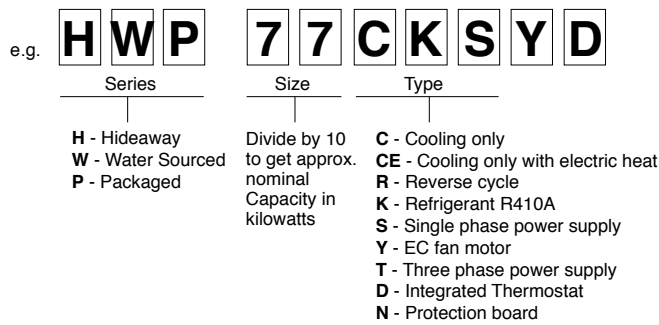


HWP 77, 96 (c/w EC Motor and UC7 Controller versions)

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:

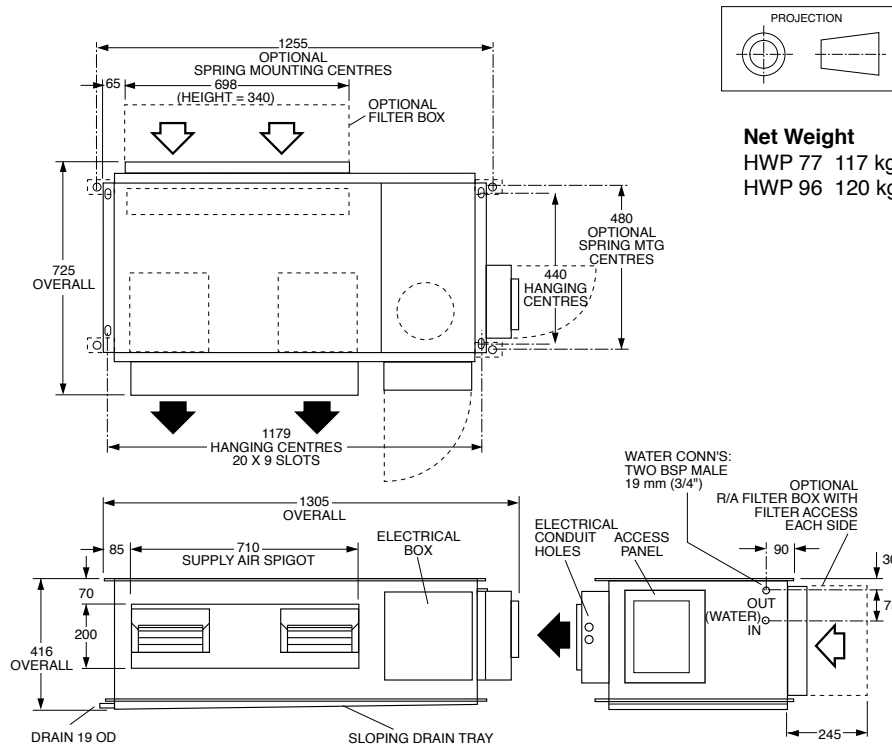
1. Condensate Lift-Pump Kit.
2. Filter Box.

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 Allow adequate clearance for the filter (optional) to be withdrawn to its full length.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

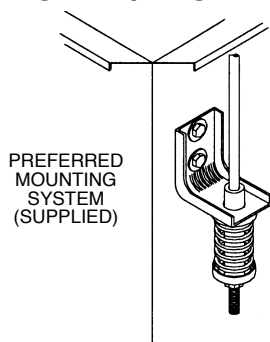


Fig. 4 Solid Mounting

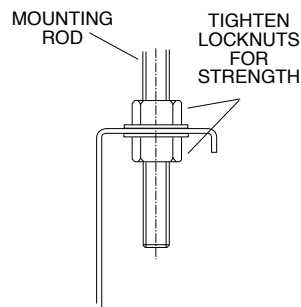
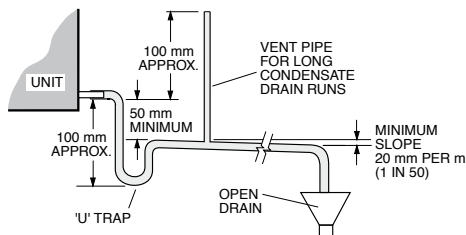


Fig. 5 Condensate Drain



Indoor Fan Speed

The fan speed (RPM) range is adjustable using DIP2 Switches 1 to 5 on the EC Motor Controller board located in the electrical box – refer wiring diagram. The default setting is highlighted.

HWP-CKSY & HWP-RKSY models:

Once set, your fan speed range can then be set to:

1. **Variable:** Anywhere from 0–100% capacity (max. RPM) using a 0–10V DC input signal supplied from an independent BMS. (DIP1 switch 1 'ON'), or
2. **Stepped:** LOW, MED and HIGH (DIP1 switch 1 'OFF') across the selected range.

Note: If using Option 1-Variable, then you must also fit a Controller Signal Isolator (item no.201-000-129), supplied separately by temperzone.

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:
a.) UC7 Controller, or
b.) 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.

cont'd...

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.

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). A non-specific fault output signal is also included on SAT-2 Controllers for remote fault indication to building management systems.

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. 3905b dated 09/13.
Min. water flow rates to match DS.

Table 1 SAT-2 Controller - Troubleshooting

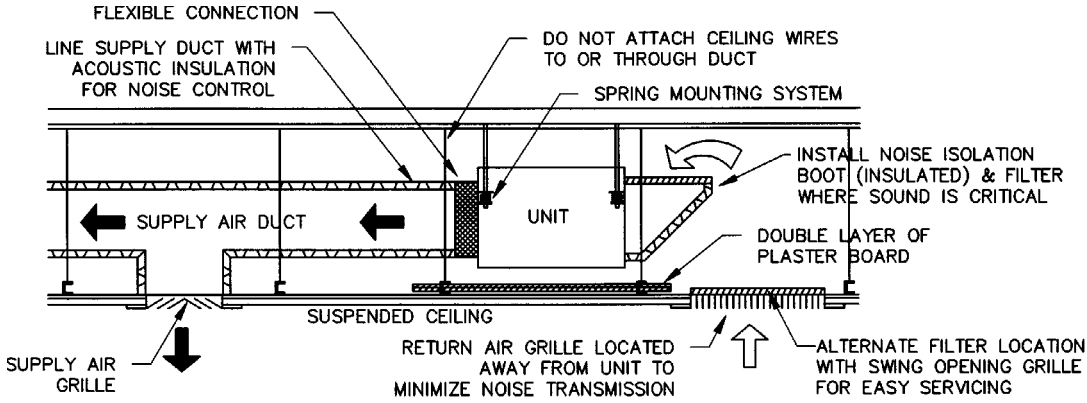
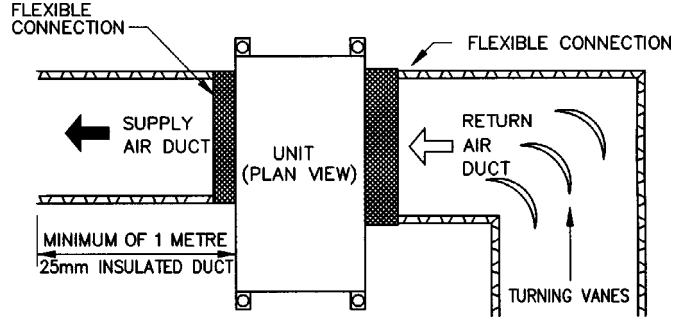
If an fault is detected, an 'ERR' symbol will light up on the Wall plaque display. The following error codes may be displayed:

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

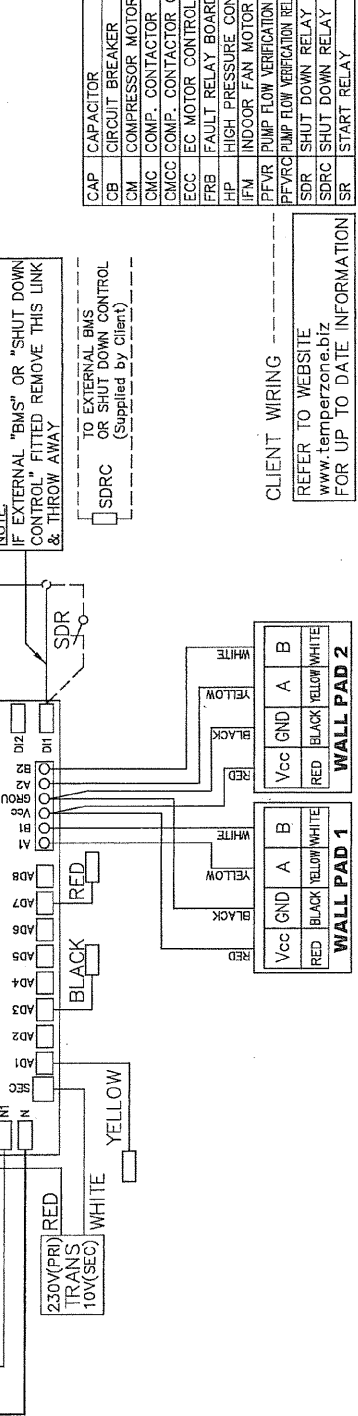
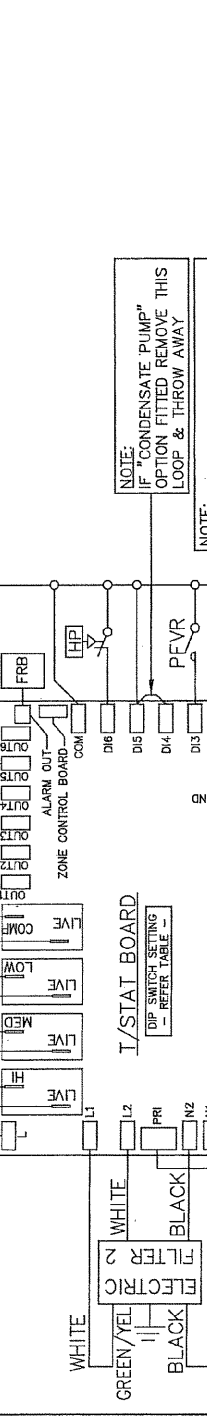
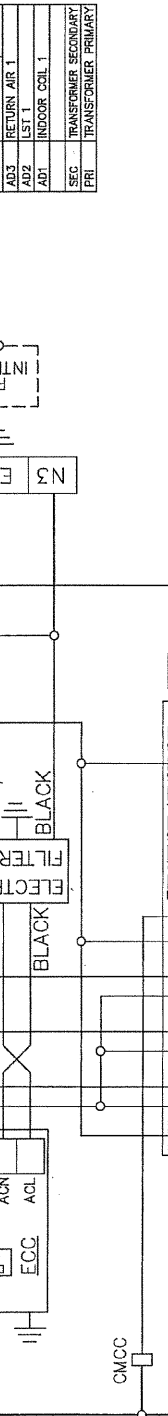
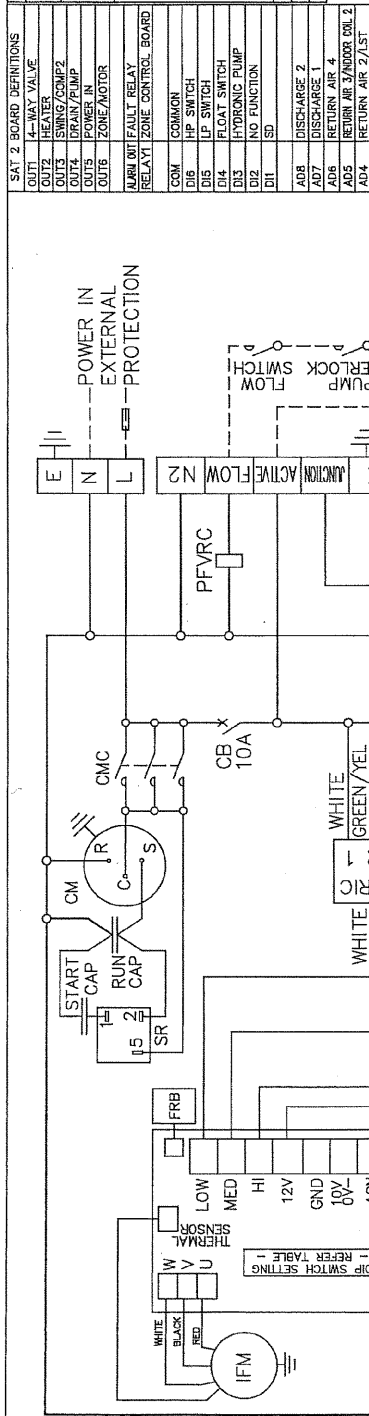
SPECIFICATION TABLE		HWP	HWP
CAPACITIES - AS/NZS 3823		77C	96C
COOLING - NET		kW	7.75
ELECTRICAL INPUT			9.65
COOLING -		kW	2.41
E.F.R. (COOLING)		kW/kW	3.62
ELECTRICAL			3.53
SUPPLY REQUIRED 1PH 200-252V ~ 50Hz INCLUDING VOLTAGE FLUCTUATION LIMITS			
COMPRESSOR RUN AMPS AT RATING			
COM		A	8.72
IP SWITCH		UF	55
RATING AMPS		A	9.35
MAX RUNNING AMPS (TOTAL)		A	12
VOLTAGE IN		V	230/240
IFM AMPS (MAX)		A	5
REFRIGERANT - R410A			
WEIGHT - NETT		kg	1.70
COMPRESSOR TYPE: ROTARY		kg	1.17
OIL TYPE: POLYVINYL ETHER (PVE)			1.20

