DUNNAIR (Aust) Pty Ltd

WPR12L

Ducted Water Cooled
R410a Refrigerant

Packaged Vertical Type

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 ℃		23	27	31
	WB ℃		17	19	21
Entering Water Temperature (E.W.T) ℃	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	11.6	13.0
		S	8.3	9.0	9.9
		FL	0.7	0.7	0.7
		HR	14.2	14.9	16.3
	35	T	10.3	10.8	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 (℃)
__ = 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

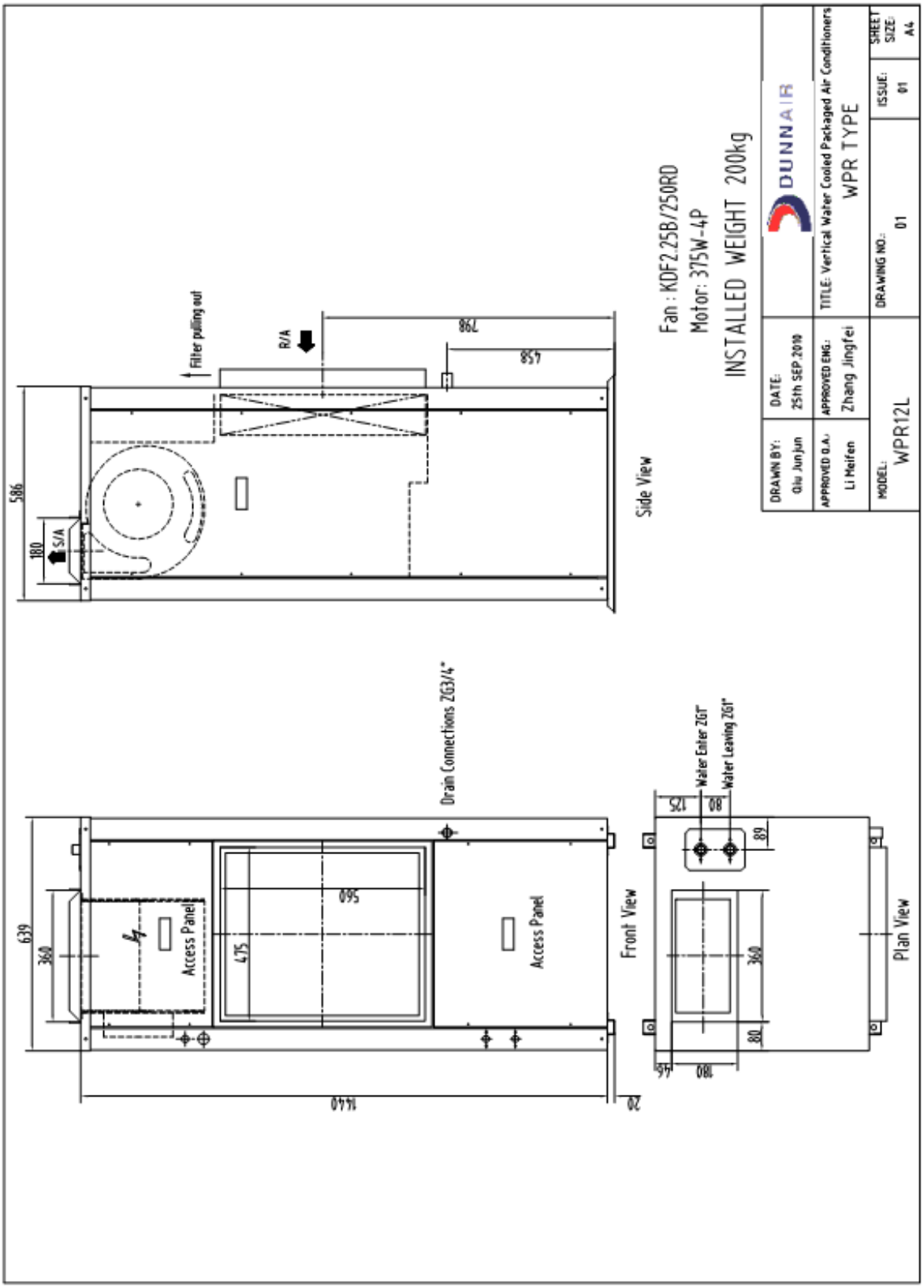
AIR FLOW RATE (L/S)			660		
WATE FLOW RATE (L/S)			0.7		
COIL E.A.T.	DB ℃		18	21	25
Entering Water Temperature (E.W.T) ℃	15	HC	11.8	11.7	11.1
		Hab	8.4	8.3	7.8
		LWT	11.0	11.0	11.2
		INPT	3.3	3.3	3.3
	20	HC	12.5	12.4	11.8
		Hab	9.2	9.0	8.6
		LWT	15.7	15.8	16.0
		INPT	3.3	3.3	3.3
	25	HC	13.6	13.4	12.9
		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 (℃)
E.A.T.= Entering Air Temperature (℃)
INPT = Compressor Input Power (kW)
__ = Nominal Capacity (kW)

