



**DUNNAIR**  
(Aust) Pty Ltd

Ducted Water Cooled



**DWAI-12HAB**

**Packaged Horizontal Type**

### TECHNICAL SPECIFICATION

Total Cooling Capacity	11.7 kW	Refrigerant	R410A
Electrical Input (Cooling)	3.10 kW	Refrigerant Charge	1.7 kg
E.E.R.(Cooling)	3.77	Minimum Water Flow	0.66 l/s
Running Amps (Total)	13A	Water Coil Pressure Drop	44 kPa
Fan Motor Full Load Amps	1.0A	Filter (Option)	
Electrical Supply Required	1 Ph.240V.50Hz	Electric Heater (Option)	

### COOLING CAPACITY (kW)

AIR FLOW RATE (L/S)		528			
COIL E.A.T.	DB °C		23	27	31
	WB °C		17	19	21
Entering Water Temperature (E.W.T) °C	20	T	11.8	12.1	12.3
		S	9.7	10.2	10.7
		FL	0.66	0.66	0.66
		HR	13.6	13.8	14.1
	25	T	11.4	11.7	12.1
		S	9.6	10.1	10.4
		FL	0.66	0.66	0.66
		HR	13.4	13.6	14.1
	30	T	11.2	<u>11.7</u>	12.1
		S	9.4	<u>9.9</u>	10.3
		FL	0.66	<u>0.66</u>	0.66
		HR	13.0	<u>13.2</u>	13.6
	35	T	10.8	11.1	11.3
		S	9.3	9.5	10.0
		FL	0.66	0.66	0.66
		HR	12.7	12.9	13.0
	40	T	10.6	10.7	10.8
		S	9.2	9.4	9.9
		FL	0.66	0.66	0.66
		HR	12.5	12.5	12.8

T = Total Capacity (kW)  
FL = Water Flow (l/s)  
\_\_\_ = Nominal Capacity (kW)

S = Sensible Capacity (kW)  
E.A.T.= Entering Air Temperature (°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°C water temperature difference.

### HEATING CAPACITY (kW)

#### WPR Reverse Cycle Version

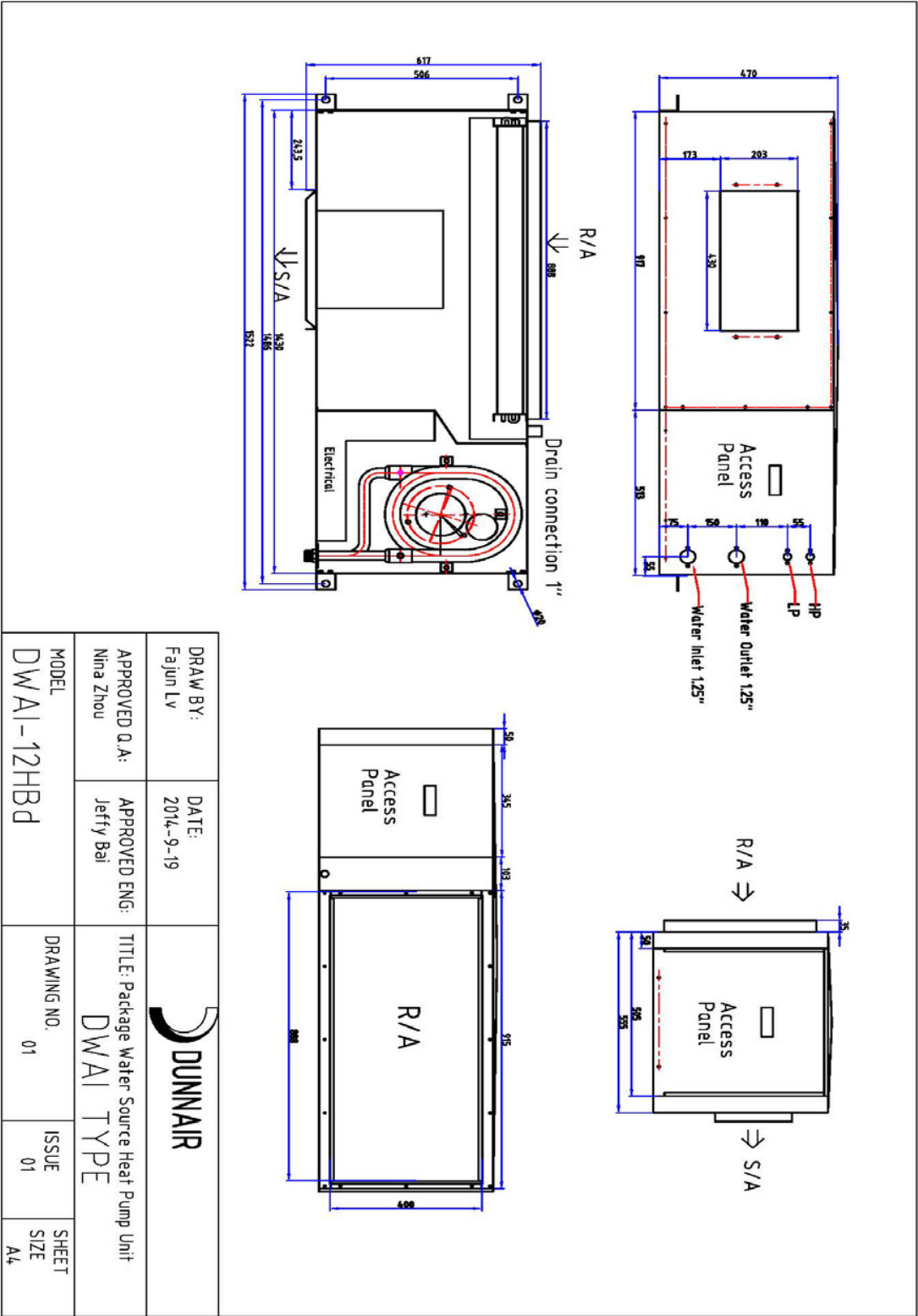
AIR FLOW RATE (L/S)		528			
WATE FLOW RATE (L/S)		0.66			
COIL E.A.T.	DB °C	18	21	25	
Entering Water Temperature (E.W.T) °C	15	HC	11.5	11.4	11.2
		Hab	9.2	9.0	8.8
		LWT	11.6	11.7	11.8
		INPT	3.02	3.04	3.06
	20	HC	11.8	<u>11.5</u>	11.6
		Hab	9.5	<u>9.4</u>	9.3
		LWT	15.6	<u>15.7</u>	15.8
		INPT	3.07	<u>3.10</u>	3.14
	25	HC	12.2	12.0	11.9
		Hab	9.8	9.7	9.6
		LWT	20.4	20.6	20.7
		INPT	3.21	3.25	3.31

