



DUNNAIR
(Aust) Pty Ltd

WPR25

Packaged Horizontal Type

**Ducted Water Cooled
R410a Refrigerant**

TECHNICAL SPECIFICATION

Total Cooling Capacity	23.1 kW	Refrigerant	R410A
Electrical Input (Cooling)	5.6 kW	Refrigerant Charge	3.5 kg
E.E.R.(Cooling)	4.1	Minimum Water Flow	1.05l/s
Running Amps (Total)	18.8A	Water Coil Pressure Drop	44kPa
Fan Motor Full Load Amps	6.0 A	Filter (Option)	EU1
Electrical Supply Required	3 Ph.415V.50Hz	Electric Heater (Option)	15 kW

COOLING CAPACITY (kW)

AIR FLOW RATE (L/S)		1150			
COIL E.A.T.	DB °C	23	27	31	
	WB °C	17	19	21	
Entering Water Temperature (E.W.T) °C	20	T	24.5	25.8	27.1
		S	17.4	19.8	22.1
		FL	1.3	1.3	1.3
		HR	30.2	31.4	32.8
	25	T	23.3	24.8	27.3
		S	17.5	19.4	22.2
		FL	1.3	1.3	1.3
		HR	29.1	30.5	33.3
	30	T	21.9	<u>23.1</u>	25.8
		S	16.2	<u>18.6</u>	21.5
		FL	1.3	<u>1.3</u>	1.3
		HR	27.4	<u>28.7</u>	31.6
	35	T	20.5	21.6	22.5
		S	15.6	18.0	20.2
		FL	1.3	1.3	1.3
		HR	26.1	27.2	28.2
	40	T	19.6	20.1	21.1
		S	15.2	17.4	19.7
		FL	1.3	1.3	1.3
		HR	25.2	25.6	26.9

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)

