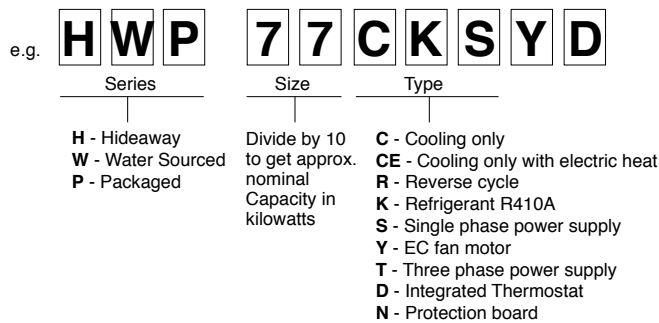


HWP 77, 96 (c/w EC Motor and UC7 Controller versions)

Ducted Water Cooled R410A Packaged Air Conditioner

Installation & Maintenance

Fig. 1 Nomenclature



GENERAL

HWP - A general designation which applies to all versions (refer fig.1)

These HWP units must be installed in accordance with all national and local safety codes.

OPTIONS

The following items are available as optional extras:

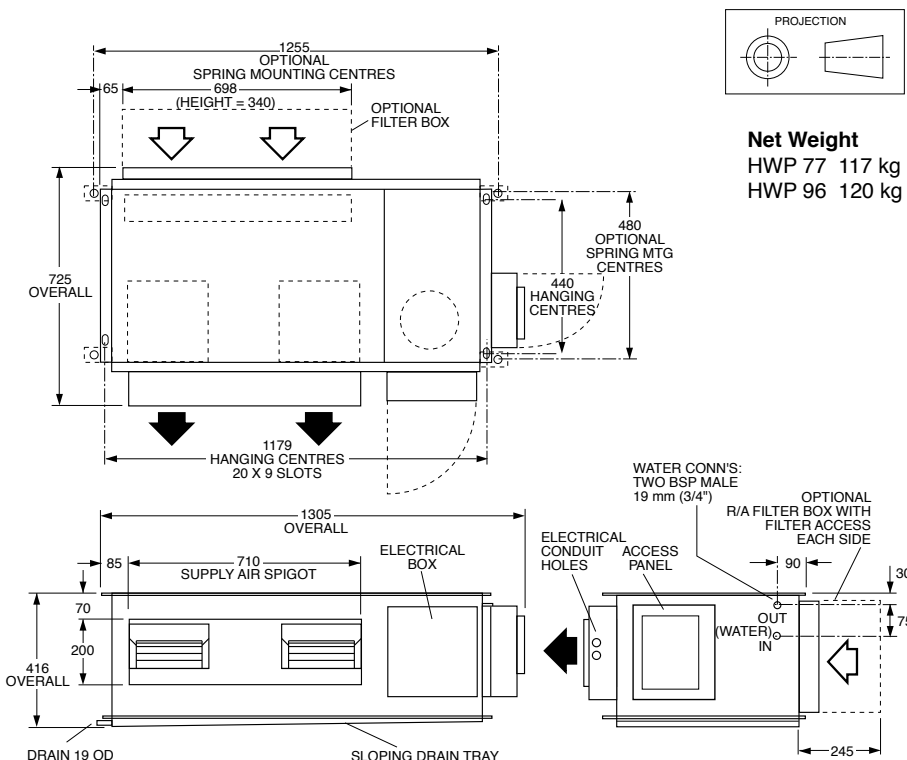
1. Condensate Lift-Pump Kit.
2. Filter Box.

A remote return air temperature sensor is supplied on all models except for HWP 77/96 CEKSYD models. Optional sensors are available; refer page 3.

High pressure hoses (600 mm long) c/w fitting and spring mounts are supplied as standard.

Fig. 2 Dimensions (mm)

Not to Scale



AIR FILTRATION / FILTER BOX (Option)

As air filtration requirements vary, filters are not supplied with the unit. Filters should ideally be installed on the return air side of the unit, no closer than 500 mm from the back of the unit and easily accessible for cleaning. To maximise the efficiency of air flow, the return air filter should be twice the area of the HWP unit's return air spigot/s. If efficiency is less of a concern a Filter Box is available.

The Filter Box is installed by unscrewing the return air spigot and replacing it with the Filter Box's filter-integrated spigot. The filter may be accessed from either side of this spigot. This box adds 245 mm to the overall depth of the unit.

INSTALLATION

Positioning & Mounting

HWP units are designed to be used with simple, short duct layouts. Units should be located as close to the space to be air conditioned as acoustic criteria allows; refer to Fig. 6 for application considerations.

When determining the position of the air conditioner, allow adequate space around the unit to facilitate future servicing and maintenance. Ensure there is enough working space in front of the electrical access panel. Allow adequate clearance for the filter (optional) to be withdrawn to its full length.

It is recommended that the unit be mounted using the spring mount system supplied (Fig.3). This system minimises transfer of vibration into the building structure.

If a more rigid installation can be tolerated, then suspend the unit from four threaded rods using locknuts (not supplied), as shown in Fig. 4.

Mount top of the unit level as it comes with a sloping drain tray. This tray is not reversible, i.e. the drain exit can only be at the opposite end to the compressor.

The unit must be mounted with sufficient height for the condensate drain to be 'U' trapped outside the unit (see figure 5). Alternatively fit a condensate lift-pump.

The drain line must not be piped to a level above the drain tray.

When finally positioned, tighten the lock nuts on the mounting rods to give a firm installation (see Fig. 3).

Condensate Drain

The drain line must be maintained at least 19 mm ID along its full length. A vent pipe is recommended for drain pipes longer than 4 m (refer figure 4). Check drain by pouring water into the drain tray and ensuring that it clears. Failure to adhere to these instructions could cause flooding.

Water Supply & Return

The HWP unit's IN and OUT water connections are male pipe threaded (refer Fig. 1). The two **temperzone** 600 mm flexible high pressure water hoses supplied have female pipe threaded connections at each end. Maximum water pressure for each hose is 1720 kPa (250 psi). The HWP unit alone, excluding hoses, will withstand 4480 kPa (650 psi).

Poor quality water supply must be pre-filtered and it is essential that adequate water treatment is maintained, particularly where open cooling towers are used.

Note: It is required that the water supply system be fitted with a water flow switch and water pump safety interlock. These items prevent the HWP units from going into fail safe lockout status due to a loss of water flow. Failure to install the above items would require the resetting of all HWP units in the system - either by breaking the power supply to each unit or breaking the thermostat control circuit.

HWP*R units require a minimum water supply temperature of 17°C.

Circuit Balancing Valve

It is recommended that a circuit balancing valve be fitted to maintain water flow at a constant rate. The minimum water flow rates in litres per second (l/s) are as follows:

HWP:	77	96
Minimum	0.45	0.67

Electrical

The air conditioner should be connected to the appropriate power supply for each model, as specified in the wiring diagram, with neutral and adequate earth. The supply to have an accessible switch to allow isolation of the unit. Wire the heating and cooling room thermostat to the electrical terminals adhering to the wiring diagram supplied with the unit. All wiring to the air conditioner must comply with the wiring regulations of the local electrical authority.

Fig. 3 Spring Mounting

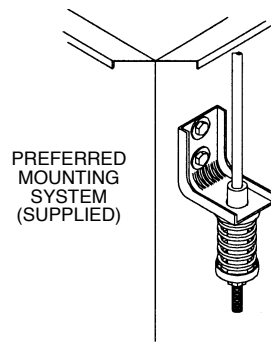


Fig. 4 Solid Mounting

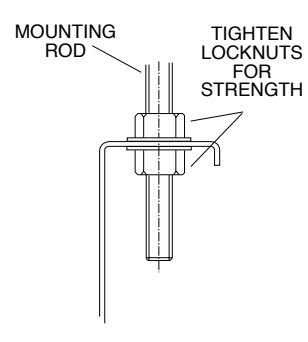
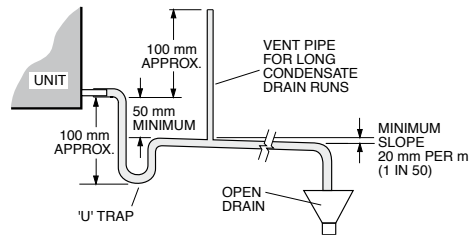


Fig. 5 Condensate Drain



Indoor Fan Speed

The Indoor fan can be switched ON through the thermostat by selecting High, Medium or Low fan speed, or via BMS. This can be done without starting the compressor.

