DUNNAIR (Aust) Pty Ltd

WPR16

Ducted Water Cooled
R410a Refrigerant

Packaged Horizontal Type

TECHNICAL SPECIFICATION

Total Cooling Capacity	15.8 kW	Refrigerant	R410A
Electrical Input (Cooling)	4.11 kW	Refrigerant Charge	2.4 kg
E.E.R.(Cooling)	3.8	Minimum Water Flow	0.8 l/s
Running Amps (Total)	12.2A	Water Coil Pressure Drop	40 kPa
Fan Motor Full Load Amps	4.0 A	Filter (Option)	EU1
Electrical Supply Required	3 Ph.415V.50Hz	Electric Heater (Option)	12.0 kW

COOLING CAPACITY (kW)

AIR FLOW RATE (L/S)			850		
COIL E.A.T.	DB ℃		23	27	31
	WB ℃		17	19	21
Entering Water Temperature (E.W.T) ℃	20	T	16.8	17.7	18.5
		S	12.2	14.0	15.7
		FL	1.0	1.0	1.0
		HR	21.0	21.8	22.8
	25	T	16.0	17.0	18.7
		S	12.3	13.7	15.8
		FL	1.0	1.0	1.0
		HR	20.2	21.1	23.0
	30	T	15.0	15.8	17.6
		S	11.4	13.2	15.4
		FL	1.0	1.0	1.0
		HR	19.0	19.9	21.9
	35	T	14.0	14.8	15.4
		S	11.0	12.8	14.5
		FL	1.0	1.0	1.0
		HR	18.1	18.9	19.5
	40	T	13.4	13.7	14.4
		S	10.7	12.4	14.1
		FL	1.0	1.0	1.0
		HR	17.4	17.7	18.6

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

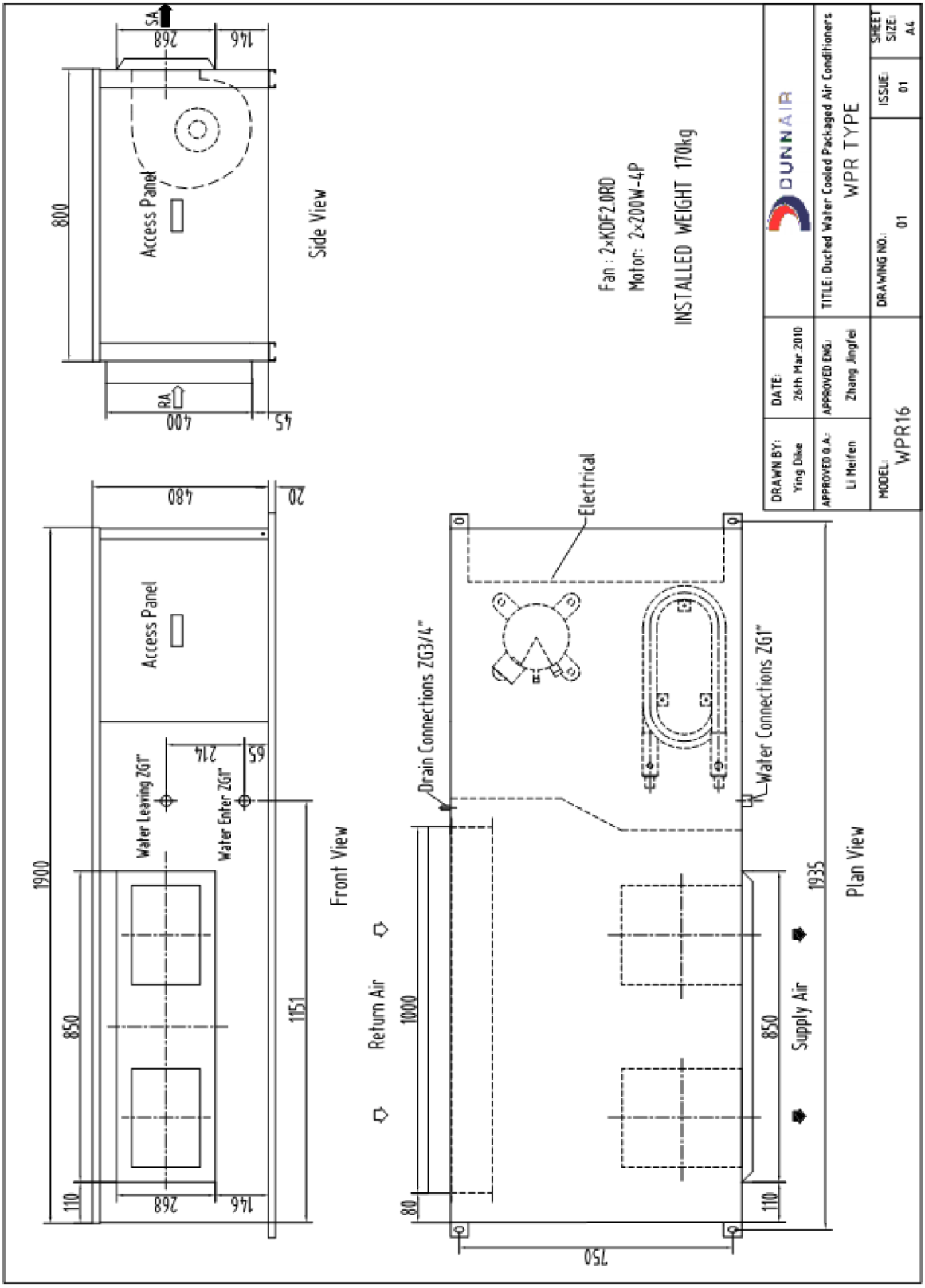
AIR FLOW RATE (L/S)			850		
WATE FLOW RATE (L/S)			1.0		
COIL E.A.T.	DB ℃		18	21	25
Entering Water Temperature (E.W.T) ℃	15	HC	16.1	16.0	15.3
		Hab	12.0	11.8	11.2
		LWT	11.1	11.2	11.4
		INPT	4.2	4.2	4.0
	20	HC	17.2	17.0	16.2
		Hab	12.9	12.8	12.1
		LWT	15.9	15.9	16.1
		INPT	4.2	4.2	4.1
	25	HC	18.6	18.4	17.7
		Hab	14.2	13.9	13.3
		LWT	20.5	20.6	20.8
		INPT	4.5	4.5	4.4