EC-BOARD SPEED SELECTION - DIP SWITCH 2 (DIP2)	
SWITCH 1	OFF OFF OFF OFF
SWITCH 2	OFF ON OFF OFF
SWITCH 3	ON ON OFF ON
SWITCH 4	OFF OFF ON ON
SWITCH 5	OFF OFF OFF OFF
Max (rpm)	1350 1300 1200 1100
Min (rpm)	1050 1000 900 800

DIP1 SWITCH SETTING	
1	OFF ON
2	OFF ON
3	OFF ON
4	OFF ON

DIP2 SWITCH SETTING	
1	OFF ON
2	OFF ON
3	OFF ON
4	OFF ON
5	OFF ON
6	OFF ON
7	OFF ON
8	OFF ON

SAT 2 BOARD DEFINITIONS	
OUT1	4-WAY VALVE
OUT2	HEATER
OUT3	RAIN PUMP
OUT4	POWER IN
OUT5	ZONE/ACTOR
OUT6	ZONE/ACTOR
ALRM	OUT FAULT RELAY
RELAY1	ZONE CONTROL BOARD
COM	COMMON
DIP6	IP SWITCH
DIP5	IP SWITCH
DIP4	FLOAT SWITCH
DIP3	HYDRONIC PUMP
DIP2	NO FUNCTION
DIP1	SD
AD9	DISCHARGE 2
AD7	DISCHARGE 1
AD6	RETURN AIR 4
AD5	RETURN AIR 3/INDOOR DM 2
AD4	RETURN AIR 2/LST
AD3	RETURN AIR 1
AD2	LST 1
AD1	INDOOR COIL 1
SEC	TRANSFORMER SECONDARY
FRI	TRANSFORMER PRIMARY



ISSUE	MODIFICATION	EC/N	DATE	APRVD	DRG SIZE	No.	DESCRIPTION	Mat.1	FINISH	ASSY No.
A	SA Dip 1, Switch No.3 to the "OFF" Position/Speed Selection Table Mod	N3113	12-09-12	J.S.L.						

temperzone
 HWP 77&96 CKSYD
 WIRING SCHEMATIC
 Drawing No. 291-000-041
 Date 12-02-12
 Scale 1:1
 Drawn D.A.B
 Programmed by
 PLOTTED 12-09-12
 ©temperzone ltd 2009
 Revision A