The factory default setting of the maximum fan speed and the fan speed range (High – Low) are specified on the wiring diagram.

If either High speed or Low speed need adjusting, proceed as follows for:

Units supplied with SAT-2 Controller

Use DIP Switches 1 to 5 on the Analogue Level Controller (ALC) board located in the electrical box – refer wiring diagram. DIP switches 1 to 3 determine the maximum fan speed. DIP switches 3 & 4 determine the fan speed range, below the maximum setting.

Units supplied with UC7 Controller

Use the UC7 Controller board to adjust the indoor fan speed:

- Set DIP switch 5 on the UC7 to ON, then reset the controller by cycling mains power to the unit off and on again.
- Ensure the compressor is off and the thermostat or BMS does not request for the compressor to start.
- Press and hold down the SW3 push button on the UC7 circuit board until the display shows the letter 'H', then release the push button.
- The indoor fan will start and run at the 'High' speed setting (factory default setting is 7.5V). The display will show the value (7.5') and the indoor fan will run at the selected speed.
- Each following press on the SW3 push button increases the indoor fan control voltage in steps of 0.5V, up to a maximum of 10.0V. Pressing the push button again when value 10.0 is shown returns the fan control voltage down to the minimum value for 'High' fan speed (3.0V).
- When the desired setting for high fan speed is selected then wait for 30 seconds. The controller will save the selected value in its memory and return to normal operation.

- To adjust the indoor fan 'Low' speed repeat the above procedure but wait until the display shows the letter 'L' before releasing the push button. The factory default value for low speed is 5.5V.

HWP-CKSYD & HWP-RKSYD models:

Once set, your fan speed range can then be set to: LOW, MED and HIGH (DIP1 switch 1 'OFF') across the selected range.

Air / Water Flow

Refer to HWP 77/96 Data Sheet pamphlets for detailed information on air handling performance and water flow rates.

Unit Protection

Unit protection is incorporated in either:

- UC7 Controller, or
- SAT-2 Controller, depending on which HWP model is being installed.

A pump verification relay ensures that water is flowing before the compressor will start. A high pressure lockout protects the unit from low water flow in cooling mode, or fan failure in heating mode. Sensors protect against low air coil temperature and loss of refrigerant. Units include an anti rapid cycle device for compressor protection.

HWP*R units also have a low refrigerant temp. safety thermostat to protect against icing up of the water within the unit's tube-in-tube heat exchanger.

A non-specific fault LED/ output signal is also included for remote fault indication to building management systems (refer wiring).

For models supplied with UC7 Controller, refer to the label on the unit for operation & fault diagnostic information.

Note: Lockout protection can be reset by switching unit's power supply off and on. Lockout protection will also reset when the thermostat switches, or is switched to the dead zone.

Units Supplied With SAT-2 Thermostat
Any faults detected are displayed on the SAT-2 Wall plaque (refer Table 1). A non-specific fault output signal is also included on SAT-2 Controllers for remote fault indication to building management systems.

Units Supplied With Electric Heat
HWP*CEKS models supplied with electric heat include both auto (90°C) and manual (120°C) high temp. safety thermostats. If the manual safety t/stat requires resetting, then the auto safety t/stat has failed and needs to be replaced.

Room Thermostat (Reverse Cycle Models)

The thermostat should be set within the recommended operating range of between 19°C and 30°C. The thermostat should not be used as an on-off switch. Refer to **temperzone** for a list of other approved thermostats.

If your unit is supplied with **temperzone's SAT-2 Thermostat**, refer to page 3 for installation instructions.

COMMISSIONING

1. Check that the thermostat is correctly wired and set at the desired temperature.
2. Check that the air filter (if fitted) is clean.
3. Check that the fan runs freely without vibration.
4. Check condensate drain and safety drain tray for free drainage.

Demonstrate the SAT-2 Wall Control (if supplied) to the owner/user, after having first thoroughly familiarised yourself with the User's Operating Instructions. This page is to remain with the owner/user.

MAINTENANCE

Quarterly

1. Remove lint and dust accumulation from heat exchange air coil. (Note: failure to do this may affect efficiency).
2. Check air filters and vacuum or wash clean as necessary.
3. Check condensate drain for free drainage.
4. Check compressor compartment for oil stains indicating refrigerant leaks.
5. Check quality of water supply.

Six Monthly

Check tightness of electrical connections.

Yearly

1. Remove lint and dust accumulation from heat exchange air coil. (Note: failure to do this may affect efficiency).
2. Replace air filter if damaged to maintain adequate air flow and efficiency.

NOTE

The manufacturer reserves the right to make changes in specifications at any time without notice or obligation. Certified data is available on request.

This pamphlet replaces the previous issue no. 3905 dated 11/13. Indoor fan speed adjustment; wiring revisions.

Units Supplied With Integrated Thermostat (SAT-2 Controller)

Components

The following components are supplied in a box taped inside the supply air spigot:

1. SAT-2 Wall Control plaque, including wall mounting plate.
2. 10 m interface lead (electrical box-to-plaque).
3. User's Operating Instructions booklet.
4. Lithium CR2032 battery (3V).

Optional

1. Remote return air sensor (in box).
2. Remote return air temperature sensor lead; 1.5, 6, 12 or 25 m.
3. 20 m extended interface lead (electrical box-to-plaque).
4. SAT-2 Zone Control PCB.
5. Zone Control 24V transformer.
6. Additional SAT-2 Wall Control plaque.
7. Infra red remote control.

Installation

The SAT-2 Controller PCB is supplied pre-installed in the HWP unit's electrical box.

1. Isolate the HWP unit from power supply, then remove electrical box cover.
2. Remove the SAT-2 box supplied taped inside the supply air spigot.
3. Remove the Wall Control's interface lead from this box and connect to the terminal block (A1/B1/Vcc/GND) on the SAT-2 Controller board. Trace the remaining length of the lead to the Wall Control's intended location. **Note:** Make sure the coloured wires are connected as per the wiring diagram.
4. Remove the Wall Control's backing plate by using a small screw driver to remove the single screw at the bottom edge of the plaque.

5. Install the Lithium battery, supplied loose, positive (+) side up in the Wall Control's battery holder.
6. Check the wall where the Wall Control plaque is to be located is flat before fastening the wall mounting plate. Alternatively, the mounting plate can be screwed to a standard wall socket mounted horizontally.
Note: Use low profile (mush) headed screws to prevent contact with the PCB board. Fixing the plate to a distorted surface may damage the control.
7. Drill hole in wall to allow cable entry.
8. Connect the interface lead to the the Wall Control board. **Note:** Make sure the coloured wires are consistently connected at each end as per the wiring diagram.
9. Ensure the interface lead is run separately and away from main power supply wires, including the interconnecting cable. When installing cabling, trim any excess length to suit your location.
10. Fill around the interface lead with foam or cover hole with PVC tape to prevent draft from wall cavity affecting control operation. Do not use aluminium duct tape.
11. Secure the Wall Control body to the mounting plate by replacing the locking screw removed earlier.
12. Replace the HWP electrical box cover.

Remote Air Temperature Sensor/s (option)

The air temperature sensor is by default located in the Wall plaque. Optional remote air temperature sensors are available so that the measurement of the room temperature can be taken away from the wall plaque, eg. elsewhere in the room or in the return air duct.

Remote sensor's can be plugged directly into the Controller board (PCB). This board accepts up to four sensors which are designated as 'zones' one to four. The first return air sensor will automatically replace the Wall Control sensor and should be located in the same room as the Wall Control. The Controller will always use the average of the zones selected. Refer to the separate installation instructions supplied with the PCB for further details.

Ensure all remote sensor wires are run separately and away from main power supply wires, including the interconnecting cable.

Fault Detection

Any faults detected are displayed on the SAT-2 Wall plaque (refer Table 1 overleaf). A non-specific fault output signal is also included on SAT-2 Controllers for remote fault indication to building management systems.