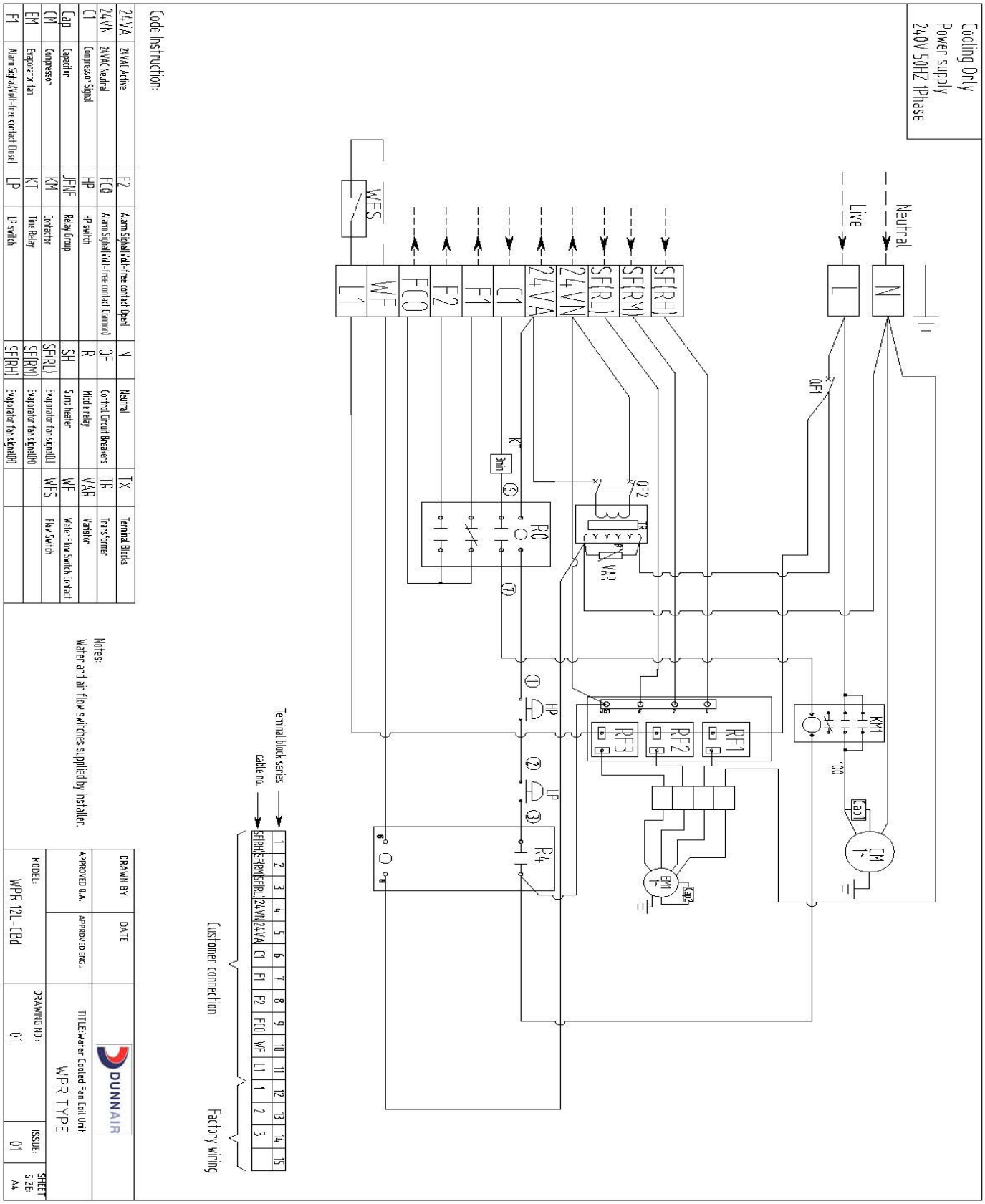
Note: All units are reverse cycle heat pump units. Models can also be provided as cooling only or cooling only with electric heater.