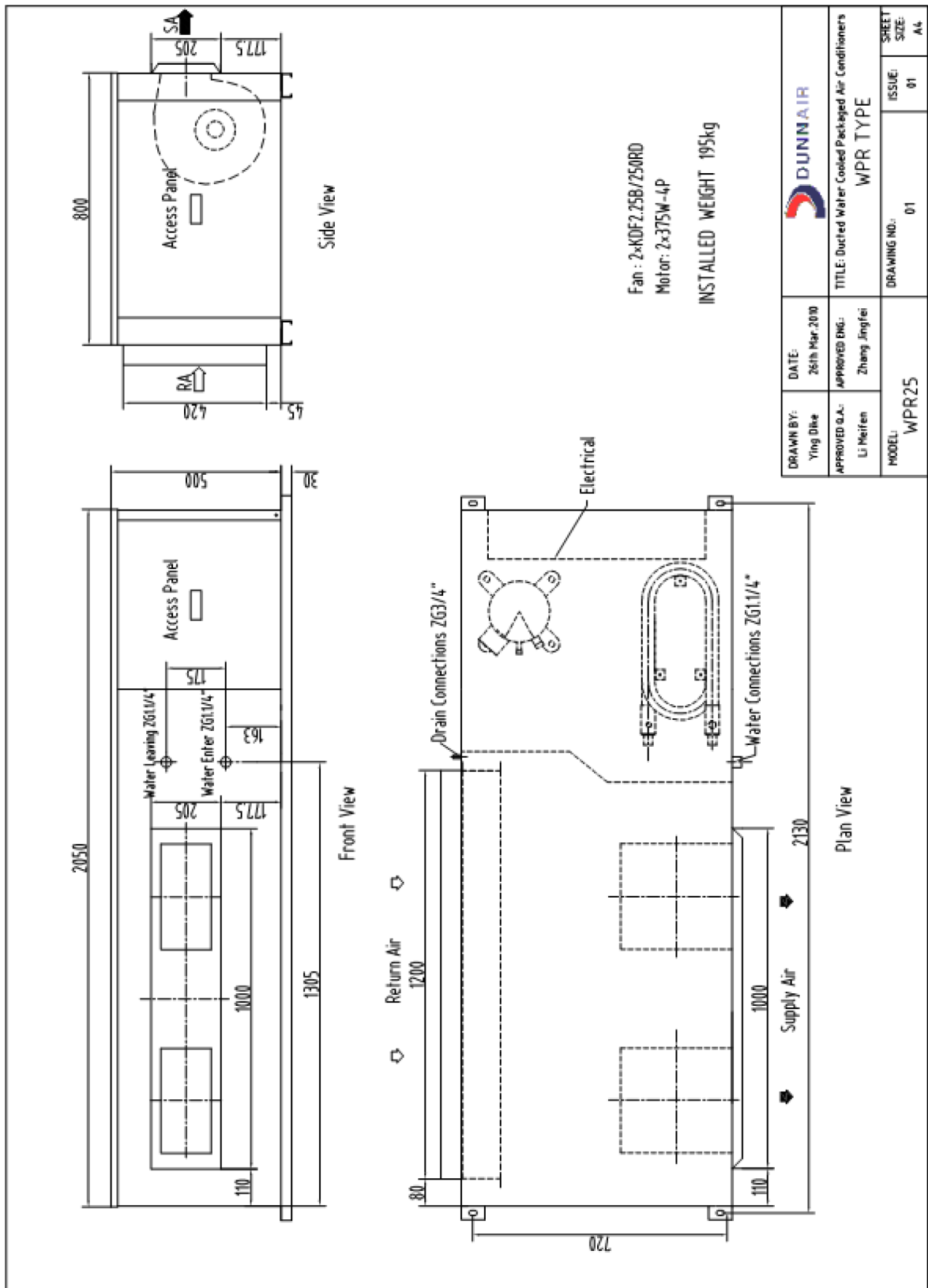
WPR Reverse Cycle Version

AIR FLOW RATE (L/S)		1150			
WATE FLOW RATE (L/S)		1.3			
COIL E.A.T.	DB °C	18	21	25	
Entering Water Temperature (E.W.T) °C	15	HC	21.0	20.8	19.8
		Hab	15.7	15.4	14.6
		LWT	11.1	11.2	11.4
		INPT	5.3	5.3	5.3
	20	HC	22.3	<u>22.1</u>	21.0
		Hab	16.9	<u>16.6</u>	15.7
		LWT	15.9	<u>15.9</u>	16.1
		INPT	5.5	<u>5.5</u>	5.3
	25	HC	24.2	23.9	23.0
		Hab	18.5	18.1	17.3
		LWT	20.5	20.6	20.8
		INPT	5.8	5.8	5.8

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)