Table 1 SAT-2 Controller - Troubleshooting

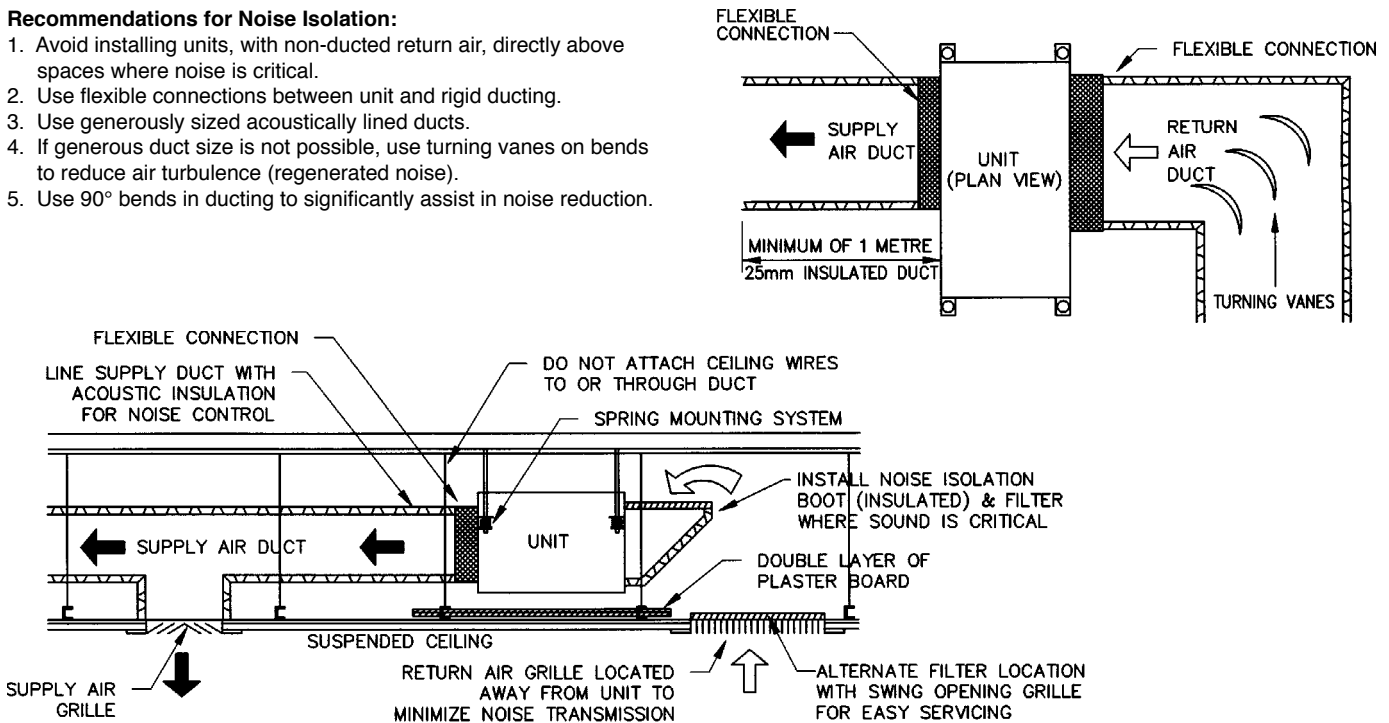
If an fault is detected, an 'ERR' symbol will light up on the Wall plaque display. The following error codes may be displayed:

Error Code	Fault	Remarks
1	Room sensor #1 failure	Main board AD3
2	Room sensor #2 failure	Main board AD4
3	Room sensor #3 failure	Main board AD5
4	Room sensor #4 failure	Main board AD6
5	#1 indoor coil sensor failure	Main board AD1
6	#1 LST sensor failure	Main board AD2
7	#1 insufficient refrigerant	
8	#1 compressor overload	
9	#1 low pressure failure	
10	#1 high pressure failure	
11	Room sensor #5 failure	At wallpad B
12	Room sensor #6 failure	At wallpad A
13	All room sensor failure	
14	Float switch failure	
15	#1 Low safety thermostat failure	
16	Communication failure	
17	Hydronic pump switch failure	
18	#2 insufficient refrigerant	
19	#2 compressor overload	
20	#2 Low safety thermostat failure	
21	Discharge sensor 1 failure	
22	Discharge sensor 2 failure	
23	Discharge temp 1 failure	
24	Discharge temp 2 failure	

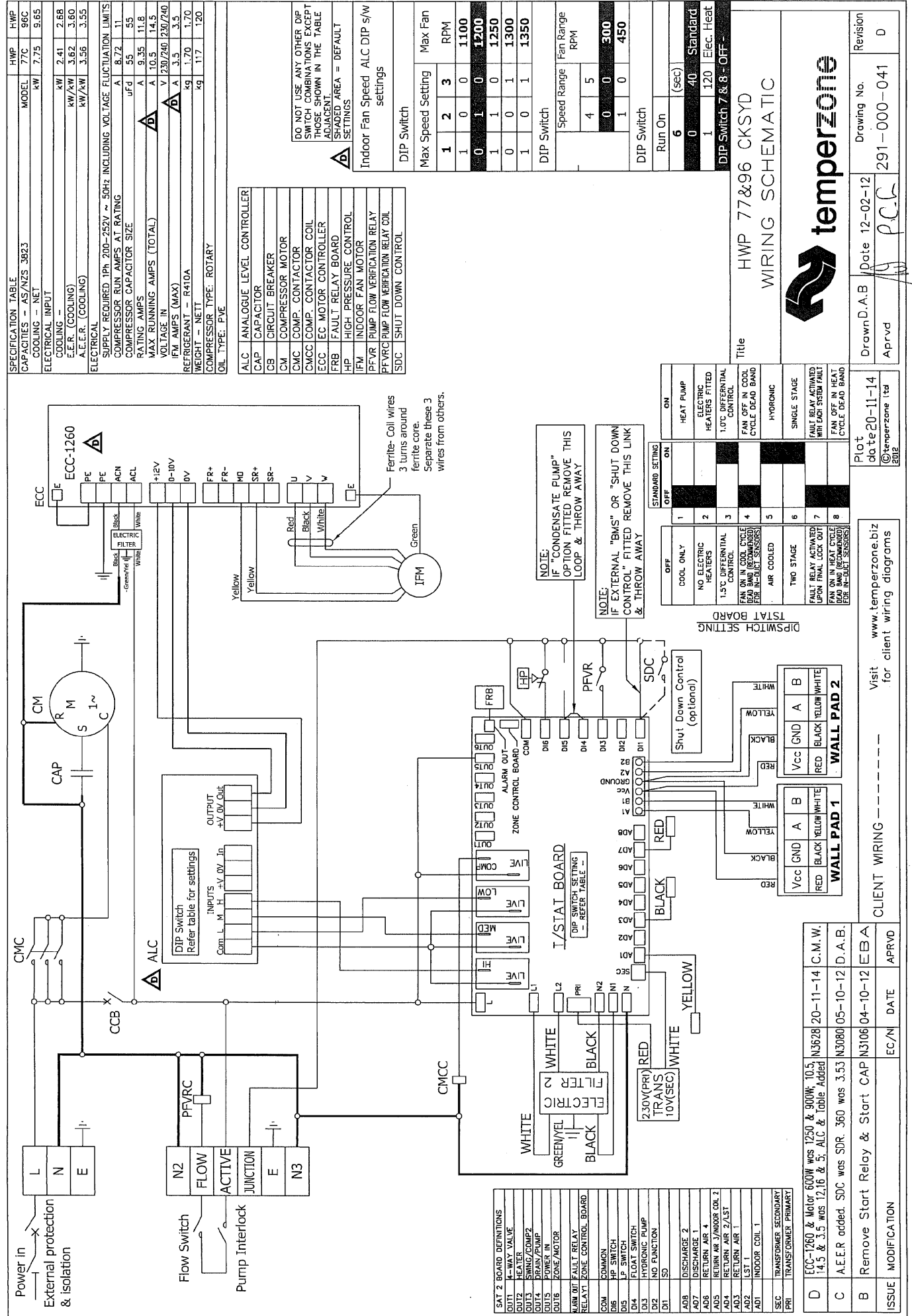
Fig. 6 Application Considerations

Recommendations for Noise Isolation:

1. Avoid installing units, with non-ducted return air, directly above spaces where noise is critical.
2. Use flexible connections between unit and rigid ducting.
3. Use generously sized acoustically lined ducts.
4. If generous duct size is not possible, use turning vanes on bends to reduce air turbulence (regenerated noise).
5. Use 90° bends in ducting to significantly assist in noise reduction.



