Ducted Water Cooled R410a Refrigerant

# DUNNAIR (Aust) Pty Ltd WPR16 L

# Packaged Vertical Type

### **TECHNICAL SPECIFICATION**

Total Cooling Capacity	15.8 kW	Refrigerant	R410A
Electrical Input (Cooling)	4.29 kW	Refrigerant Charge	2.2 kg
E.E.R.(Cooling)	3.7	Minimum Water Flow	0.8 l/s
Running Amps (Total)	13.0A	Water Coil Pressure Drop	40 kPa
Fan Motor Full Load Amps	4.8 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 °C		23	27	31	
	WB °C		17	19	21	
Entering Water Temperature (E.W.T) °C	20	Т	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	Т	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	Т	15.0	<u>15.8</u>	17.6	
		S	11.4	<u>13.2</u>	15.4	
		FL	1.0	<u>1.0</u>	1.0	
		HR	19.0	<u>19.9</u>	21.9	
	35	Т	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	Т	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	

#### 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 °C		18	21	25
Entering Water Temperature (E.W.T) °C	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	<u>17.0</u>	16.2
		Hab	12.9	<u>12.8</u>	12.1
		LWT	15.9	<u>15.9</u>	16.1
		INPT	4.2	<u>4.2</u>	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 (°C) INPT = Compressor Input Power (kW)

Hab = Heat Absorbed (kW) E.A.T.= Entering Air Temperature (°C) \_\_ = 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.

T = Total Capacity (kW)

FL = Water Flow (l/s)

S = Sensible Capacity (kW)

\_\_ = Nominal Capacity (kW)

E.A.T.= Entering Air Temperature ( $^{\circ}C$ ) 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  $5\,{}^\circ\!\!\mathbb{C}$  water temperature difference.

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#### SHEET SIZE: A.4 TITLE: Vertical Water Cooled Packaged Air Conditioner $WPR\ TYPE$ ISSUE: M DUNNAIR 5 DRAWING NO.: INSTALLED WEIGHT 270kg Filter pulling out Fan : KDF2.5ШRD Motor:550W-4P £98 DATE: 25th SEP.2010 5. Zhang Jingfei APPROVED ENG.: 867 MODEL: WPR16L VPPROVED 0.A. Qiu Junjun Li Meifen DRAWN BY: Side View Access Panel S/A ž 19\_1 Drain Connections 2G3/4" а £L7 **₽**ŝ, ++ 528 Front View Plan View Access Pane 2 3 k ja N 3 ш 59

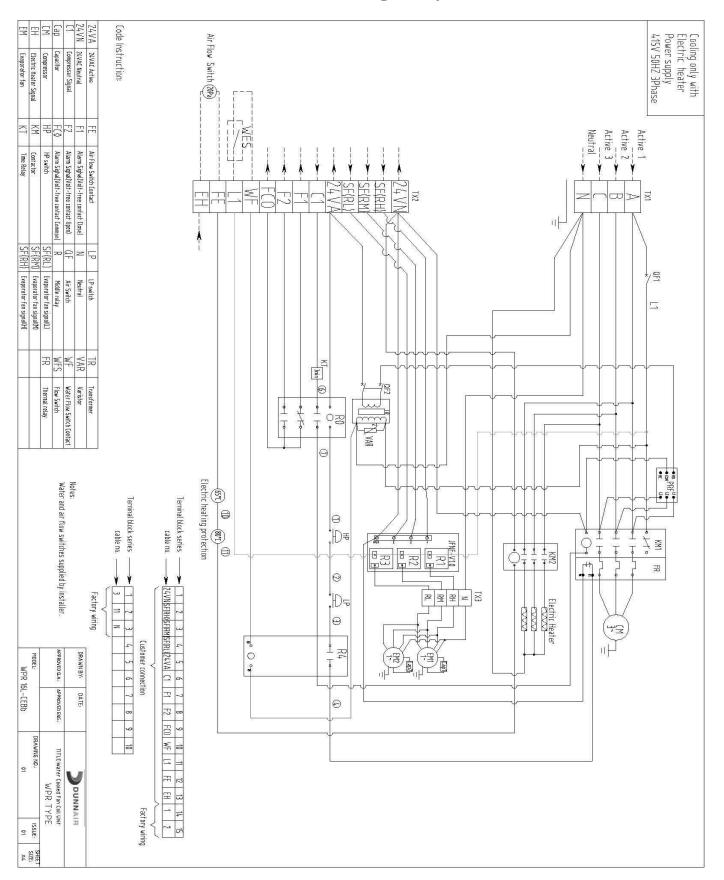
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## **DIMENSIONS (mm)**