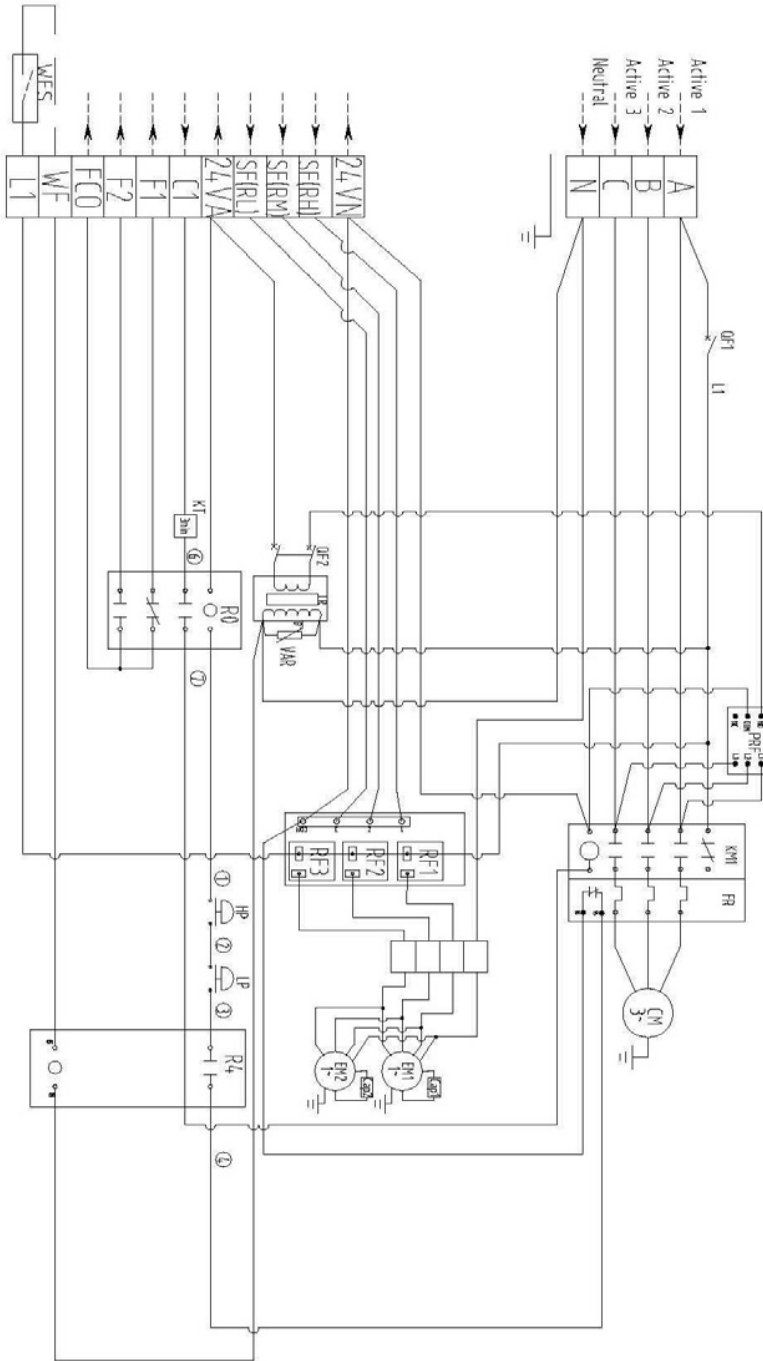
Note: All units are reverse cycle heat pump units. Models can also be provided as cooling only or cooling only with electric heater.

DIMENSIONS (mm)



WIRING DIAGRAMS – Cooling Only

Cooling Only
Power supply
415V 50HZ 3Phase



Code Instructions:

24VVA	24VAC Active	FC0	Alarm Signal/Noi-free contact (normal)	PRF	Phase Protection	WFS	Water Flow Switch Contact
24VVA	24VAC Neutral	FR	Thermal relay	CB	Central Circuit Breakers	WFS	Flow Switch
C1	Compressor Signal	HP	HP switch	R	Motor relay	TR	Transformer
CM	Compressor	JNF	Relay Group	TX	Terminal Blocks	VAR	Variable
EM	Evaporator fan	KM	Contact	SH	Stop heater		
F1	Alarm Signal/Noi-free contact (close)	KT	Time Relay	SE(R)U	Evaporator fan signal(U)		
F2	Alarm Signal/Noi-free contact (open)	LP	LP switch	SE(R)M	Evaporator fan signal(M)		
		N	Neutral	SE(R)H	Evaporator fan signal(H)		