HWP 77/96 CKSYD



SPECIFICATION TABLE

CAPACITIES - AS/NZS 3823	HWP	HWP
COOLING - NET	MODEL	77C 96C
	KW	7.75 9.65
ELECTRICAL INPUT		
COOLING	kW	2.41 2.68
E.L.R. (COOLING)	kW/kW	3.62 3.60
A.E.E.R. (COOLING)	kW/kW	3.56 3.55
ELECTRICAL		
SUPPLY REQUIRED 1Ph 200-252V ~ 50Hz INCLUDING VOLTAGE FLUCTUATION LIMITS		
COMPRESSOR RUN AMPS AT RATING	A	8.72 11
COMPRESSOR CAPACITOR SIZE	uFd	55 55
RATING AMPS	A	9.35 11.8
MAX RUNNING AMPS (TOTAL)	A	10.5 14.5
VOLTAGE IN	V	230/240 230/240
IFM AMPS (MAX)	A	3.5 3.5
REFRIGERANT - R410A	kg	1.70 1.70
WEIGHT - NET	kg	1.7 1.70
WEIGHT - GROSS	kg	1.7 1.70
COMPRESSOR TYPE: ROTARY		
OIL TYPE: PVE		

DO NOT USE ANY OTHER DIP SWITCH COMBINATIONS EXCEPT THOSE SHOWN IN THE TABLE ADJACENT.

SHADE AREA = DEFAULT SETTINGS

Indoor Fan Speed ALC DIP s/w settings

DIP Switch		Max Fan
Max Speed Setting	RPM	
1	2	3
1	0	0
0	1	0
1	1	0
0	0	1
1	0	1
1	0	1

DIP Switch

Speed Range	Fan Range
Rpm	Rpm
4	5
0	0
1	0
1	0

DIP Switch

Run On	(sec)
6	
0	40
1	120
1	Elec. Heat

DIP-Switch 7 & 8 - OFF-

Legend

ALC ANALOGUE LEVEL CONTROLLER
 CAP CAPACITOR
 CB CIRCUIT BREAKER
 CM COMPRESSOR MOTOR
 CMC COMP. CONTACTOR
 CMCC COMP. CONTACTOR COIL
 ECC EC MOTOR CONTROLLER
 FRB FAULT RELAY BOARD
 HP HIGH PRESSURE CONTROL
 IFM INDOOR FAN MOTOR
 PFVR PUMP FLOW VERIFICATION RELAY
 SDC SHUT DOWN CONTROL

Legend

HEAT PUMP
 ELECTRIC HEATERS FITTED
 1.0% DIFFERENTIAL CONTROL
 FAN OFF IN COOL CYCLE DEAD BAND
 HYDRONIC
 SINGLE STAGE
 FAULT RELAY ACTIVATED WITH EACH SYSTEM FAULT
 FAN ON IN HEAT CYCLE
 FAN OFF IN HEAT CYCLE DEAD BAND

Legend

COOL ONLY
 NO ELECTRIC HEATERS
 1.5% DIFFERENTIAL CONTROL
 FAN ON IN COOL CYCLE DEAD BAND (RECOMMENDED FOR IN-DUCT SENSORS)
 AIR COOLED
 TWO STAGE
 FAULT RELAY ACTIVATED UPON FINAL LOCK OUT
 FAN ON IN HEAT CYCLE FOR IN-DUCT SENSORS

Legend

IFM
 Ferrite- Coil wires 3 turns around ferrite core. Separate these 3 wires from others.

SAT 2 BOARD DEFINITIONS

OUT1	4-WAY VALVE
OUT2	HEATER
OUT3	SWING/COMP2
OUT4	DRAIN PUMP
OUT5	POWER IN
OUT6	ZONE MOTOR
OUT7	ZONE MOTOR
RELAY1	ZONE CONTROL BOARD
RELAY2	ZONE CONTROL BOARD
COM	COMMON
DIB	HP SWITCH
DIS	LP SWITCH
D4	FLOAT SWITCH
D3	HYDRONIC PUMP
D2	NO FUNCTION
D1	SD
AD7	DISCHARGE 2
AD8	RETURN AIR 4
AD5	RETURN AIR 3/INDOOR COIL 2
AD4	RETURN AIR 2/LST
AD3	RETURN AIR 1
AD2	LST 1
AD1	INDOOR COIL 1
SEC	TRANSFORMER SECONDARY
PRI	TRANSFORMER PRIMARY

Legend

WALL PAD 1
 Vcc GND A B
 RED BLACK YELLOW/WHITE

WALL PAD 2
 Vcc GND A B
 RED BLACK YELLOW/WHITE

Legend

COOL ONLY
 NO ELECTRIC HEATERS
 1.5% DIFFERENTIAL CONTROL
 FAN ON IN COOL CYCLE DEAD BAND (RECOMMENDED FOR IN-DUCT SENSORS)
 AIR COOLED
 TWO STAGE
 FAULT RELAY ACTIVATED UPON FINAL LOCK OUT
 FAN ON IN HEAT CYCLE FOR IN-DUCT SENSORS

Legend

HEAT PUMP
 ELECTRIC HEATERS FITTED
 1.0% DIFFERENTIAL CONTROL
 FAN OFF IN COOL CYCLE DEAD BAND
 HYDRONIC
 SINGLE STAGE
 FAULT RELAY ACTIVATED WITH EACH SYSTEM FAULT
 FAN ON IN HEAT CYCLE
 FAN OFF IN HEAT CYCLE DEAD BAND

Legend

IFM
 Ferrite- Coil wires 3 turns around ferrite core. Separate these 3 wires from others.

temperzone

HWP 77&96 CKSYD
 WIRING SCHEMATIC

Title

Drawn D.A.B Date 12-02-12
 Aprvd P.C.C 291-000-041
 Revision D

Plot Date 20-11-14
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 Visit for client wiring diagrams

CLIENT WIRING -----

ISSUE EC/N DATE APRVD

D ECC-1260 & Motor 600W was 1250 & 900W, 10.5, N3628 20-11-14 C.M.W.
 C A.E.E.R added. SOC was SDR. 360 was 3.53 N3080 05-10-12 D.A.B.
 B Remove Start Relay & Start CAP N3106 04-10-12 E.B.A

HWP 77/96 CEKSYD

SPECIFICATION TABLE

CAPACITIES - AS N/ES 3823	HWP	HWP
COOLING - NET	MODEL	77CE
HEATING - ELECTRIC HEAT	KW	7.75
ELECTRICAL INPUT	KW	4.00
COOLING -	kW	2.14
HEATING - ELECTRIC HEAT	kW	4.00
E.E.R. (COOLING)	kW/kW	3.62
A.E.E.R. (COOLING)	kW/kW	3.56
ELECTRICAL		
SUPPLY REQUIRED 1ph 200-252V ~ 50Hz INCLUDING VOLTAGE FLUCTUATION LIMITS		
COMPRESSOR RUN AMPS AT RATING	A	8.72
COMPRESSOR CAPACITOR SIZE	uF	35
RATING AMPS COOLING	A	9.35
MAX RUNNING AMPS COOLING (TOTAL)	A	10.5
ELECTRIC HEAT AMPS	A	22
VOLTAGE IN	V	230/240
IFM AMPS (MAX)	A	3.5
REFRIGERANT - R410A	kg	1.70
WEIGHT - NETT	kg	117
COMPRESSOR TYPE: ROTARY		
COIL TYPE: PVE		

DO NOT USE ANY OTHER DIP SWITCH COMBINATIONS EXCEPT THOSE SHOWN IN THE TABLE ADJACENT.