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)

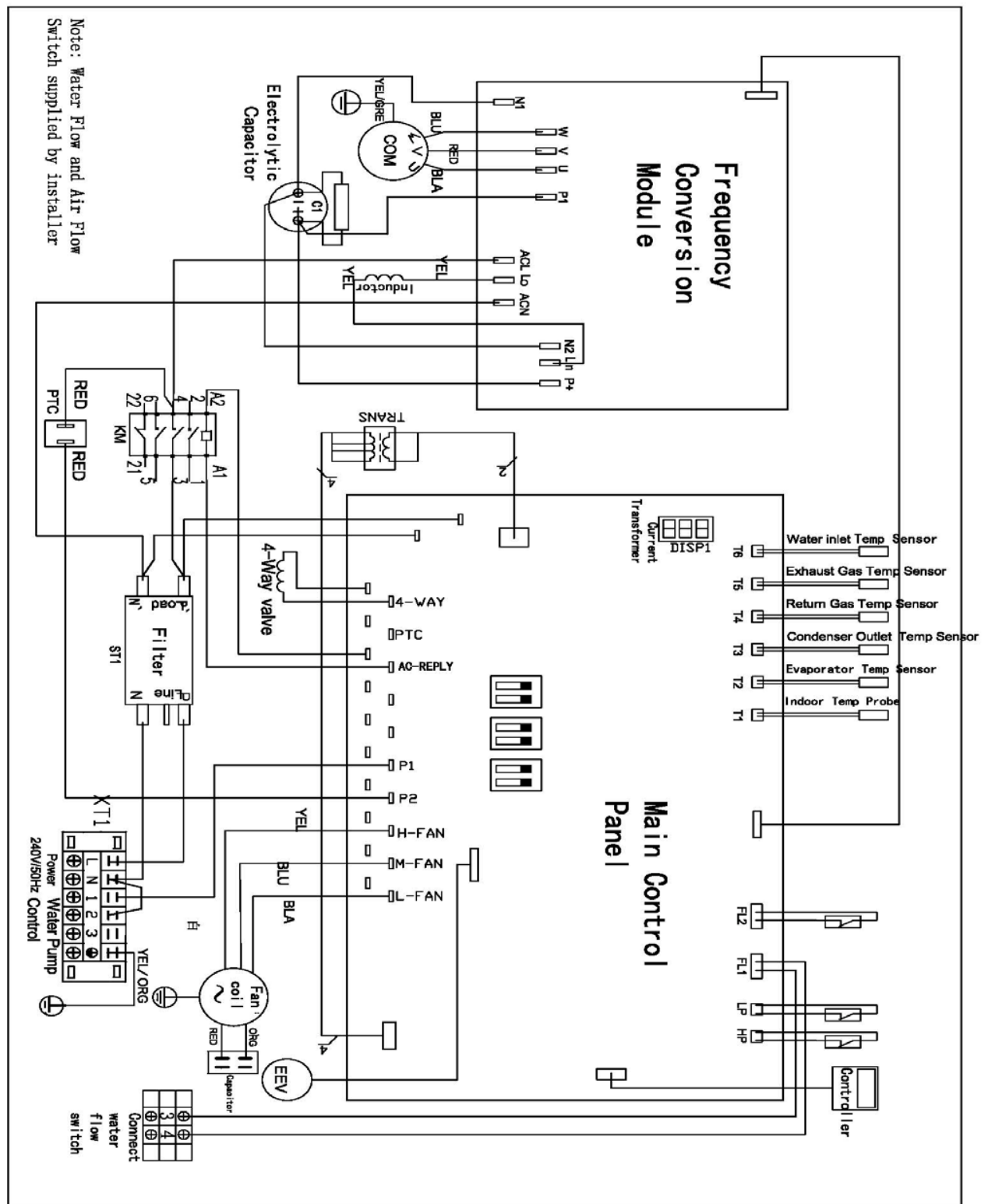
**Note:** All units are reverse cycle heat pump units. Models can also be provided as cooling only or cooling only with electric heater upon request.