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

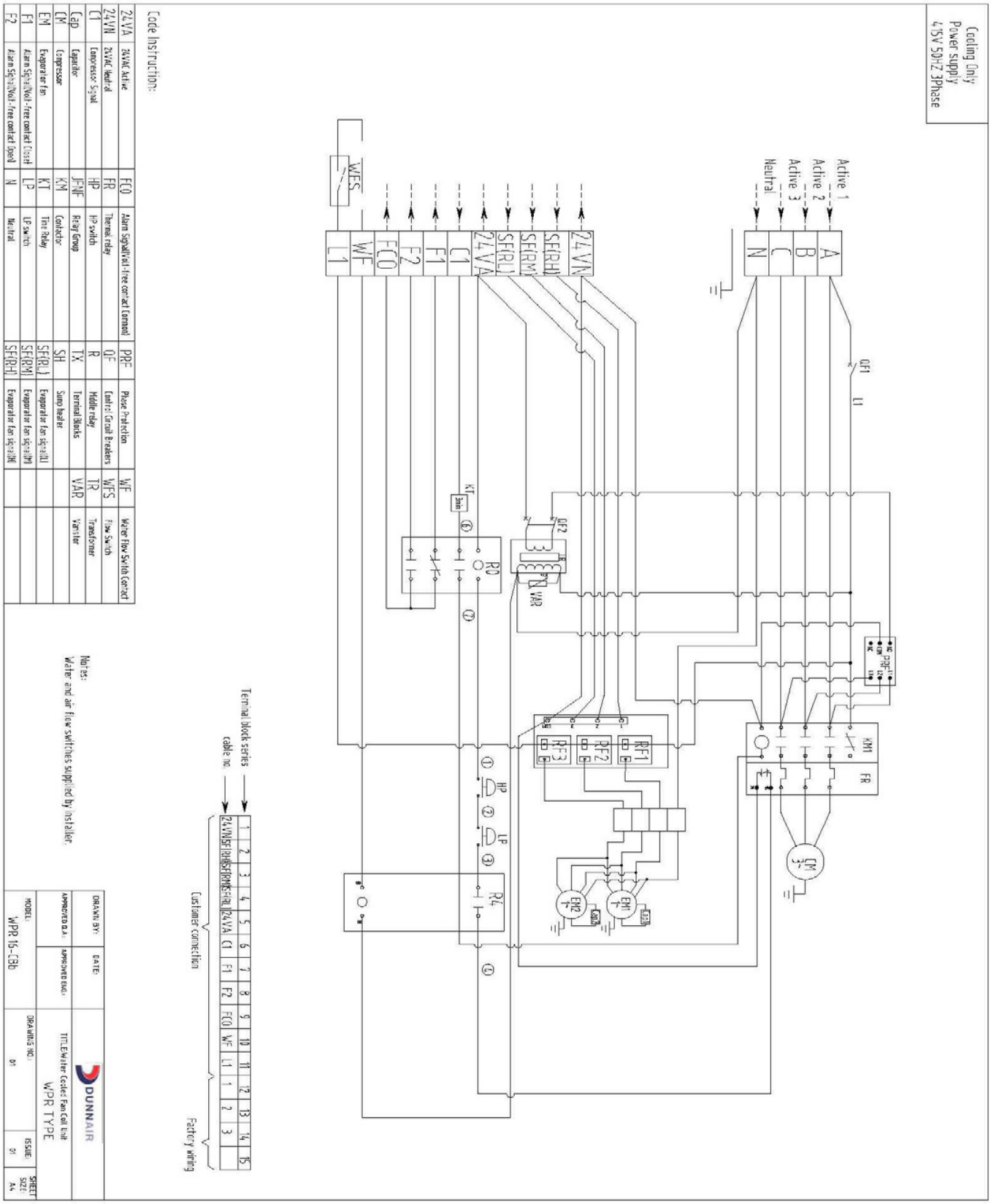
Note: All units are reverse cycle heat pump units. Models can also be provided as cooling only or cooling only with electric heater.