SHADED AREA = DEFAULT SETTINGS

Indoor Fan Speed ALC DIP s/w settings

DIP Switch

Max Speed Setting	Max Fan RPM
1 2 3	1 0 0
1 0 0	1100
0 1 0	1200
1 1 0	1250
1 0 1	1300
1 0 0	1350

DIP Switch

Speed Range	Fan Range RPM
4 5	0 0
0 0	300
1 0	450

DIP Switch

Run On	(sec)
6	40
0	Standard

Legend for Component Abbreviations:

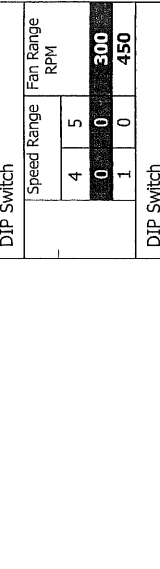
- ALC ANALOGUE LEVEL CONTROLLER
- CAP CAPACITOR
- CB CIRCUIT BREAKER
- CM COMPRESSOR MOTOR
- CMC COMP. CONTACTOR
- CMCC COMP. CONTACTOR COIL
- ECC EC MOTOR CONTROLLER
- EH ELECTRIC HEAT ELEMENT
- EHC ELECTRIC HEAT CONTACTOR
- EHC2 ELECTRIC HEAT CONTACTOR COIL
- FRB FAULT RELAY BOARD
- HP HIGH PRESSURE CONTROL
- HST AUTO HIGH TEMP. SAFETY T/STAT
- IFM INDOOR FAN MOTOR
- MST MANUAL HIGH TEMP. SAFETY T/STAT
- PFVR PUMP FLOW VERIFICATION RELAY
- PFVRC PUMP FLOW VERIFICATION RELAY COIL
- SDC SHUT DOWN CONTROL

Legend for Standard Settings:

STANDARD SETTINGS	OFF	ON
1 COOL ONLY	OFF	ON
2 NO ELECTRIC HEATERS FITTED	OFF	ON
3 1.5°C DIFFERENTIAL CONTROL	OFF	ON
4 FAN ON IN COOL CYCLE (DEAD BAND RECOMMENDED FOR INDOOR SENSORS)	OFF	ON
5 AIR COOLED	OFF	ON
6 TWO STAGE	OFF	ON
7 FAULT RELAY ACTIVATED UPON FINAL LOCK OUT	OFF	ON
8 FAN ON IN HEAT CYCLE (DEAD BAND RECOMMENDED FOR INDOOR SENSORS)	OFF	ON

Wiring Diagram Description:

Power in (L, N, E) with external protection & isolation. Flow Switch (N2) and Pump Interlock (N3) are connected to the main power lines. The system includes a compressor (CM) with capacitor (CAP) and contactor (CMC). Heating elements (EH) and electric heat contactors (EHC1, EHC2) are also shown. Safety components include HST, HP, and MST. The control system is connected to a T/STAT BOARD and an ALARM CONTROL BOARD. A 230V(PRI) transformer provides power to the control board.



Notes:

NOTE: IF "CONDENSATE PUMP" OPTION FITTED REMOVE THIS LOOP & THROW AWAY

NOTE: IF EXTERNAL "BMS" OR "SHUT DOWN CONTROL" FITTED REMOVE THIS LINK & THROW AWAY

WALL PAD 1

Vcc	RED
GND	BLACK
A	YELLOW
B	WHITE

WALL PAD 2

Vcc	RED
GND	BLACK
A	YELLOW
B	WHITE

CLIENT WIRING

EC/N	DATE	APRVD

ISSUE MODIFICATION

E	ECC-1260 & Motor 600W was 1250 & 900W; 10.5 14.5 & 3.5 was 12, 16 & 5; ALC & Table Added	C.M.W.
D	Electric Heat Amps shown. Rating Amps & Max. Running Amps now shown as Cooling	D.A.B.
C	A.E.E.R. added. SDC WAS SR. 3.60 was 3.53. 4.00 was 3.53. 4.00 was 3.53. 4.00 was 3.53. 4.00 was 3.53. 4.00 was 3.53.	D.A.B.

CLIENT WIRING

EC/N	DATE	APRVD

CLIENT WIRING

EC/N	DATE	APRVD

CLIENT WIRING

EC/N	DATE	APRVD



HWP 77&96 CEKSYD
WIRING SCHEMATIC

Drawn D.A.B Date 12-02-12
Aprvd P.C.S.
Revision 1291-000-049 E

HWP 77/96 RKSYS

SPECIFICATION TABLE		HWP	HWP
CAPACITIES - AS/NZS 3823		MODEL	77R 96R
COOLING - NET	kW	7.75	9.65
HEATING - REVERSE CYCLE	kW	6.80	8.49
ELECTRICAL INPUT			
COOLING -	kW	2.14	2.68
HEATING - REVERSE CYCLE	kW	1.79	2.40
E.E.R. (COOLING)	kW/kW	3.62	3.60
A.E.E.R. (COOLING)	kW/kW	3.56	3.55
ELECTRICAL			
SUPPLY REQUIRED 1Ph. 200-252V ~ 50Hz INCLUDING VOLTAGE FLUCTUATION LIMITS			
COMPRESSOR RUN AMPS AT RATING	A	8.72	11
COMPRESSOR CAPACITOR SIZE	µF@ 55	55	
RATING AMPS	A	9.35	11.8
MAX RUNNING AMPS (TOTAL)	A	10.5	14.5
VOLTAGE IN	V	230/240/230/240	
IFM AMPS (MAX)	kg	3.5	3.5
REFRIGERANT - R410A	kg	1.70	1.70
WEIGHT - NETT	kg	1.17	1.20
COMPRESSOR TYPE: ROTARY			
OIL TYPE: PVE			

DO NOT USE ANY OTHER DIP SWITCH COMBINATIONS EXCEPT THOSE SHOWN IN THE TABLE ADJACENT.