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DIMENSIONS (mm)

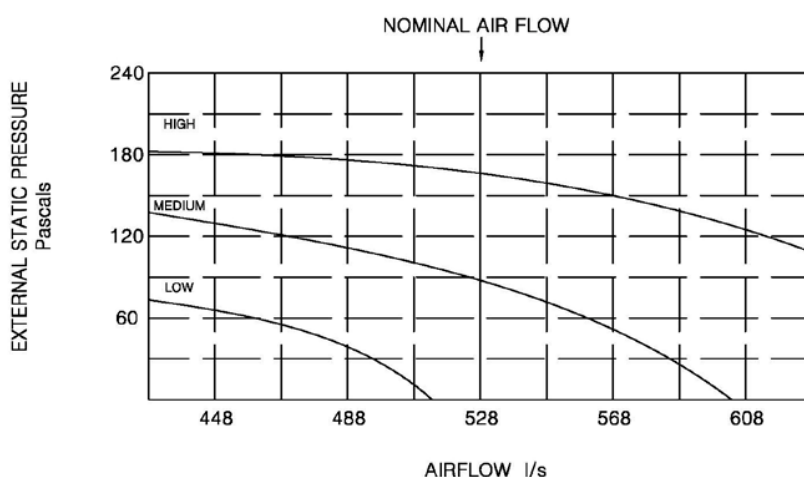


## WIRING DIAGRAMS – Reverse Cycle



## AIR HANDLING PERFORMANCE

### Fan Curve (Without Filter)



DRAW BY:	DATE: 2014-9-11	DUNNAIR		
APPROVED Q.A.:	APPROVED ENG	TITLE: Split Ducted Water Source Heat Pump Unit DWAI TYPE		
MODEL DWAI-12HAB		DRAWING NO. 01	ISSUE 01	SHEET SIZE A4

#### Note:

1. In tropical (high humidity) conditions, care must be taken to select 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

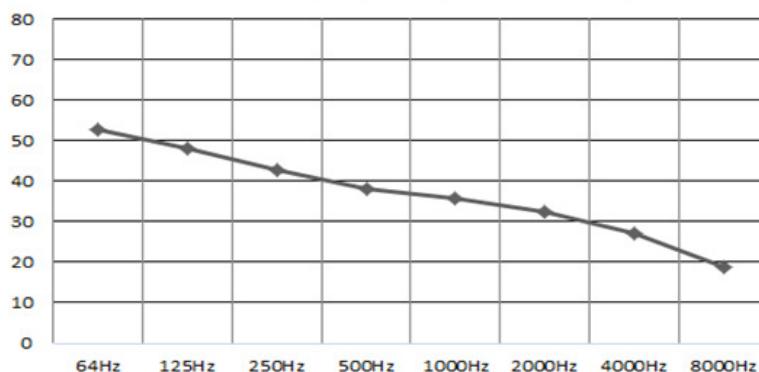
## Sound Curve

DWAI-12HAB Noise rate analysing chart

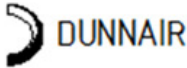
A Class:47.8

Hz	dB
64Hz	52.6
125Hz	48.1
250Hz	42.6
500Hz	38.1
1000Hz	35.8
2000Hz	32.4
4000Hz	26.9
8000Hz	18.6

Noise rate analysing chart(A Class:47.8 dB)dB



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

DRAW BY:	DATE: 2013-5-4			
APPROVED Q.A.	APPROVED ENG	TITLE: Package Water Source Heat Pump Unit DWAI TYPE		
MODEL DWAI-12HAB		DRAWING NO. 01	ISSUE 01	SHEET SIZE A4