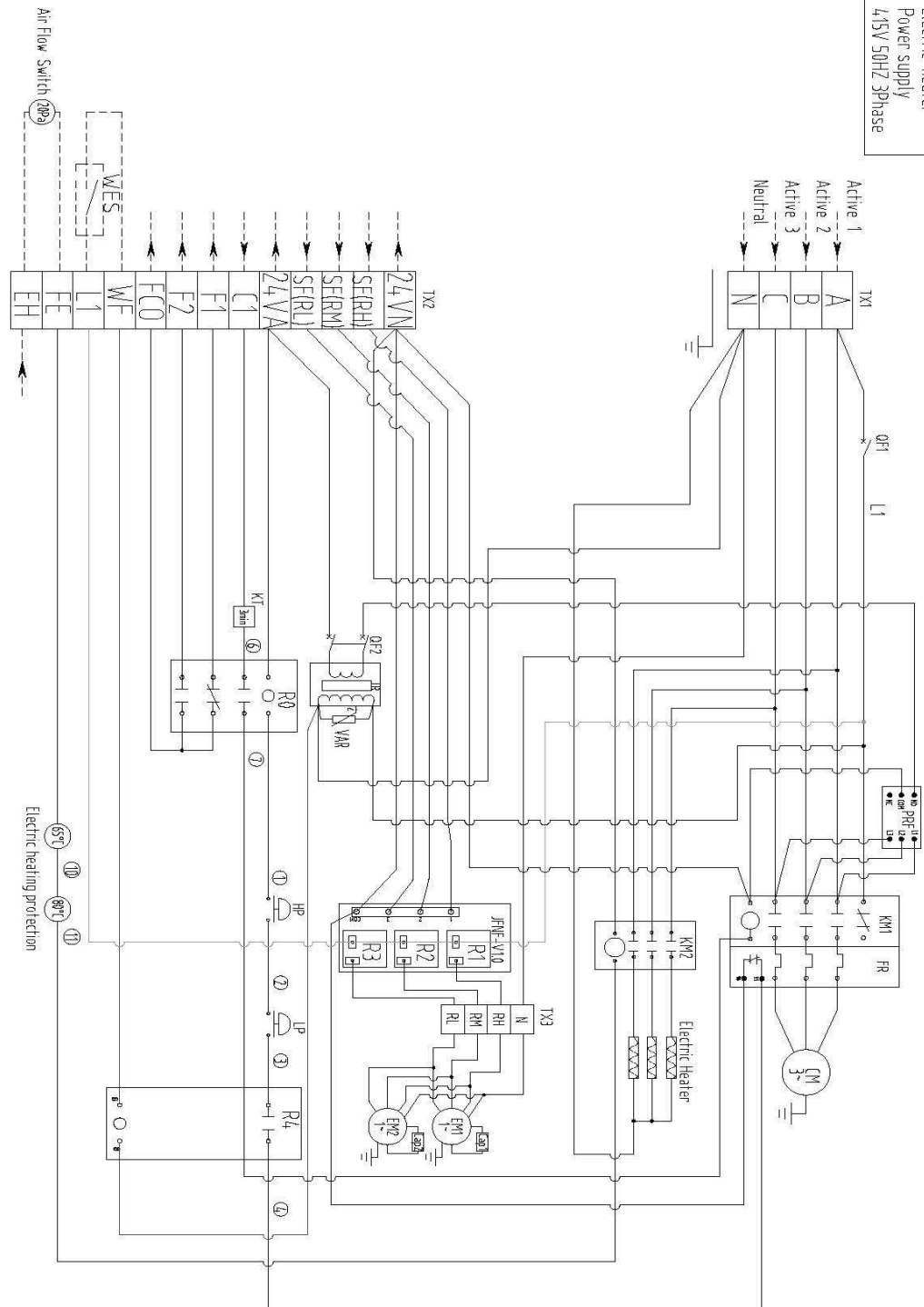
Notes:
Water and air flow switches supplied by installer.



DRAWN BY:	DATE:	TITLE:	DUNNAIR
APPROVED D.A.I.:	APPROVED ENG.:	TITLE:	WPR25-CB
MODEL:	WPR25-CB	DRAWING NO.:	01
		ISSUE:	01
		DATE:	01/04

WIRING DIAGRAMS – Cooling Only with Electric Heater

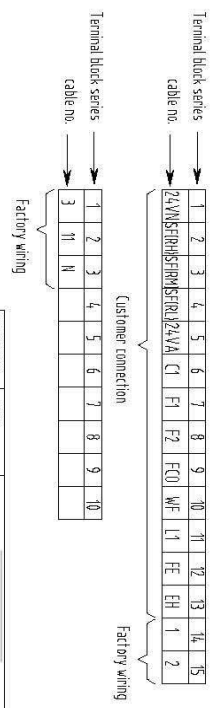
Cooling only with
Electric heater
Power supply
4/15V 50HZ 3Phase



Code Instruction:

24VVA	24VAC Active	FE	Air Flow Switch Contact	LP	LP switch	TR	Transformer
24VN	24VAC Neutral	F1	Alarm Signal/Vol - free contact Close	N	Neutral	VAR	Variable
C1	Compressor Signal	F2	Alarm Signal/Vol - free contact Open	QF	Air Switch	WF	Water Flow Switch Contact
CM	Condenser	F1Q	Alarm Signal/Vol - free contact Common	R	Middle relay	WFS	Flow Switch
EM	Evaporator Fan Signal	HP	HP switch	SF(RL)	Evaporator fan signal/U	FR	Thermal relay
EH	Electric Heater Signal	KM	Contact	SF(RM)	Evaporator fan signal/M		
KT	Time Relay	SF(RH)	Evaporator fan signal/H				

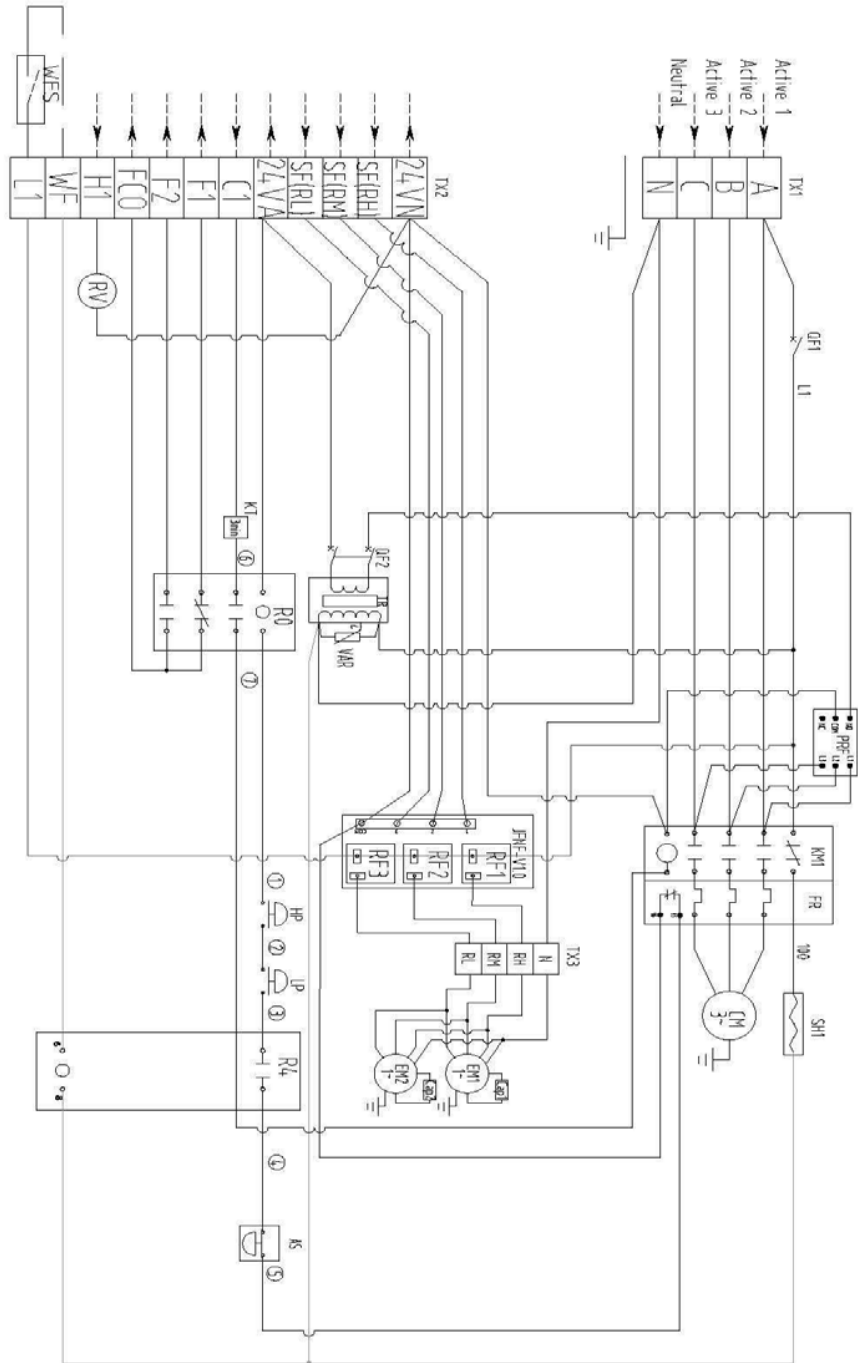
Notes:
Water and air flow switches supplied by installer.