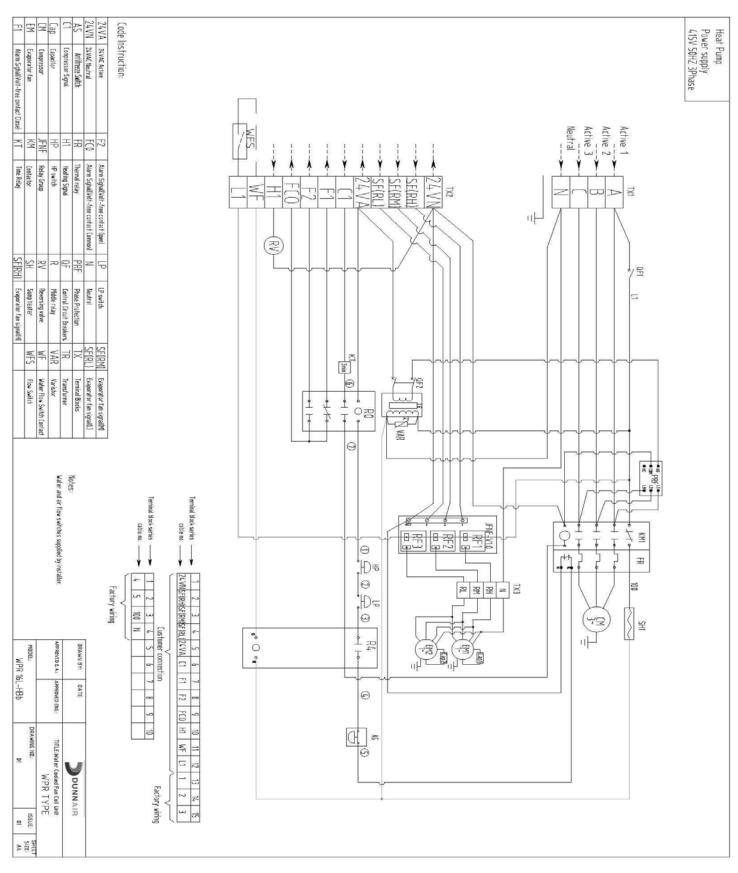
#### Code Instruction: NA76 ų 24VA 24VAC Active Cooling Only Power supply 415V 50HZ 3Phase 24VAC Neutral Compressor Signal Congressor Evaporator fan Capacitor Alam Sighal(Volt-free contact Open) Alam Sighall Volt-free contact Close Active Active Neutral Active FNF Ð Thernal relay HP switch Relay Group Contactor Time Relay LP switch Alarm Sighal (Volt-free contact Common) Neutral SER SFR SFIRM f 44 L. 10 마 SFIRM) PRP VRF 195 Control Circuit Breakers Middle relay Sump heater Evaporator fan signal(H Evaporator fan signal(L) Terninal Blocks Evaporator fan signal(M Phase Protection TR VAR 1 Jinin Vater Flow Switch Centract Flow Switch Transformer Varistor 6 OF2 ł u • -++-1 0.29 Ţ Ţ 0 PRF Notes: Water and air flow switches supplied by installer. Terninal block series Ø S Î Î ŕ Ŷ 7 3 cable no. Ţ T T Θ \*\*\* 2 FR .HD≡ ¥ 0 24 VN\$F(RH)\$FIRM\$FIRU]24VA C1 F1 . Ds 0 8° () Ĺ R4 лH Eustomer connection (73) DRAWN BY 面子 MODEL T 酒 IDVED D.A. -WPR 16L-CBb APPROVED ENG. DATE $\odot$ F2 FC0 WF DRAWING NO.: TITLE Water Cooled Fan Coil Unit WPR TYPE 10 11 12 13 14 15 2 -DUNNAIR -~ Factory wiring w 01 SIZE:

## WIRING DIAGRAMS - Cooling Only



## WIRING DIAGRAMS – Cooling Only with Electric Heater

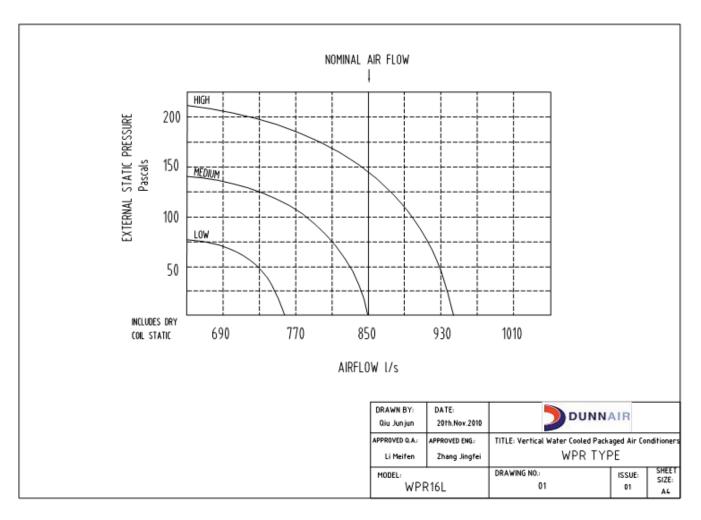
DUNNAIR (Aust) Pty Ltd



## 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 Levels