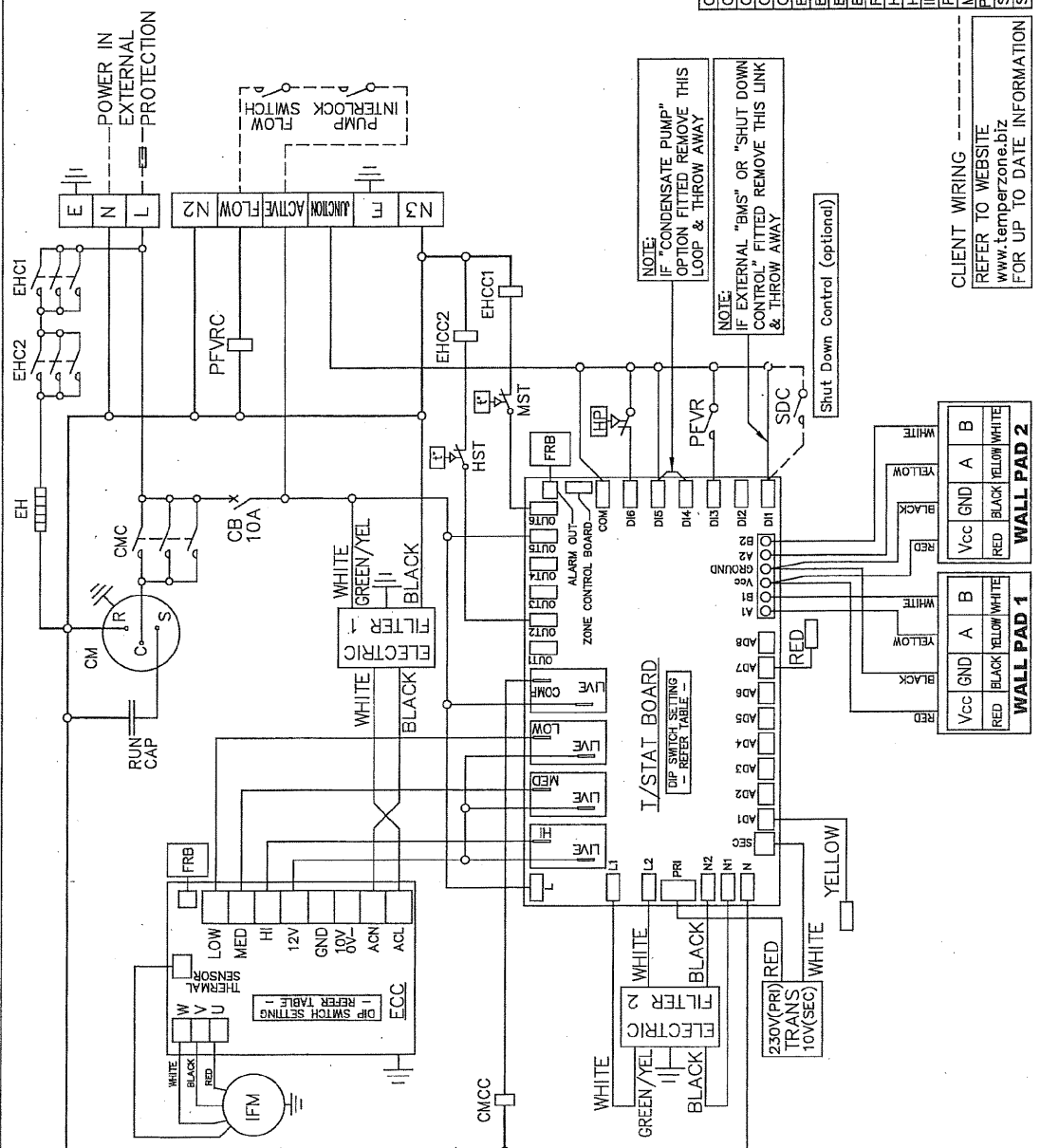
HWP 77/96 CEKSYD

SAT 2 BOARD DEFINITIONS	SPECIFICATION TABLE	HWP	HWP
GUT1 4-WAY VALVE	CAPACITIES - AS /V2S 3823	77/96	96/CE
GUT2 HEATER	COOLING - NET	KW	7.75
GUT3 SWING/COMP2	HEATING - ELECTRIC HEAT	KW	4.00
GUT4 DRAIN/PUMP	ELECTRICAL INPUT		
GUT5 POWER IN	COOLING -	KW	2.14
GUT6 ZONE/ACTOR	HEATING - ELECTRIC HEAT	KW	4.00
ALARM OUT FAULT RELAY	E.F.R. (COOLING)	KW/KW	3.62
RELAY1 ZONE CONTROL BOARD	A.E.E.R. (COOLING)	KW/KW	3.56
RELAY2 ZONE CONTROL BOARD			
COM1 COMMON	ELECTRICAL		
D16 HP SWITCH	SUPPLY REQUIRED 1Ph 200-252V ~ 50Hz INCLUDING VOLTAGE FLUCTUATION LIMITS		
D15 LP SWITCH	COMPRESSOR RUN AMPS AT RATING	A	8.72
D14 FLOAT SWITCH	COMPRESSOR CAPACITOR SIZE	uF	55
D13 HYDRONIC PUMP	RATING AMPS COOLING	A	9.35
D12 NO FUNCTION	MAX RUNNING AMPS COOLING (TOTAL)	A	12
D11 SD	ELECTRIC HEAT AMPS	A	22
AD8 DISCHARGE 2	VOLTAGE IN	V	230/240
AD7 DISCHARGE 1	IFM AMPS (MAX)	A	5
AD6 RETURN AIR 4	REFRIGERANT - R410A	kg	1.70
AD5 RETURN AIR 3/INDOOR COIL 2	WEIGHT - NETT	kg	117
AD4 RETURN AIR 2/1ST	COMPRESSOR TYPE: ROTARY		
AD3 RETURN AIR 1	OIL TYPE: PVE		
AD2 LST 1			
AD1 INDOOR COIL 1			
SEC TRANSFORMER SECONDARY			
PRI TRANSFORMER PRIMARY			

EC-BOARD SPEED SELECTION - DIP SWITCH 2 (DIP2)	
SWITCH 1	OFF OFF OFF OFF OFF OFF
SWITCH 2	OFF ON OFF OFF OFF OFF
SWITCH 3	ON ON OFF OFF OFF OFF
SWITCH 4	OFF OFF ON ON ON ON
SWITCH 5	OFF OFF OFF OFF OFF OFF
Max (rpm)	1350/1300/1200/1100
Min (rpm)	1050/1000/900/800

STANDARD SETTING	ON
1 3 SPEED FAN HI/MED/LOW ACTION	0-10V CONTROL
2 NORMAL FORWARD	REVERSE ACTION
3 800W & 1.25kW MOTOR LEAVE IN THIS POSITION	DO NOT USE
4	DO NOT USE

STANDARD SETTING	ON
1 COOL ONLY	HEAT PUMP
2 NO ELECTRIC HEATERS	ELECTRIC HEATERS FITTED
3 1.5% DIFFERENTIAL CONTROL	1.0% DIFFERENTIAL CONTROL
4 FAN ON IN COOL CYCLE DEAD BAND (RECOMMENDED FOR IN-BUILT SENSORS)	FAN OFF IN COOL CYCLE DEAD BAND
5 AIR COOLED	HYDRONIC
6 TWO STAGE	SINGLE STAGE
7 FAULT RELAY ACTIVATED UPON FINAL LOCK OUT	FAULT RELAY ACTIVATED WITH EACH SYSTEM FAULT
8 FAN ON IN HEAT CYCLE DEAD BAND (RECOMMENDED FOR IN-BUILT SENSORS)	FAN OFF IN HEAT CYCLE DEAD BAND



ISSUE	MODIFICATION	EC/N	DATE	APPRVD	DRG SIZE	No.	DESCRIPTION	Mat'l	FINISH	ASSY No.
D	Electric Heat Amps shown. Rating Amps & Max. Running Amps now shown as Cooling	N3306	23-08-13	D.A.B.						
C	A.E.E.R. added. SDC WAS SDR. 3.60 was 3.53. 4.00 was 8.49	N3080	05-10-12	D.A.B.						
B	Remove Start Relay & Start CAP	N3106	04-10-12	E.B.A.						
A	Set Dip 1, Switch No. 3 to the "OFF" Position/Speed Selection Table Mod	N3113	14-09-12	J.S.L.						

Programmed by	HWP 77&96 CEKSYD
Plotted	23-08-13
©temperzone ltd	2012
Drawing No.	291-000-049
Date	12-02-12
Aprvd	P.C.R.
Revision	D



WIRING SCHEMATIC

Title

ISSUE	MODIFICATION	EC/N	DATE	APPRVD	DRG SIZE	No.	DESCRIPTION	Mat'l	FINISH	ASSY No.
D	Electric Heat Amps shown. Rating Amps & Max. Running Amps now shown as Cooling	N3306	23-08-13	D.A.B.						
C	A.E.E.R. added. SDC WAS SDR. 3.60 was 3.53. 4.00 was 8.49	N3080	05-10-12	D.A.B.						
B	Remove Start Relay & Start CAP	N3106	04-10-12	E.B.A.						
A	Set Dip 1, Switch No. 3 to the "OFF" Position/Speed Selection Table Mod	N3113	14-09-12	J.S.L.						

HWP 77/96 RKSYS

SPECIFICATION TABLE		HWP	HWP
CAPACITORS - AS/MS 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	3.53
ELECTRICAL			
SUPPLY REQUIRED 1PH, 200-252V ~ 50HZ INCLUDING VOLTAGE FLUCTUATION LIMITS			
COMPRESSOR RUN AMPS AT RATING	A	8.72	11
COMPRESSOR CAPACITOR SIZE	µF	95	55
RATING AMPS	A	9.35	11.8
MAX RUNNING AMPS (TOTAL)	A	12	16
VOLTAGE IN	V	230/240	230/240
IFM AMPS (MAX)	A	5	5
REFRIGERANT - R410A	kg	1.70	1.70
WEIGHT - NETT	kg	117	120
COMPRESSOR TYPE, ROTARY			
OIL TYPE, POLYVINY. ETHER (PVE)			