May 2014

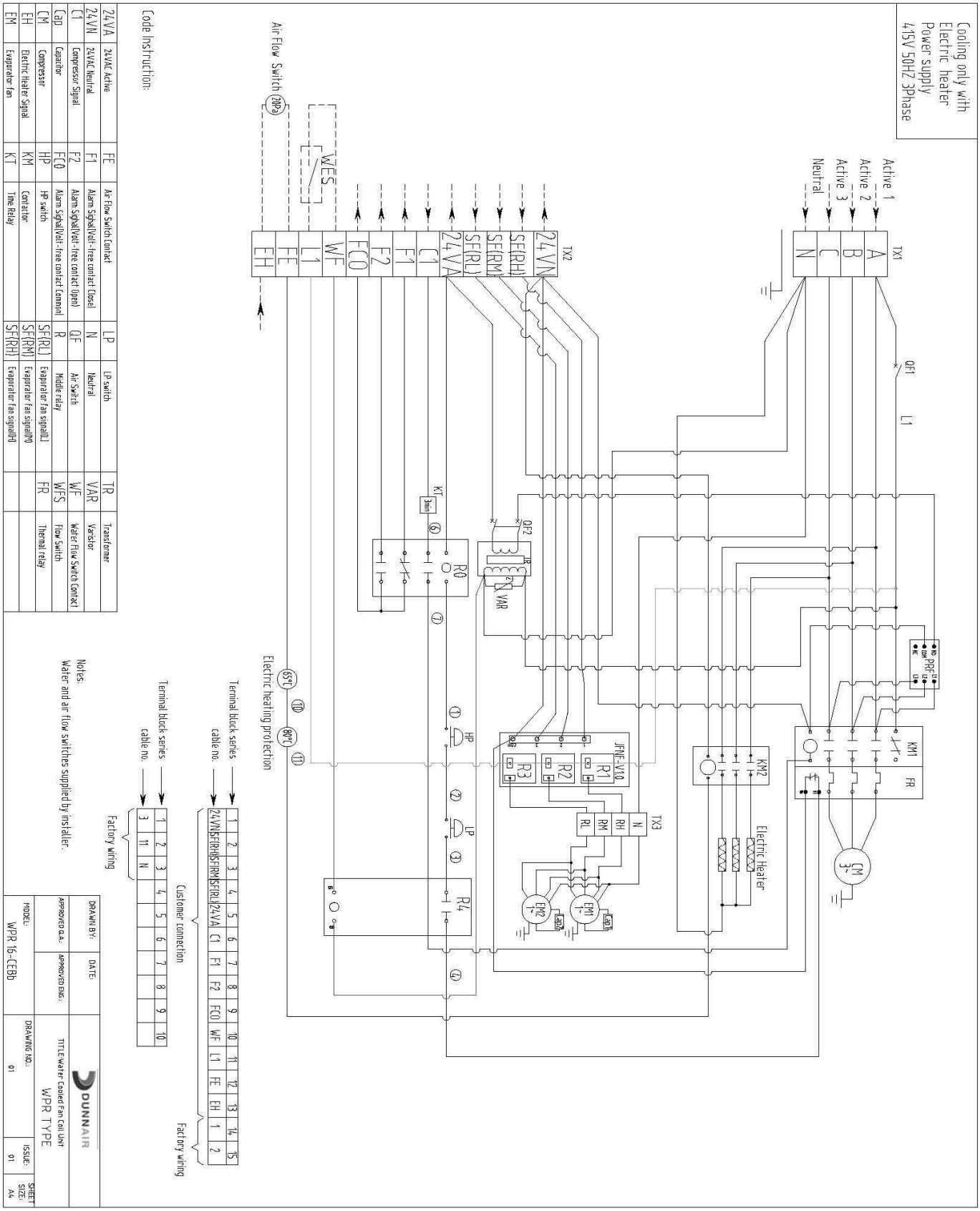
DIMENSIONS (mm)