DRAWN BY:	DATE:	DUNNAIR	
APPROVED D.A.:	APPROVED ENG.:	TITLE: Water Cooled Fan Coil Unit	
MODEL:	DRAWING NO.:	WPR TYPE	
WPR 25-CEBB	01	ISSUE:	SHEET
		01	24

WIRING DIAGRAMS – Reverse Cycle

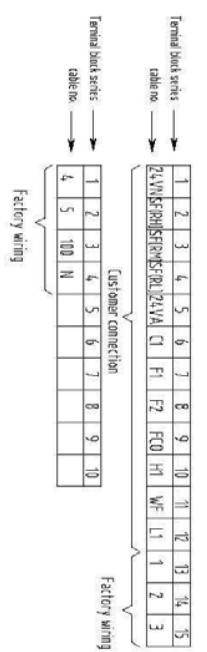
Heat Pump
Power supply
4/15V 50Hz 3Phase



Code Instruction:

24VA	24VAC Active	F2	Alarm Signal(Volt-free contact (open))	LP	LP switch	SFRRL	Evaporator fan speed
24VN	24VAC Neutral	FC0	Alarm Signal(Volt-free contact (normal))	N	Neutral	SFRRL	Evaporator fan speed
AS	Amplifier Switch	FR	Thermal relay	PRF	Phase Protection	SFRRL	Evaporator fan speed
CI	Compressor Signal	HI	Heating Signal	QF	Control Circuit Breakers	TX	Terminal Block
CPD	Capacitor	HP	HP switch	R	Waste relay	TR	Transformer
CM	Compressor	JNF	Relay Group	RV	Reversing valve	VAR	Variable
EM	Evaporator fan	KN	Contact	SH	Superheater	WFS	Water Flow Switch Contact
FI	Alarm Signal(Volt-free contact (load))	KT	Time Relay	SFRHL	Evaporator fan speed	WFS	Water Flow Switch Contact