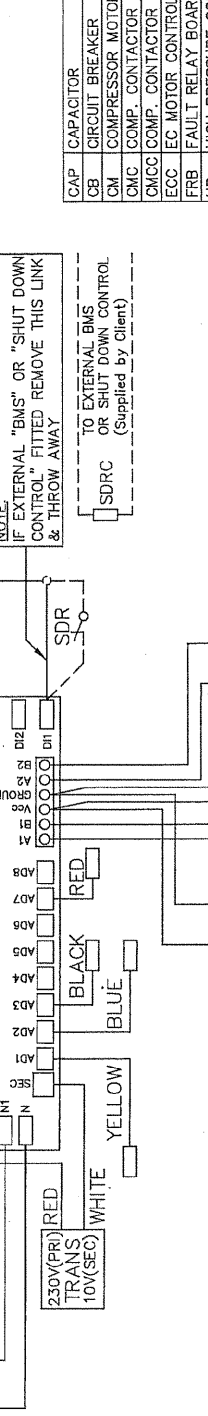
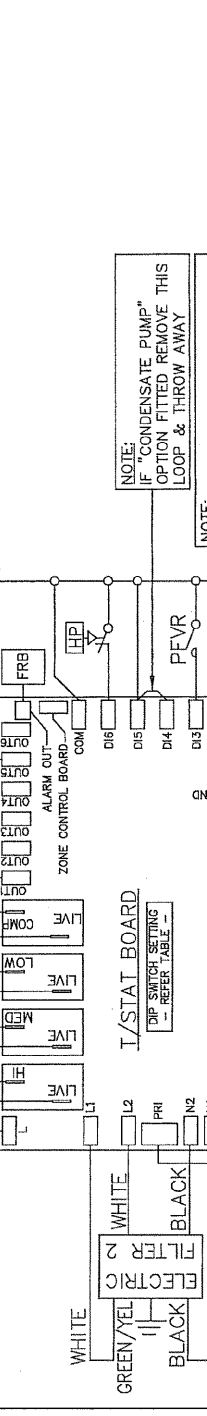
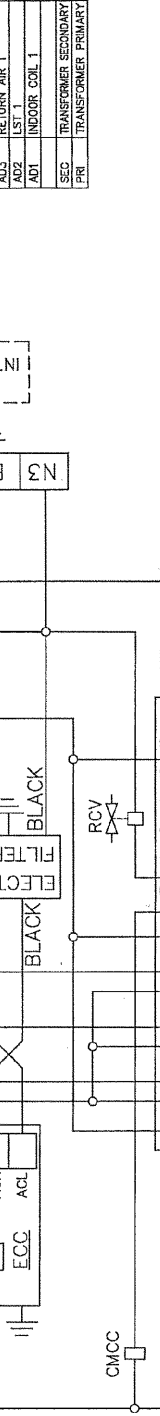
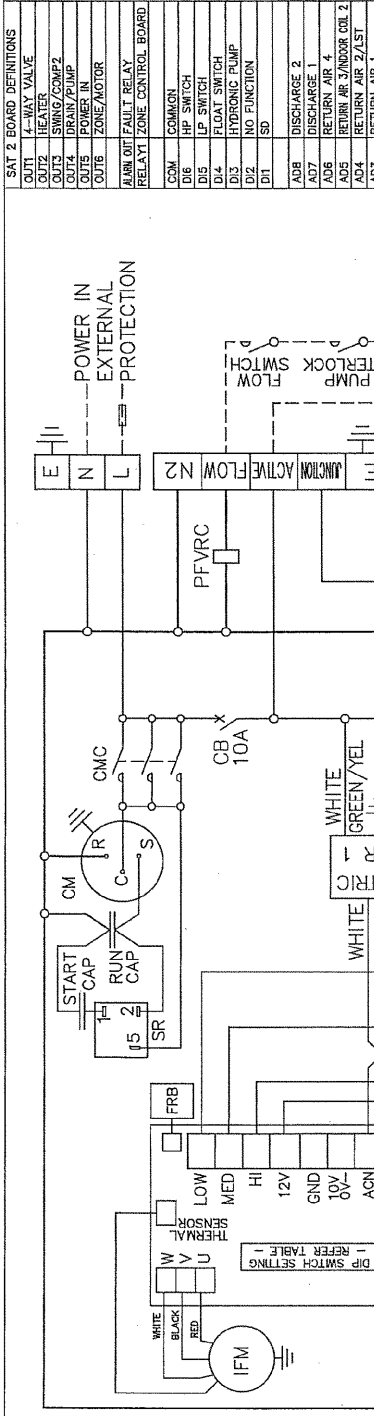
EC-BOARD SPEED SELECTION - DIP SWITCH 2 (DIP2)	
SWITCH 1	OFF OFF OFF OFF
SWITCH 2	OFF ON OFF OFF
SWITCH 3	ON ON OFF OFF
SWITCH 4	OFF OFF ON ON
SWITCH 5	OFF OFF OFF OFF
Max (rpm)	1350 1300 1200 1100
Min (rpm)	1050 1000 900 800

DIP1 SWITCH SETTING	
1	OFF ON
2	OFF ON
3	OFF ON
4	OFF ON

DIP2 SWITCH SETTING	
1	OFF ON
2	OFF ON
3	OFF ON
4	OFF ON
5	OFF ON
6	OFF ON
7	OFF ON
8	OFF ON

DIP3 SWITCH SETTING	
1	OFF ON
2	OFF ON
3	OFF ON
4	OFF ON
5	OFF ON
6	OFF ON
7	OFF ON
8	OFF ON

SAT 2 BOARD DEFINITIONS	
OUT1	4-WAY VALVE
OUT2	HEATER
OUT3	SWING/COMP2
OUT4	DRAIN PUMP
OUT5	POWER IN
OUT6	ZONE/MOTOR
ALB1	OUT FAULT RELAY
ALB2	ZONE CONTROL BOARD
COM	COMMON
D16	HP SWITCH
D15	LP SWITCH
D14	FLGAT SWITCH
D13	HYDRONIC PUMP
D12	NO FUNCTION
D11	SD
ADB	DISCHARGE 2
AD7	DISCHARGE 1
AD6	RETURN AIR 4
AD5	RETURN AIR 3/INDOOR COIL 2
AD4	RETURN AIR 2/1ST
AD3	RETURN AIR 1
AD2	1ST 1
AD1	INDOOR COIL 1
SEC	TRANSFORMER SECONDARY
PRI	TRANSFORMER PRIMARY