May 2014

DIMENSIONS (mm)



WIRING DIAGRAMS – Cooling Only



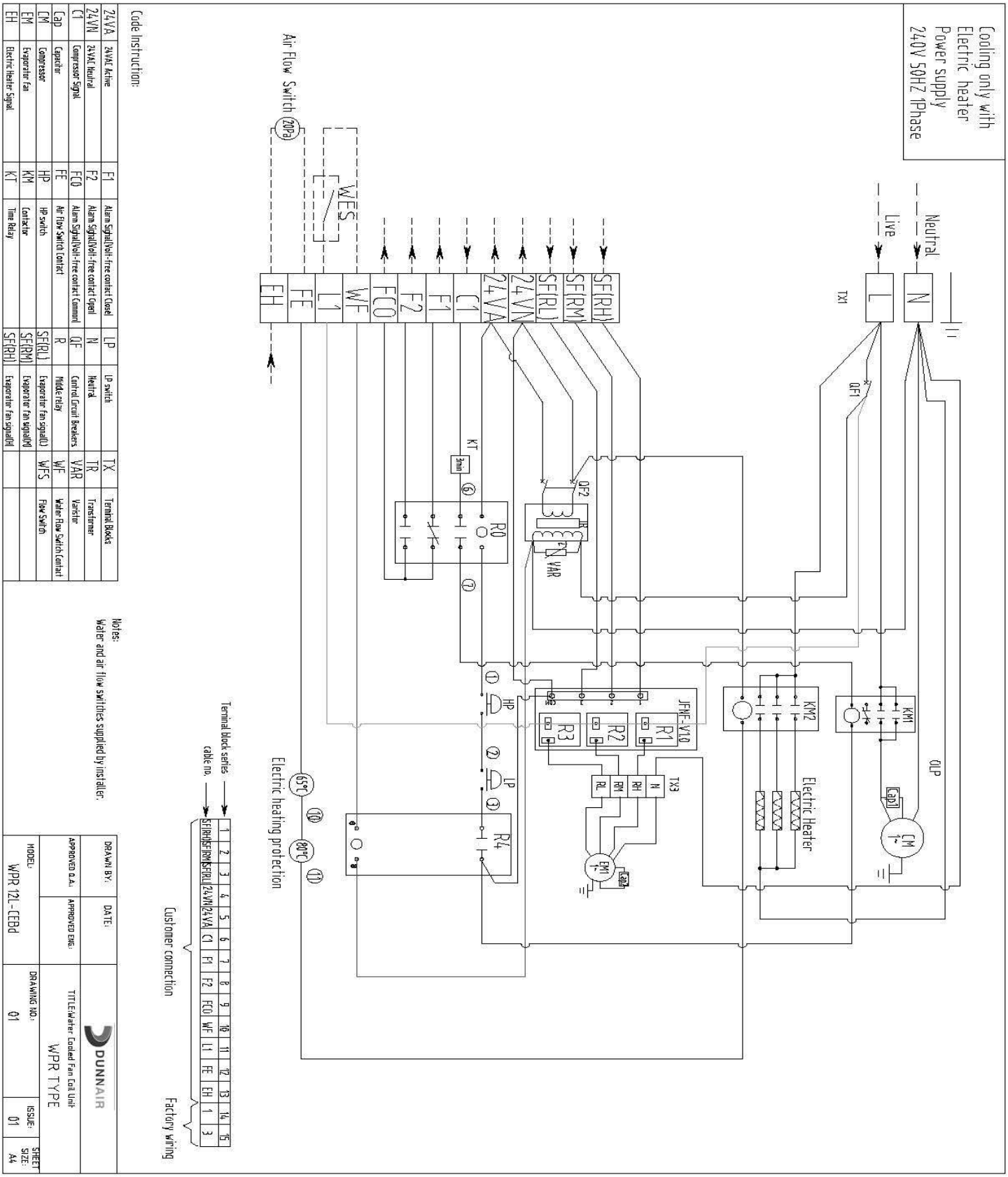
Code Instruction:

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

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 12L-CBd	DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4

WIRING DIAGRAMS – Cooling Only with Electric Heater

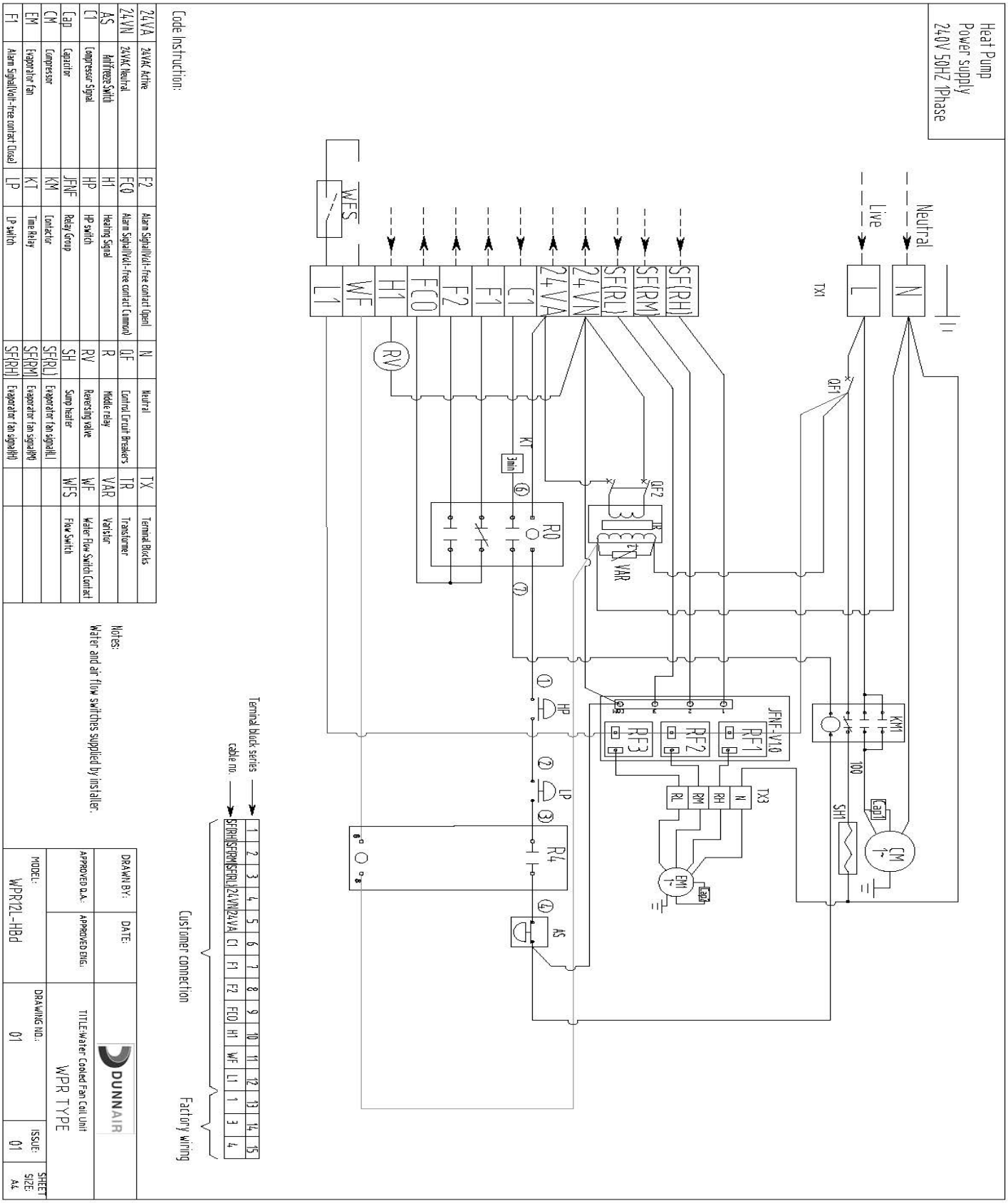


24VA	24VAC Active	F1	Alarm Signal(Volt-free contact Close)	LP	LP switch	TX	Terminal Blocks
24VN	24VAC Neutral	F2	Alarm Signal(Volt-free contact Open)	N	Neutral	TR	Transformer
C1	Compressor Signal	FCO	Alarm Signal(Volt-free contact Common)	QF	Control Circuit Breakers	VAR	Varistor
Cap	Capacitor	FE	Air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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
SF(RH)	SF(RM)	SF(RL)	24VN	24VA	C1	F1	F2	FCO	WF	L1	FE	EH	1	3		

