	Contactor	SF(RL)	Evaporator fan signal(Lo)	WFS	Flow Switch
EH	Electric Heater Signal	KT	Time Relay	SF(RM)	Evaporator fan signal(Mi)		

Notes:
Water and air flow switches supplied by installer.

DRAWN BY:	DATE:	DUNNAIR	
APPROVED Q.A.:	APPROVED ENG.:	TITLE: Water Cooled Fan Coil Unit WPR TYPE	
MODEL: WPR 5-CEBd		DRAWING NO.: 01	ISSUE: 01
			SHEET SIZE: A4

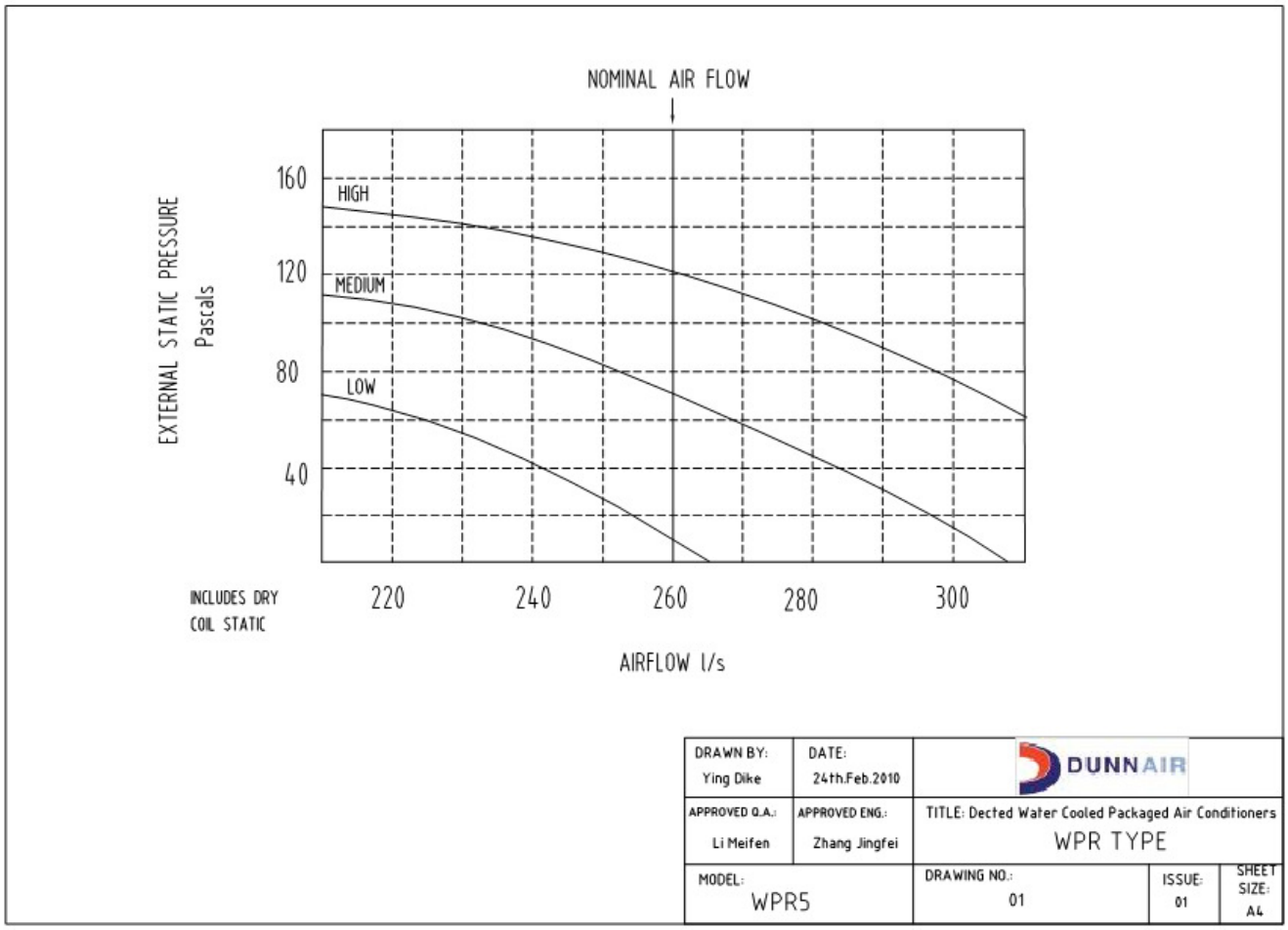
DUNNAIR (Aust) Pty Ltd

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.

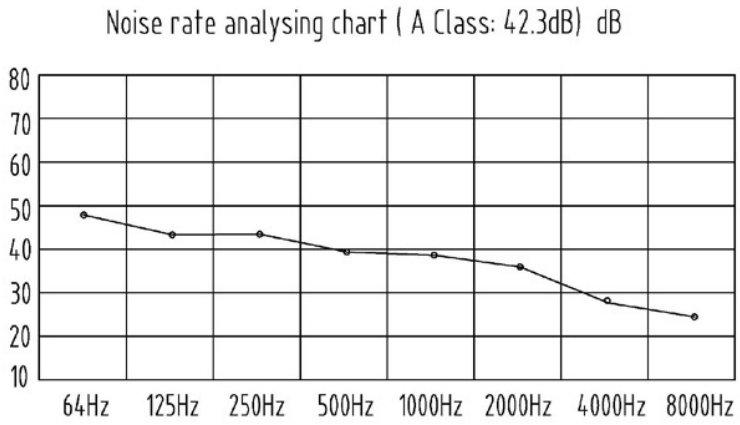
AIR HANDLING PERFORMANCE

Sound Curve

WPR5 Noise rate analysing chart

A Class: 42.3dB

Hz	dB
64Hz	47.5
125Hz	42.5
250Hz	43.1
500Hz	39.7
1000Hz	39.5
2000Hz	36.1
4000Hz	27.3
8000Hz	24.1



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

DRAWN BY: Ying Dike	DATE: 10th.Dec2010	DUNNAIR
APPROVED Q.A.: Li Meifen	APPROVED ENG.: Zhang Jingfei	TITLE: Dected Water Cooled Packaged Air Conditioners WPR TYPE
MODEL: WPR5	DRAWING NO.: 01	ISSUE: 01 / SHEET SIZE: A4