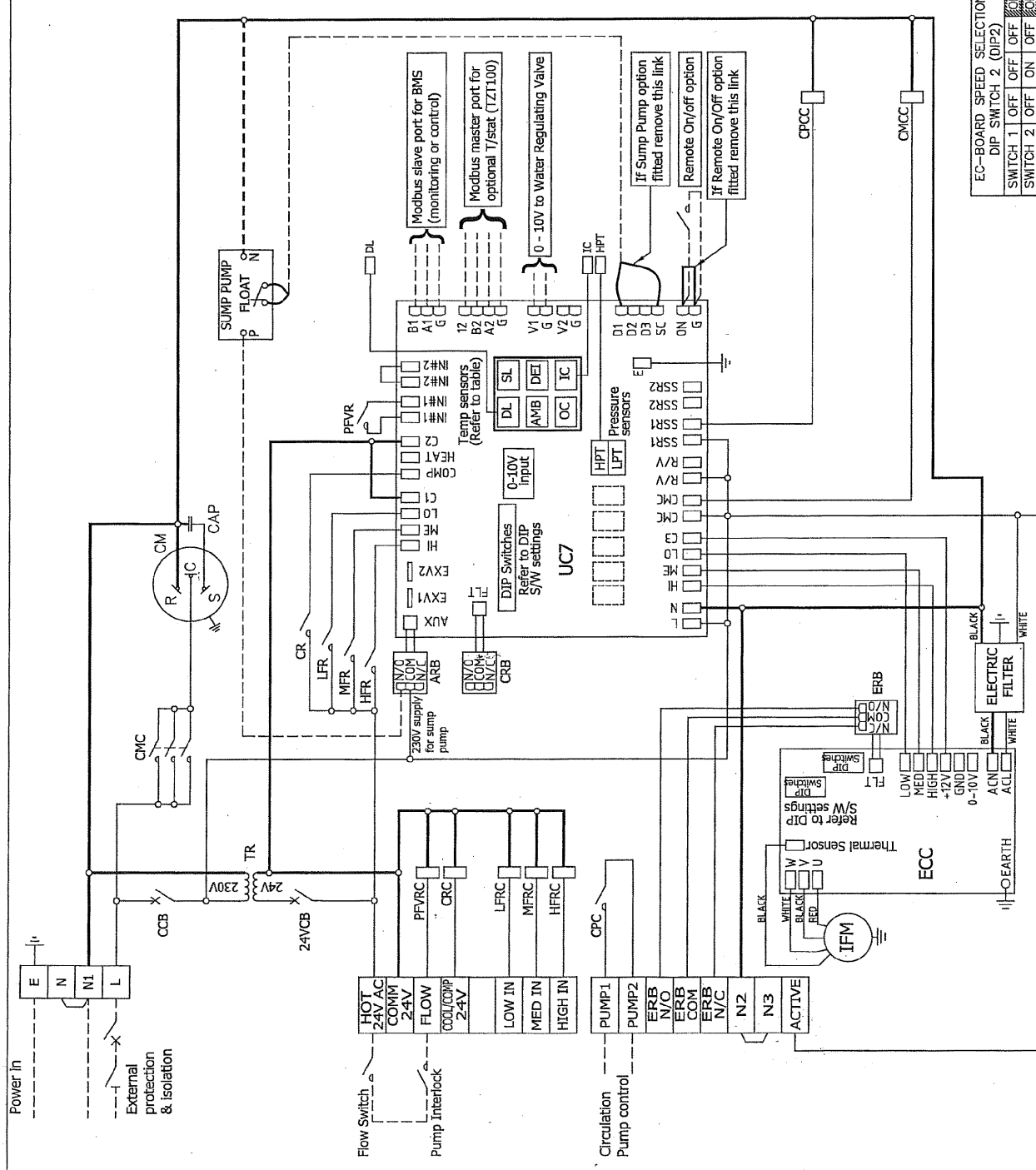


ISSUE	MODIFICATION	EC/N	DATE	APRVD	DRG SIZE	No.	DESCRIPTION	Mat.I	FINISH	ASSY No.
A	Set Dip 1, Switch No.3 to the "OFF" Position/Speed Selection Table Mod	N3113	12-09-12	J.S.L.						

HWP 77/96 CKSY

Capacities - Net to AS/NZS 3823		HWP
Cooling - Net	77	96
Electrical Input	kW 7.75	9.65
Cooling -	kW 2.14	2.68
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	
CM	Compressor type : Rotary	
	Compressor (1Ph) run amps rated conditions	A 8.72
	Compressor Capacitor size	MFD 55
	Oil type : P.V.E	
IPM	Indoor Fan Motor (1Ph)	W 900
	Indoor fan motor (1Ph) Full load amps	A 5
	Rating Amps	A 9.35
	Max Running Amps (total)	A 12
	Control circuit breaker	A 10
24VCB	24 Volt circuit breaker	A 2
	Refrigerant - R410A	Kg 1.70
	Unit Weight - Net	Kg 120
	Unit Weight - Net	121

ARB	Auxiliary Relay Board	ERB	ECC Fault Relay Board
CAP	Capacitor	HFR	High Fan Relay
CCB	Control Circuit Breaker	HFRC	High Fan Relay Coil
CM	Compressor Motor	HPT	High Pressure Transducer
CMC	Compressor Contactor	LFR	Low Fan Relay
CMCC	Compressor Contactor Coil	LFRC	Low Fan Relay Coil
CPC	Circulating Pump Control	MFR	Med Fan Relay
CPCC	Circulating Pump Control Coil	MFRC	Med Fan Relay Coil
CR	Compressor Relay 24 V Control	PFVR	Pump Flow Verification Relay
CRB	Compressor Relay Coil 24v	PFVRC	Pump Flow Verification Relay Coil
CRB	UC7 Fault Relay Board	TR	Transformer
ECC	Electronic Commutation Controller	UC7	Unit Controller 7



ECC DIP switch settings	
DIP switch	↑ On/Off ↓
1,2,3,4	On
	Off

UC7 DIP switch settings	
DIP switch	↑ On/Off ↓
1,13,14	On
2,3,4,5,6,7,8,9,10,11,12,15,16	Off

EC-BOARD SPEED SELECTION	
DIP SWITCH 2 (DIP2)	
SWITCH 1	OFF OFF OFF OFF OFF
SWITCH 2	OFF OFF OFF OFF OFF
SWITCH 3	ON ON OFF OFF OFF
SWITCH 4	OFF OFF OFF OFF OFF
SWITCH 5	OFF OFF OFF OFF OFF
Max. (rpm)	1350 1300 1200 1100 1000
Min. (rpm)	1050 1000 900 800 700
Model HWP	77/96

temperzone

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

Drawn D.A.B./*AW* Date 05-10-12
Drawing No. 291-000-292
Revision B

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


B	11.8 WAS 5.38, 16 WAS 8.2	N3337/02-08-13	R.A.S
A	INITIAL RELEASE		(05-10-12) D.A.B.
ISSUE	MODIFICATION	ECN	DATE
		APRVD	