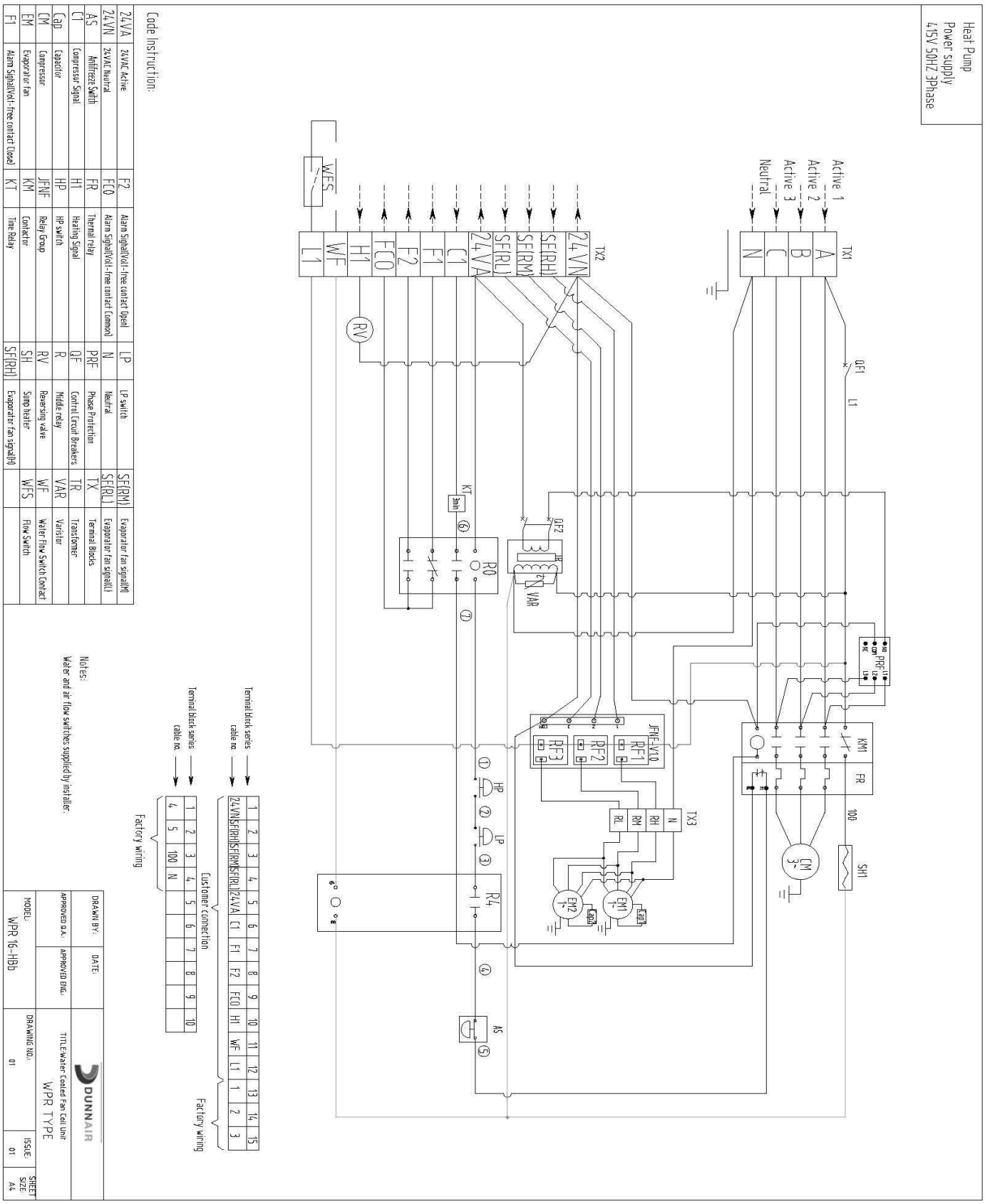
WIRING DIAGRAMS – Cooling Only



WIRING DIAGRAMS – Cooling Only with Electric Heater



WIRING DIAGRAMS – Reverse Cycle



Code Instruction:

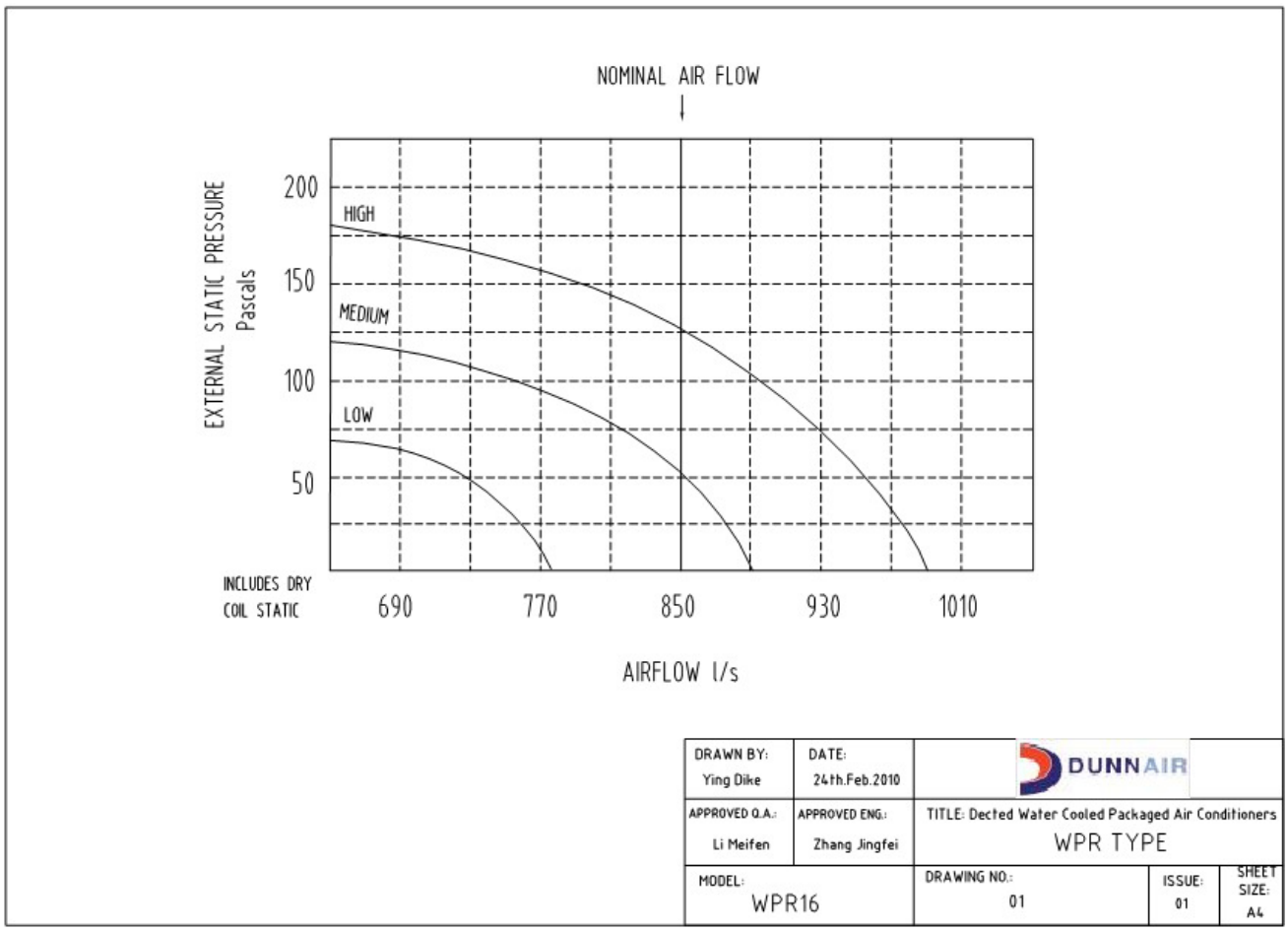
24VA	24VAC Active	F2	Alarm Signal(Volt-free contact Open)	LP	LP switch	SF(RM)	Evaporator Fan signal(M)
24VN	24VAC Neutral	FCO	Alarm Signal(Volt-free contact Common)	N	Neutral	SF(RL)	Evaporator Fan signal(L)
AS	Antifreeze Switch	FR	Thermal relay	PRF	Phase Protection	TX	Terminal Blocks
C1	Compressor Signal	H1	Heating Signal	QF	Control Circuit Breakers	TR	Transformer
CAP	Capacitor	HP	HP switch	R	Middle relay	VAR	Varistor
CM	Compressor	JFNF	Relay Group	RV	Reversing valve	WF	Water Flow Switch Contact
EM	Evaporator Fan	KM	Contactor	SH	Sump heater	WFS	Flow Switch
F1	Alarm Signal(Volt-free contact Close)	KT	Time Relay	SF(RH)	Evaporator Fan signal(H)		