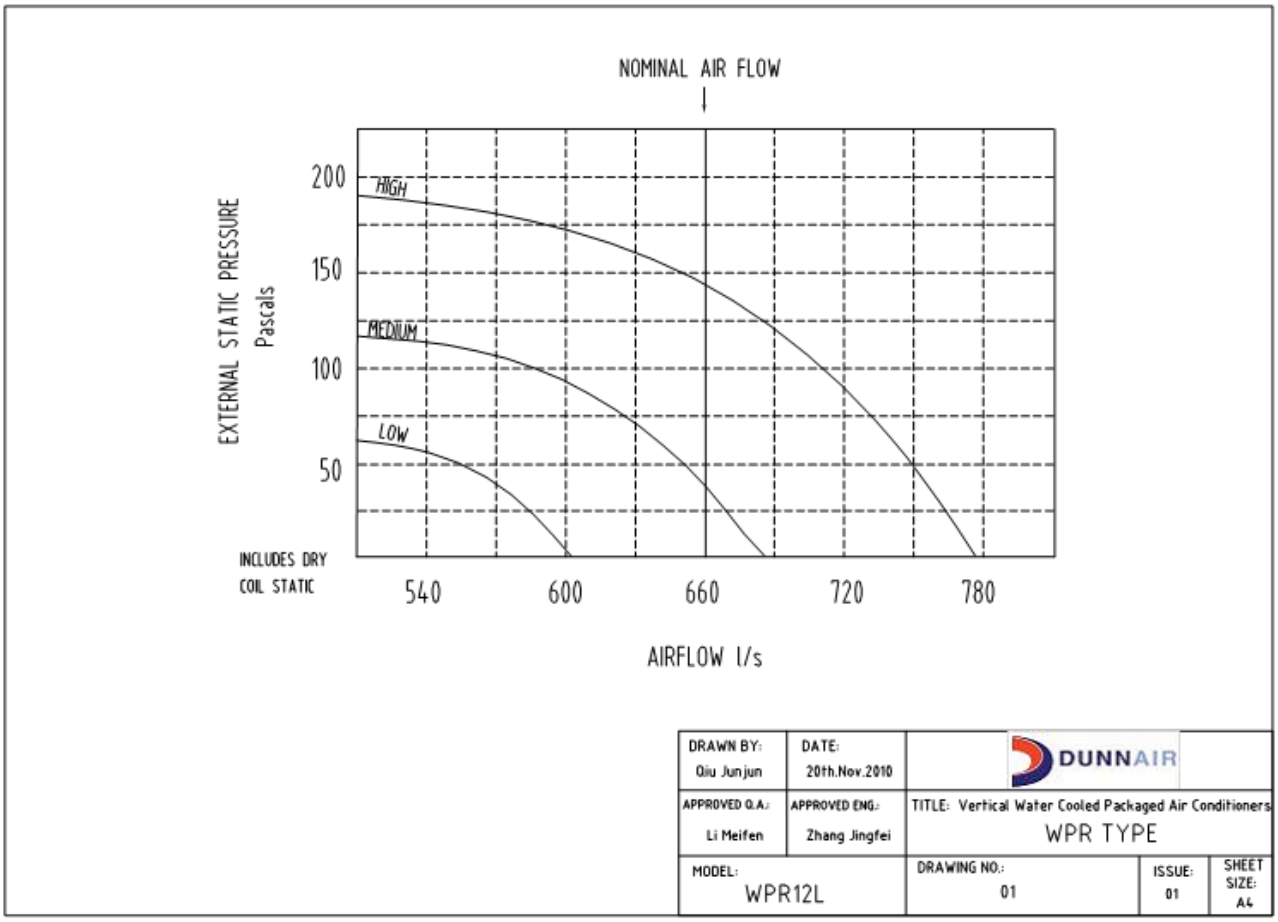
DRAWN BY:	DATE:	DUNNAIR	
APPROVED D.A.:	APPROVED ENG.:	TITLE:Water Cooled Fan Coil Unit WPR TYPE	
MODEL: WPR 12L-CEBd	DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4

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.

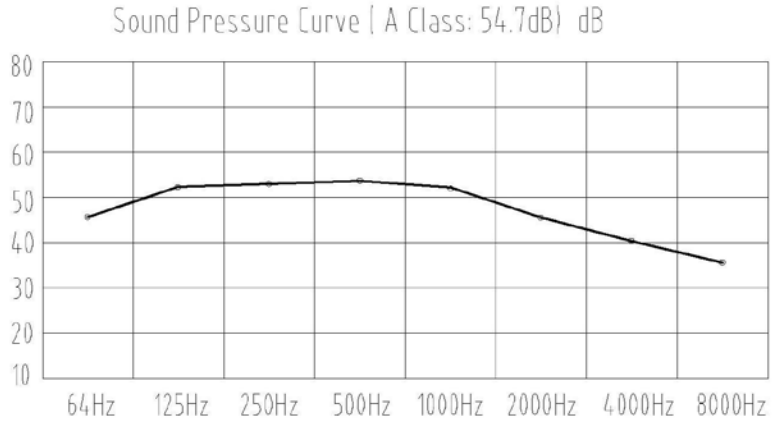
AIR HANDLING PERFORMANCE

Sound Levels

WPR12L Sound Pressure Curve

A Class: 54.7dB

Hz	dB
64Hz	46.5
125Hz	51.5
250Hz	52.8
500Hz	53.4
1000Hz	51.5
2000Hz	45.5
4000Hz	40.1
8000Hz	36.0



Note: Occupant at least 1.0m from sound source.

DRAWN BY: Qiu Junjun	DATE: 15th.Dec.2010	DUNNAIR		
APPROVED Q.A.: Li Meifen	APPROVED ENG.: Zhang Jingfei	TITLE: Vertical Water Cooled Packaged Air Conditioners WPR TYPE		
MODEL: WPR12L	DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4	