HWP 77/96 CEKSY

Capacities - Net to AS/NZS 3823	HWP	96
Cooling - Net	KW	7.75
Heating - Electric Heat	KW	4.00
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 type : Rotary		
Compressor (1Ph) run amps rated conditions	A	8.72
Compressor Capacitor size	MFD	55
Oil type : P.V.E		
Indoor Fan Motor (1Ph)	W	900
Indoor fan motor (1Ph) Full load amps	A	5
Rating Amps Cooling Δ	A	9.35
Max Running Amps Cooling (total) Δ	A	12
Electric Heat Amps	A	22
Control circuit breaker	A	10
24V/24 Volt circuit breaker	A	2
Refrigerant - R410A	Kg	1.70
Unit Weight - Net	Kg	120
ARB Auxiliary Relay Board	HFR	High Fan Relay
CAP Capacitor	HFRC	High Fan Relay Coil
CCB Control Circuit Breaker	HPT	High Pressure Transducer
CM Compressor Motor	HR	Heating Relay
CMC Compressor Contactor	HRC	Heating Relay Coil
CMCC Compressor Contactor Coil	HTSS	Auto High Temp. Safety Sensor
CPC Circulating Pump Control	LFR	Low Fan Relay
CPCC Circulating Pump Control Coil	LFRC	Low Fan Relay Coil
CR Compressor Relay 24 v Control	MFR	Med Fan Relay
CRC Compressor Relay Coil 24v	MFRC	Med Fan Relay Coil
CRB UC7 Fault Relay Board	MST	Manual High Temp. Safety T/Stat
ECC Electronic Commutation Controller	PFVR	Pump Flow Verification Relay
EH Electric Heater	PFVRC	Pump Flow Verification Relay Coil
EHC Electric Heater Contactor	TR	Transformer
EHCC Electric Heater Contactor Coil	UC7	Unit Controller 7
ERB ECC Fault Relay Board		

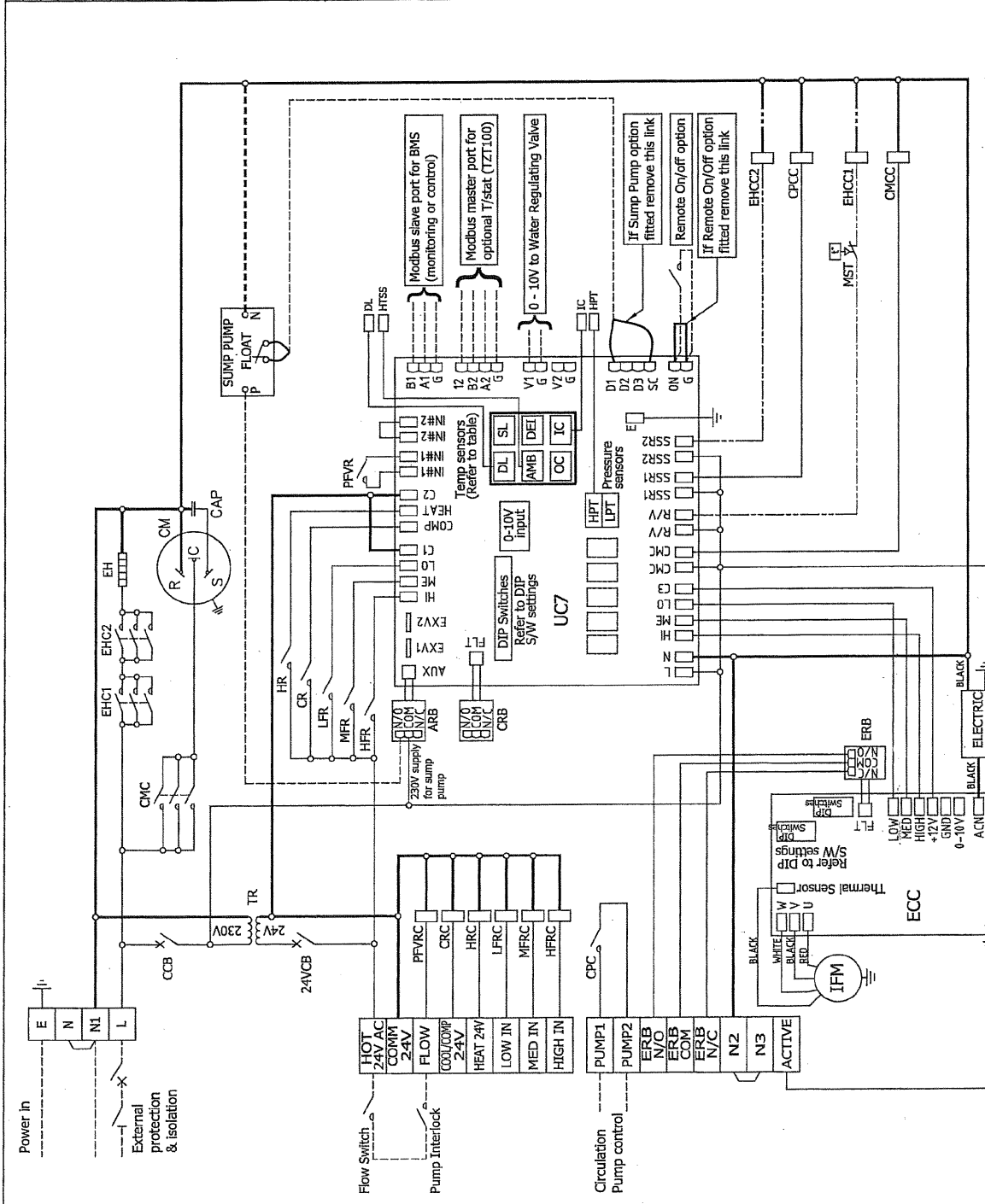
ECC DIP switch settings	
DIP switch	On/Off \downarrow
	On
	Off
UC7 DIP switch settings	
DIP switch	On/Off \downarrow
	On
	Off
	2,5,6,7,8,9,10,11,12,15,16

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



Plot date 23-08-13
Drawn D.A.B.
Approved P.C.V.

Revision No. 291-000-293
Drawing No. 05-10-12
Religion C



EC-BOARD SPEED SELECTION	
DIP SWITCH :2 (DIP-2)	
SWITCH 1	OFF OFF OFF
SWITCH 2	OFF ON OFF
SWITCH 3	ON ON OFF
SWITCH 4	OFF ON ON
SWITCH 5	OFF OFF OFF
Max (rpm)	1350 1300 1200
Min (rpm)	1050 1000 900
Model HWP	77/96

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

Electric Heat Amps shown, Rating Amps & Max. Running Amps now shown as Cooling

ISSUE	MODIFICATION	ECN	DATE	APRVD
C			N330623-08-13	D.A.B.
B			N333702-08-13	R.A.S
A	INITIAL RELEASE		05-10-12	D.A.B.