SHaded AREA = DEFAULT SETTINGS

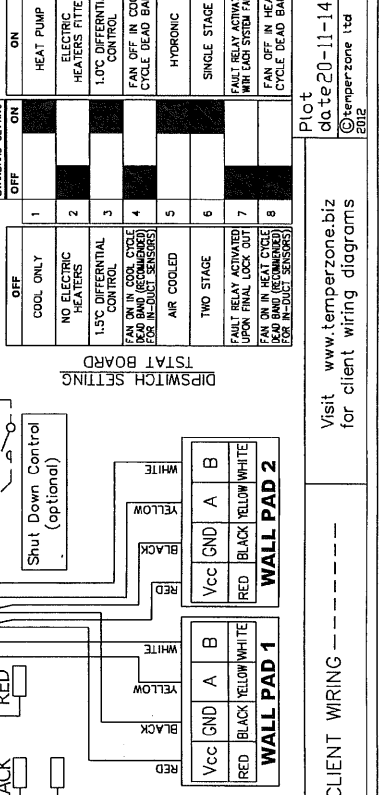
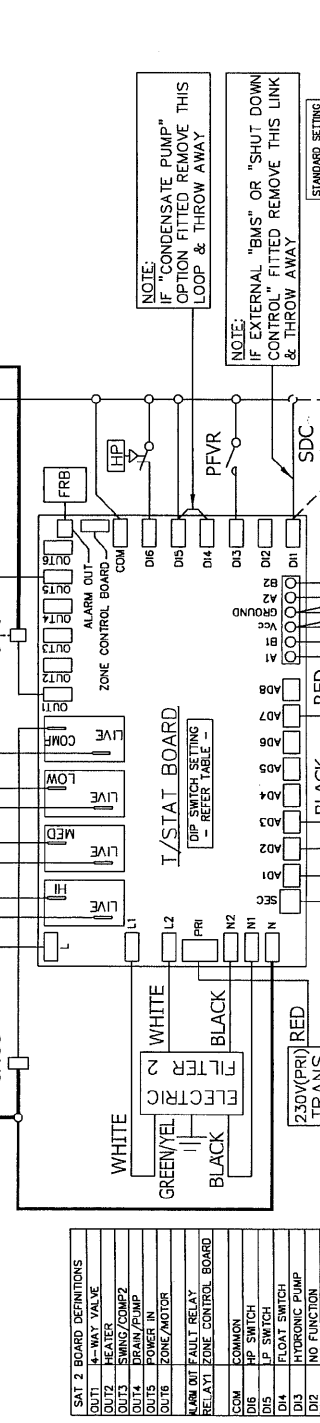
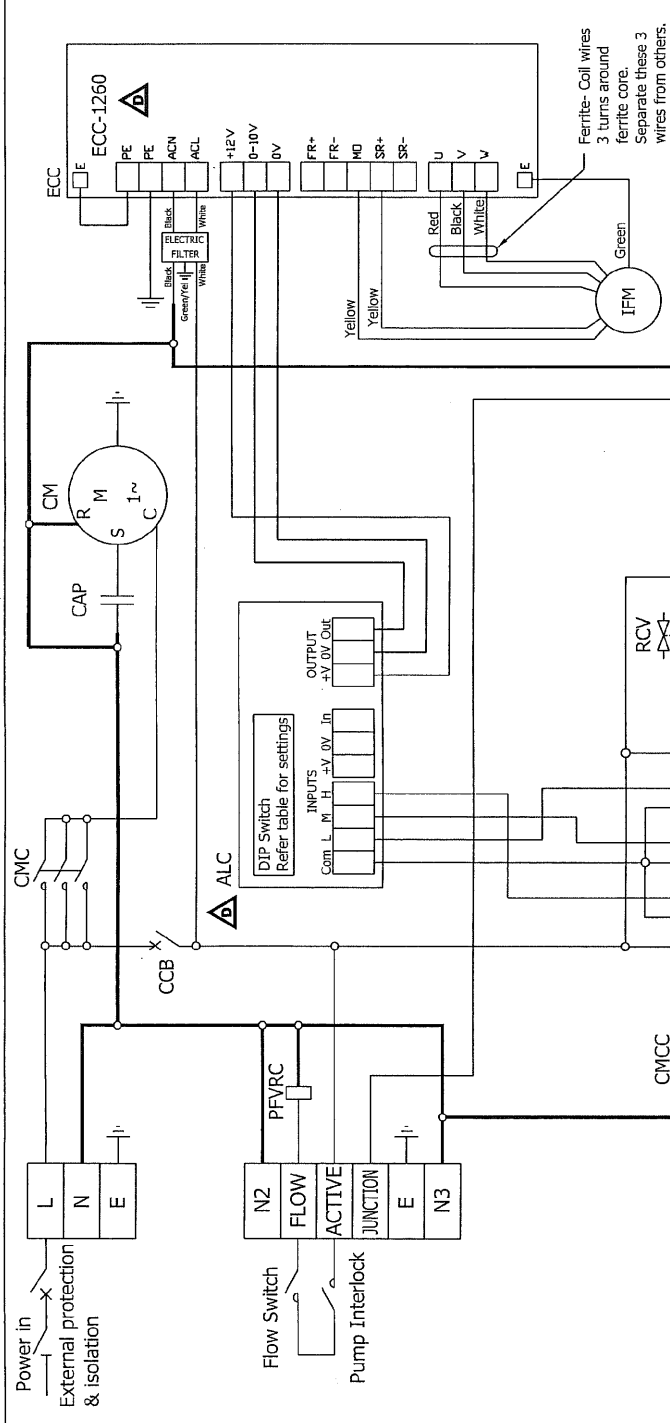
Indoor Fan Speed ALC DIP s/w settings

DIP Switch		Max Fan RPM
1	2 3	RPM
1	0 0	1100
0	1 0	1200
1	1 0	1250
0	0 1	1300
1	0 1	1350

DIP Switch		Speed Range	Fan Range RPM
4	5		
0	0	0	300
1	0	1	450

DIP Switch		Run On (sec)
6		
0	40	Standard
1	120	Elec. Heat

DIP Switch 7 & 8 - OFF -



ISSUE	MODIFICATION	EC/N	DATE	APRVD
D	ECC-1260 & Motor 600W was 1250 & 900W: 10.5, N3628 20-11-14 C.M.W. 14.5 & 3.5 was 12.16 & 3. ALC & table Added			
C	A.E.E.R added, SOC was SCR. 3.60 was 3.53 N3060 05-10-12 D.A.B.			
B	Remove Start Relay & Start CAP N3106 04-10-12 EBA			

HWP 77/96 CKSY

Capacities - Nett to AS/NZS 3823		HWP
Cooling - Net	77	96
Electrical Input	7.75	9.65
Cooling -	2.14	2.68
E.E.R. (Cooling)	3.62	3.60
A.E.E.R. (Cooling)	3.56	3.55
Electrical		
Supply required 1Ph 200-252V ~ 50Hz		
Including voltage fluctuation limits		
Compressor Type : Rotary		
Compressor (1Ph) run amps rated conditions	A 18.72	11
Compressor Capacitor size	MFD 155	55
Oil Type : P.V.E		
IFM Indoor Fan Motor (1Ph)	Δ W/ 600	600
Indoor fan motor (1Ph) Full load amps	Δ A 3.5	3.5
Rating Amps	A 9.35	11.8
Max Running Amps (total)	Δ A 10.5	14.5
Control circuit breaker	A 10	10
24VCB 24 Volt circuit breaker	A 2	2
Refrigerant - R410A	kg 1.70	1.70
Unit Weight - Nett	kg 120	121
ARB Auxiliary Relay Board	CRB UC7 Fault Relay Board	
CAP Capacitor	ECC Electronic Commutation Controller	
CCB Control Circuit Breaker	HPT High Pressure Transducer	
CM Compressor Motor	PFVR Pump Flow Verification Relay	
CMC Compressor Contactor	PFVRC Pump Flow Verification Relay Coil	
CMCC Compressor Contactor Coil	TR Transformer	
CPC Circulating Pump Control	UC7 Unit Controller: 7	
CPCC Circulating Pump Control Coil		

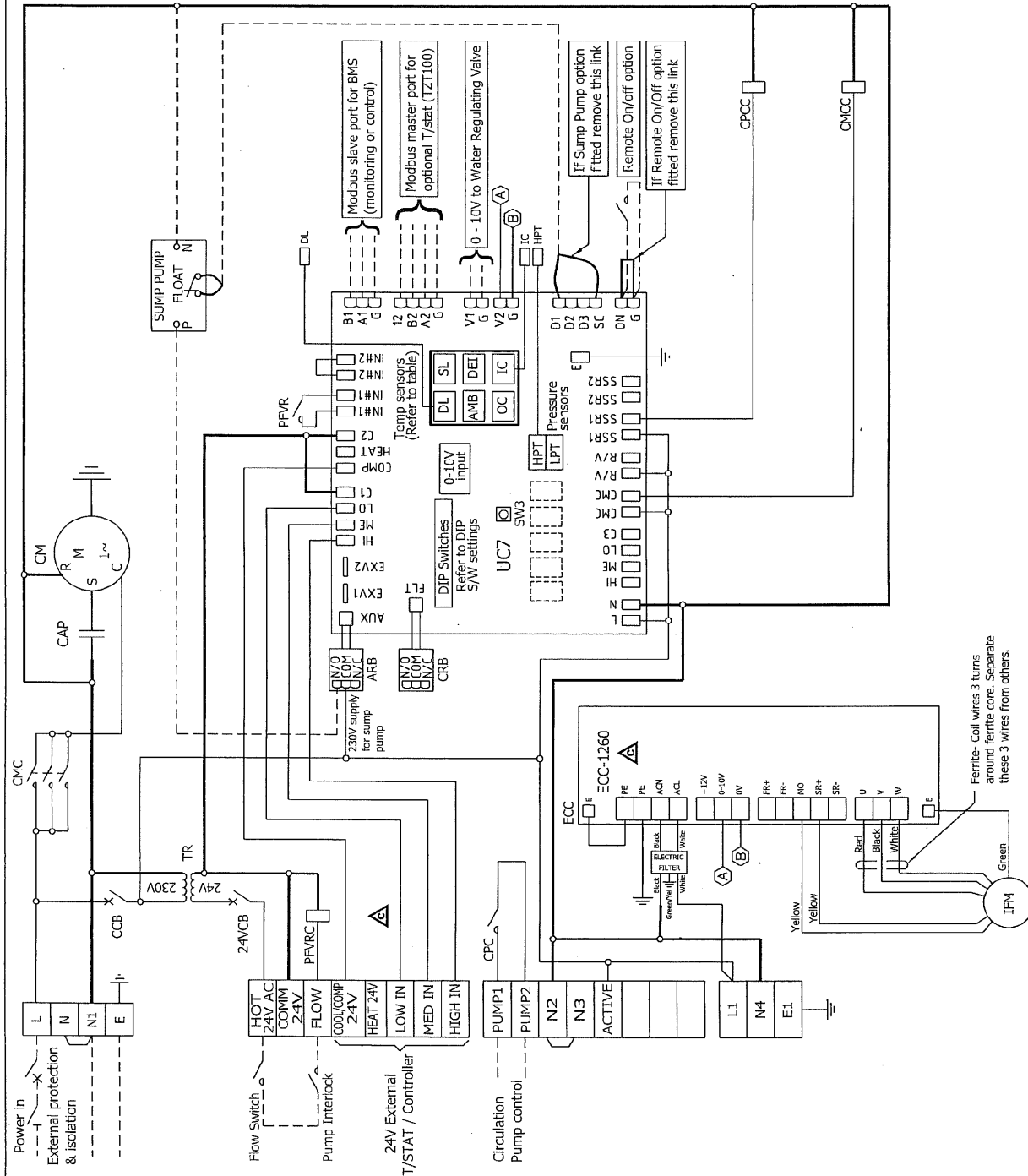
Fan Speed & Range Settings		
Min RPM	Max RPM	Max Volts (High)
825	1125	7.5
900	1200	8.0
975	1275	8.5
1050	1350	9.0