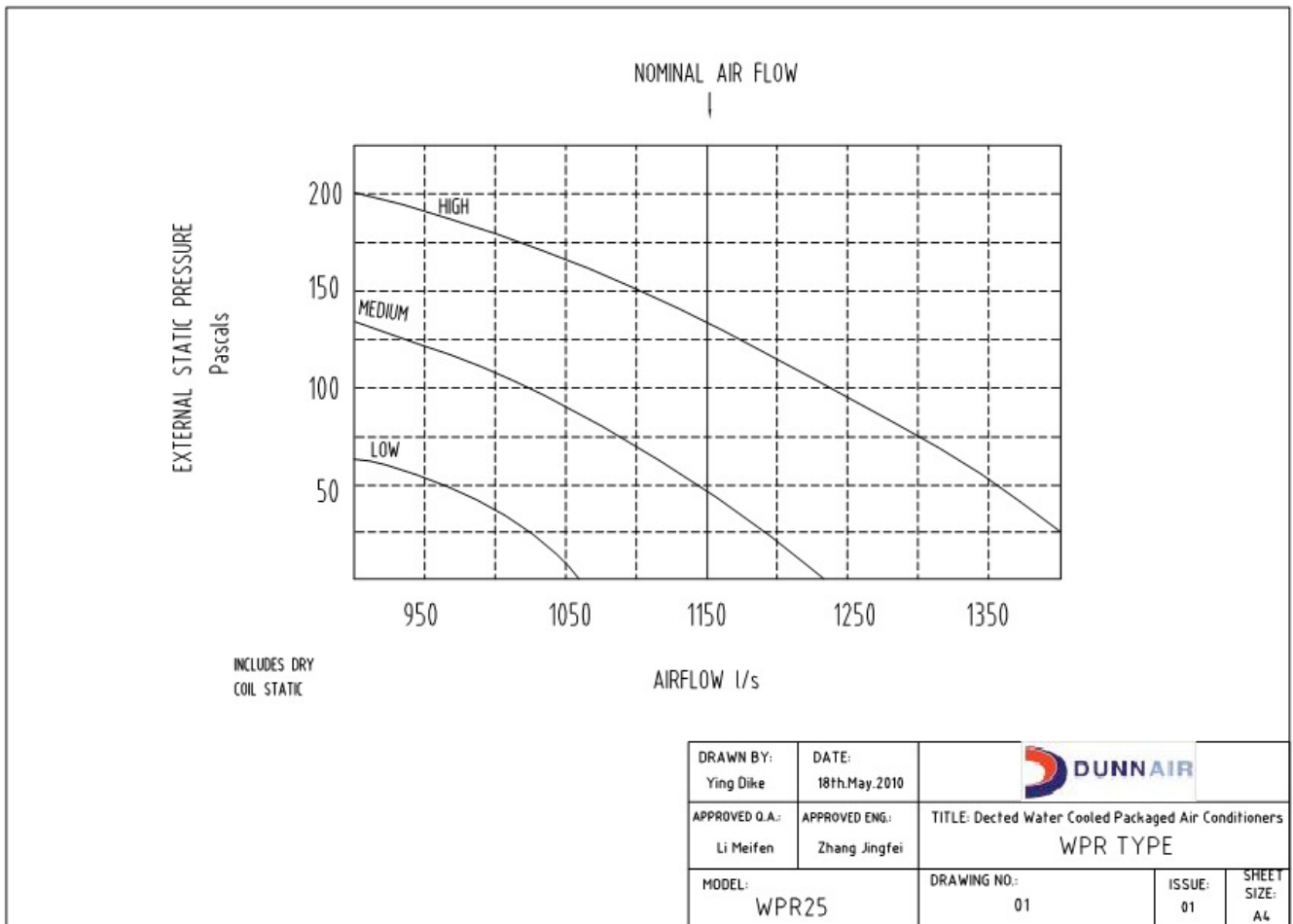
Notes:
Water and air flow switches supplied by installer.



DRAWN BY:	DATE:	DUNNAIR
APPROVED BY:	DATE:	WPR TYPE
MODEL:	WPR 25-HB	ISSUE: 01
DRAWING NO:	01	SHEET: 01
		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

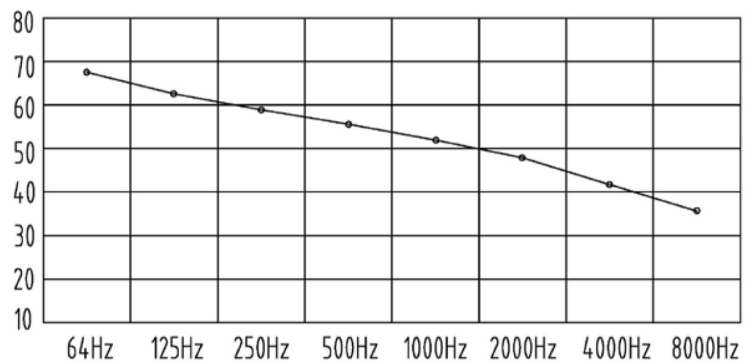
Sound Levels

WPR25 Noise rate analysing chart


A Class: 57.9dB

Hz	dB
64Hz	68.5
125Hz	63.3
250Hz	60.8
500Hz	55.9
1000Hz	53.1
2000Hz	48.0
4000Hz	42.4
8000Hz	36.3

Noise rate analysing chart (A Class: 57.9dB) 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: WPR25	DRAWING NO.: 01	ISSUE: 01	SHEET SIZE: A4	