HWP 77/96 RKSYS

Capacities - Nett to AS/NZS 3823	HWP
Cooling - Net	77
Heating - Reverse Cycle	96
Electrical Input	kW 7.75 9.65
Cooling -	kW 6.80 8.49
Heating - Reverse Cycle	kW 2.14 2.68
E.E.R. (Cooling)	kW/kW 1.79 2.40
A.E.E.R. (Cooling)	kW/kW 3.62 3.60
Electrical	kW/kW 3.56 3.55
Supply required 1Ph 200-252V ~ 50Hz Including voltage fluctuation limits	
Compressor type : Rotary	
Compressor (1Ph) run amps rated conditions	A 8.72 11
Compressor Capacitor size	MFD 55 55
Oil type : P.V.E	
Indoor Fan Motor (1Ph)	WJ 900 900
Indoor fan motor (1Ph) Full load amps	A 5 5
Rating Amps	A 9.35 11.8
Max Running Amps (total)	A 12 16
Control circuit breaker	A 10 10
24V/24V Volt breaker	A 2 2
Refrigerant - R410A	Kg 1.70 1.70
Unit Weight - Nett	Kg 120 121

Auxiliary Relay Board	HFRC High Fan Relay Coil
Capacitor	HPT High Pressure Transducer
Control Circuit Breaker	HR Heating Relay
Compressor Motor	HRC Heating Relay Coil
Compressor Contactor	LFR Low Fan Relay
Compressor Contactor Coil	LFRC Low Fan Relay Coil
Circulating Pump Control	MFR Med Fan Relay
Circulating Pump Control Coil	MFRC Med Fan Relay Coil
Compressor Relay 24 v Control	PFVR Pump Flow Verification Relay
Compressor Relay Coil 24v	PFVRC Pump Flow Verification Relay Coil
UC7 Fault Relay Board	RCV Reverse Cycle Valve
Electronic Communication Controller	TR Transformer
ECC Fault Relay Board	UC7 Unit Controller 7
High Fan Relay	

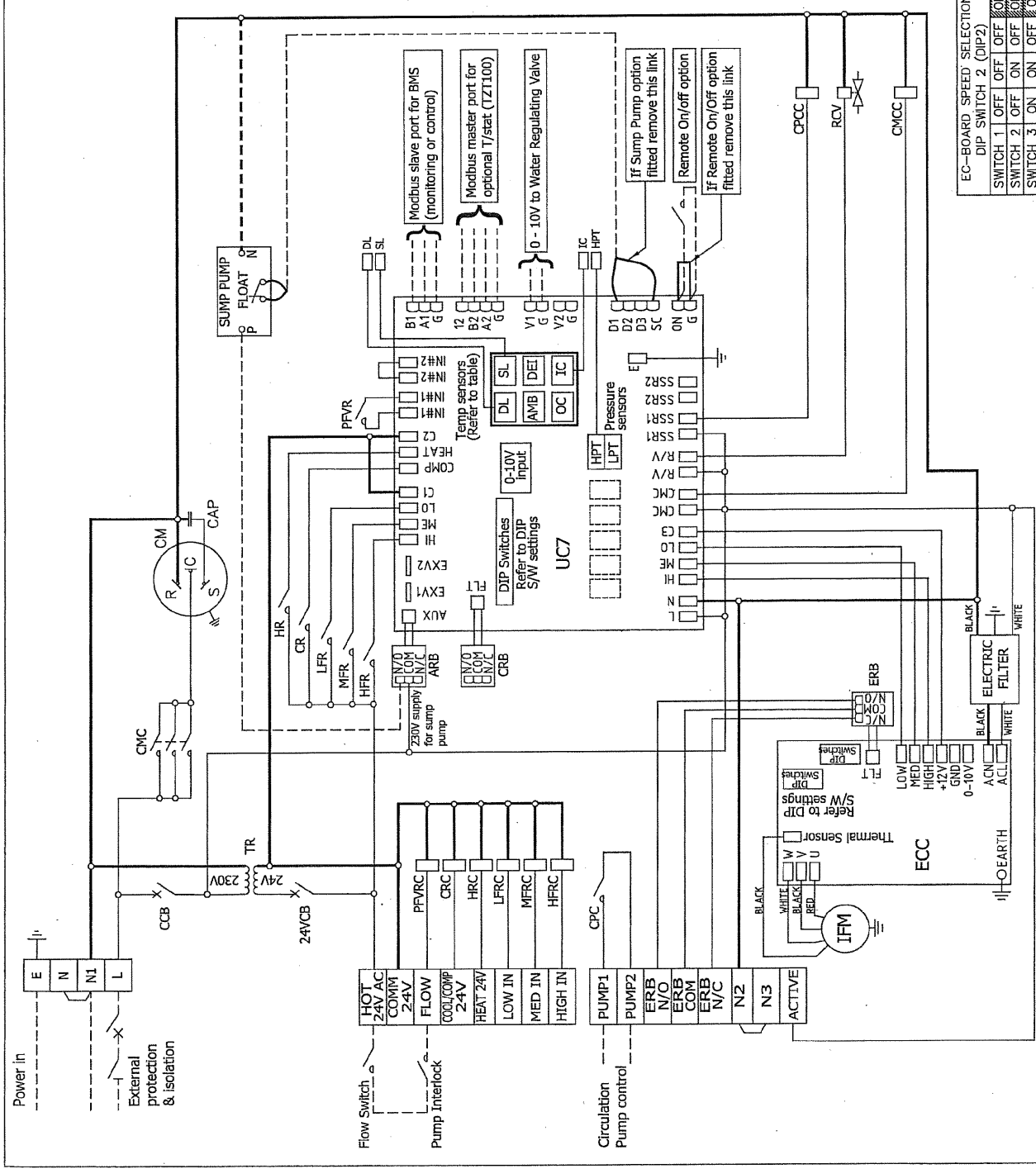
ECC DIP switch settings	
DIP switch	↑ On/Off ↓
1,2,3,4	On
	Off
UC7 DIP switch settings	
DIP switch	↑ On/Off ↓
1,13,14	On
2,3,4,5,6,7,8,9,10,11,12,15,16	Off

Temperature Sensor	Colour
SL Suction	Blue
DL Discharge	Red
IC 1/2 Coil	Yellow

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



Revision No.	B
Drawing No.	291-000-291
Drawn D.A.B	05-10-12
Drawn date	05-10-12
Approved	<i>[Signature]</i>
Temperzone Ref	
Plot date	05-10-12
Plotter	



EC-BOARD SPEED SELECTION DIP SWITCH 2 (DIP2)	
SWITCH 1	OFF OFF OFF OFF OFF
SWITCH 2	OFF ON OFF OFF OFF
SWITCH 3	ON ON ON ON ON
SWITCH 4	OFF OFF OFF OFF OFF
SWITCH 5	OFF OFF OFF OFF OFF
Max (rpm)	1350 1300 1200 1100
Min (rpm)	1050 1000 900
Model	HWP
	77/96

B	11.8 WAS 5.38, 16 WAS 8.2	N3337	廖德江	R.A.S
A	INITIAL RELEASE		陈华江	D.A.B
ISSUE	MODIFICATION	ECN	DATE	APRVD
Client wiring ----- Visit www.temperzone.biz for client wiring diagrams				