Refer Installation Instructions for Adjustment
Shaded Area = Default Settings

Title **HWP 77&96 CKSY**
c/w UC7 Wiring schematic



Drawn D.A.B.	Drawn 05-10-12	Revision
Plot date 14-11-14	Table	Drawing No. 291-000-292
©temperzone ltd	Apprvd <i>(Signature)</i>	Revision C



Temperature Sensor	Sensor Colour
DL Discharge	Red
IC I/D Coil	Yellow

UC7 DIP switch settings	
DIP switch 1,6,13,14	On
All Others	Off

Visit www.temperzone.biz for client wiring diagrams

Client wiring -----

ECU-1260 was 125k; Motor 600W was 600W; 1.5, 10.5 & 14.5 was 3.12 & 16; Relays 1, 4 Removed; Dip S/W 6 Added; Dip S/W Table Removed	N.3628	13-11-14	C.M.W.
ECU Dip Table Removed; Fan Speed Table Added	N.3628	13-11-14	C.M.W.
ISSUE	MODIFICATION	ECN	DATE
		APRVD	


HWP 77/96 CEKSY

Capacities - Nett to AS/NZS 3823	HWP	96
Cooling - Net	KW	7.75
Heating - Electric Heat	KW	4.00
Electrical Input	KW	2.14
Cooling -	KW	4.00
Heating - Electric Heat	KW	3.60
E.E.R. (Cooling)	KW/KW	3.56
A.E.E.R. (Cooling)	KW/KW	3.55
Electrical		
Supply required 1Ph 200-252V ~ 50Hz		
Including voltage fluctuation limits		
Compressor type : Rotary		
Compressor (1Ph) run amps rated conditions	A	8.72
Compressor Capacitor size	MFD	55
Oil type : P.V.E		
IFM Indoor Fan Motor (1Ph)	W	600
Indoor fan motor (1Ph) Full load amps	A	3.5
Rating Amps Cooling	A	9.35
Max Running Amps Cooling (total)	A	10.5
Electric Heat Amps	A	22
CCB Control circuit breaker	A	10
24VCB 24 Volt circuit breaker	kg	1.70
Refrigerant - R410A	kg	120
Unit Weight - Nett	kg	121
ARB Auxiliary Relay Board	EH	Electric Heater
CAP Capacitor	EHC	Electric Heater Contactor
CCB Control Circuit Breaker	EHC	Electric Heater Contactor Coil
CM Compressor Motor	HPT	High Pressure Transducer
CMC Compressor Contactor	HTSS	Auto High Temp. Safety Sensor
CMCC Compressor Contactor Coil	MST	Manual High Temp. Safety T/Stat
CPC Circulating Pump Control	PFVR	Pump Flow Verification Relay
CPCC Circulating Pump Control Coil	PFVRC	Pump Flow Verification Relay Coil
CRB UC7 Relay Board	TR	Transformer
ECC Electronic Commutation Controller	UC7	Unit Controller 7

Fan Speed & Range Settings		
Min RPM	Max RPM	Max Volts (High)
825	1125	5.5
900	1200	6.0
975	1275	6.5
1050	1350	7.0
		9.0

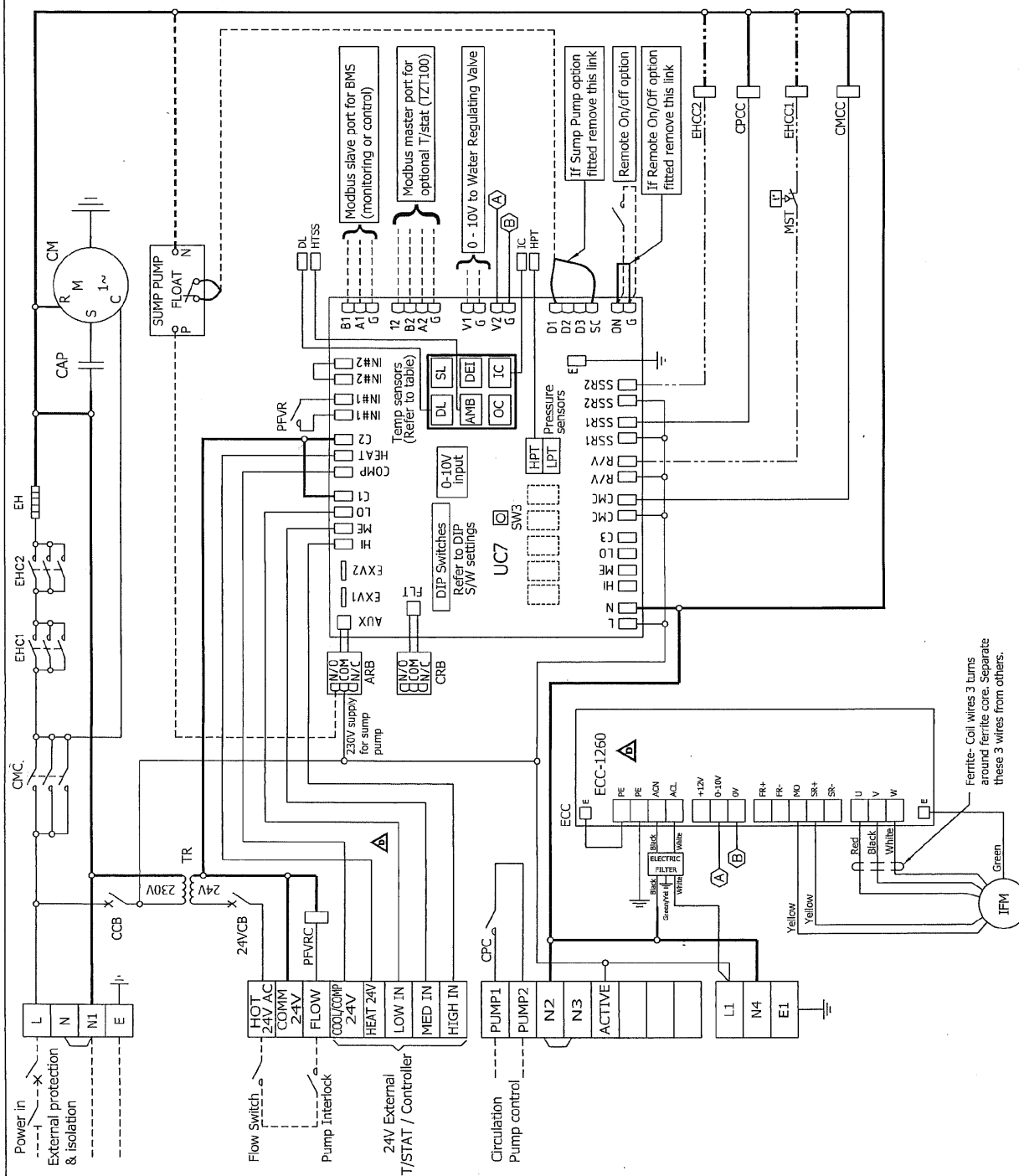
Refer Installation Instructions for Adjustment
Shaded Area = Default Settings

Title **HWP 77&96 CEKSY**
c/w UC7 Wiring schematic



Drawn D.A.B. / Date 05-10-12 / Drawing No. 291-000-293 / Revision 0

Plot date 14-11-14 / Approved p.c.r.