Notes:
Water and air flow switches supplied by installer.

DRAWN BY:	DATE:	DUNNAIR	
APPROVED B.A.:	APPROVED ENG.:	TITLE: Water Cooled Fan Coil Unit WPR TYPE	
MODEL: WPR 16-HBb		DRAWING NO.: 01	ISSUE: 01
			SHEET SIZE A4

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.

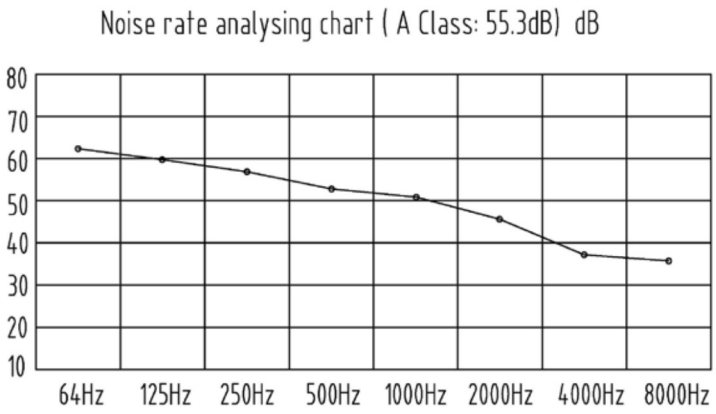
AIR HANDLING PERFORMANCE

Sound Levels

WPR16 Noise rate analysing chart

A Class: 55.3dB

Hz	dB
64Hz	62.5
125Hz	59.1
250Hz	55.8
500Hz	53.0
1000Hz	49.7
2000Hz	45.3
4000Hz	38.2
8000Hz	36.6



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

DRAWN BY: Ying Dike	DATE: 10th.Dec.2010	DUNNAIR		
APPROVED Q.A.: Li Meifen	APPROVED ENG.: Zhang Jingfei	TITLE: Dected Water Cooled Packaged Air Conditioners WPR TYPE		
MODEL: WPR16	DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4	