Temperature Sensor	
Sensor	Colour
DL	Red
AMB	Black
IC	Yellow

UC7 DIP switch settings	
DIP switch	On/Off
1,3,4,5,13,14	On
All Others	Off

Client wiring ----- Visit www.temperzone.biz
Electric Heat wiring ----- for client wiring diagrams

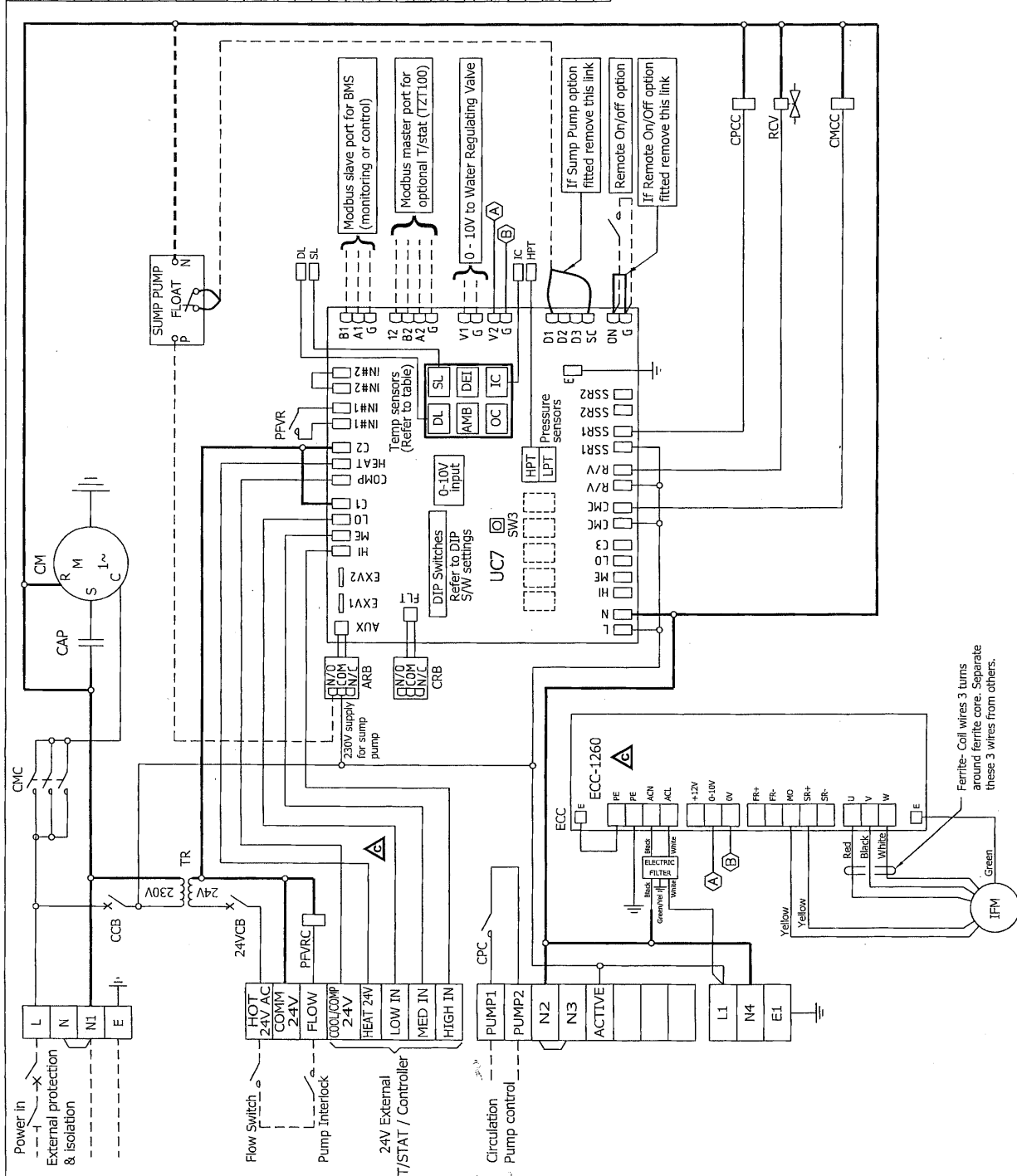
D	ECC-1260 was 1250, Motor 60W was 90W, 13.0.3 & 14.3 was 13.2 & 16.1	N3628	13-11-14	C.M.W.
D	Relays 1, 5, Removed, Dip 5/w, 6, Address: ECC, Dip 5/w, Table Removed	N3628	13-11-14	C.M.W.
C	Electric Heat Amps shown, Rating Amps & Max. Running Amps now shown as Cooling			D. A. B.
ISSUE	MODIFICATION	ECN	DATE	APPRD

HWP 77/96 RKSYS

Capacities - Nett to AS/NZS 3823	HWP	96
Cooling - Net	kW	7.75
Heating - Reverse Cycle	kW	6.80
Electrical Input	kW	2.14
Cooling -	kW	1.79
Heating - Reverse Cycle	kW/kW	3.62
E.E.R. (Cooling)	kW/kW	3.56
A.E.E.R. (Cooling)		
Electrical		
Supply required 1Ph 200-252V ~ 50Hz Including voltage fluctuation limits		
Compressor type : Rotary	A	8.72
Compressor (1Ph) run amps rated conditions	MFD	55
Compressor Capacitor size		
Oil type : P.V.E		
Indoor Fan Motor (1Ph)	W	600
Indoor fan motor (1Ph) Full load amps	A	3.5
Rating Amps	A	9.35
Max Running Amps (total)	A	10.5
Control circuit breaker	A	10
24VCB 24 Volt circuit breaker	A	2
Refrigerant - R410A	Kg	1.70
Unit Weight - Nett	Kg	120
ARB Auxiliary Relay Board	CRB UC7 Fault Relay Board	
CAP Capacitor	ECC Electronic Commutation Controller	
CCB Control Circuit Breaker	HPT High Pressure Transducer	
CM Compressor Motor	PFVR Pump Flow Verification Relay	
CMC Compressor Contactor	PFVRC Pump Flow Verification Relay Coil	
CMCC Compressor Contactor Coil	RCV Reverse Cycle Valve	
CPC Circulating Pump Control	TR Transformer	
CPCC Circulating Pump Control Coil	UC7 Unit Controller 7	

Fan Speed & Range Settings		
Min RPM	Max RPM	Max Volts (High)
825	1125	7.5
900	1200	8.0
975	1275	8.5
1050	1350	9.0

Refer Installation Instructions for Adjustment
Shaded Area = Default Settings



temperzone

Title: **HWP 77&96 RKSYS**
c/w UC7 Wiring schematic

Drawn D.A.B. Date: 05-10-12
Drawing No. 291-000-291
Revision C

Temperature Sensor	Sensor Colour
SL Suction	Blue
DL Discharge	Red
IC I/D Coil	Yellow

UC7 DIP switch settings	
DIP switch	On/Off
1,6,13,14	On
All Others	Off

Client wiring ----- Visit www.temperzone.biz for client wiring diagrams

ISSUE	MODIFICATION	ECN	DATE	APRVD
C	ECC-1260 was 1250 Motor 600W was 900W 3.10.15 & 14.5 was 5.12 & 16; Relays x 5 Removed; Dip. S/W 3 Added;	N3628	13-11-14	C.M.W.
C	ECC Dip Table Removed; Fan Speed Table Added	N3628	13-11-14	C.M.W.