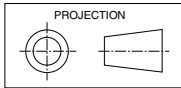


# HWP 141 – 191 (c/w UC7 Controller versions)

## Ducted Water Cooled R410A Packaged Air Conditioner

## Installation & Maintenance

### Dimensions (mm)



MODEL	A	B	C	D	E	F	G	H	J	K
HWP 141	1300	506	872	65	85	50	95	1273	1335	55
HWP 171	1475	506	1087	70	85	165	100	1483	1550	55
HWP 191	1670	526	1242	60	110	235	115	1641	1705	80

Fig. 1

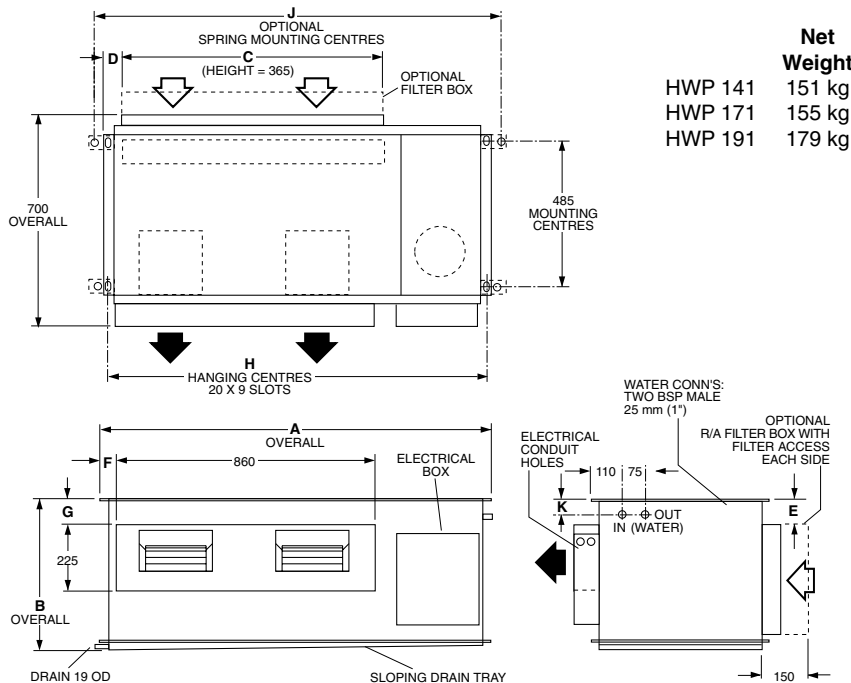


Fig. 2 Spring Mounting

Fig. 3 Solid Mounting

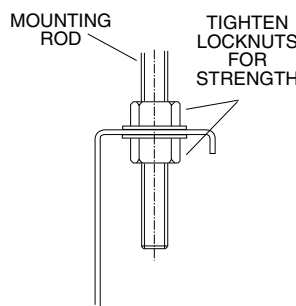
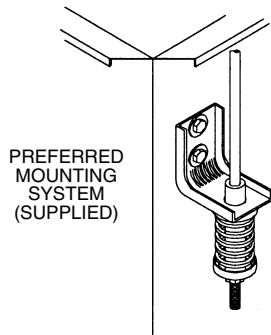
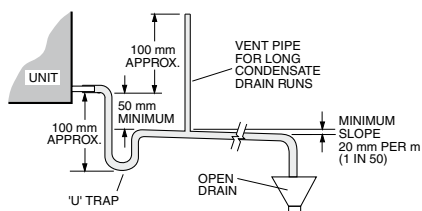


Fig. 4 Condensate Drain



### GENERAL

**HWP** - A general designation which applies to all versions (refer fig.7 on page 4 for nomenclature)

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.
3. TZT-100 room temperature controller for HWP\*RKT/CKT versions c/w UC7.

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

### 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 90 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. 5 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.2). 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. 3.

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 4). 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:	141	171	191
Minimum	0.74	1.00	1.15

#### 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.

#### Air / Water Flow

Refer to HWP 141–191 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 diagnostics 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\*CEKT 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.

## 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. 3841 dated 01/13. RKT/CKT c/w UC7 versions added.

## Table 1 SAT-2 Controller - Troubleshooting

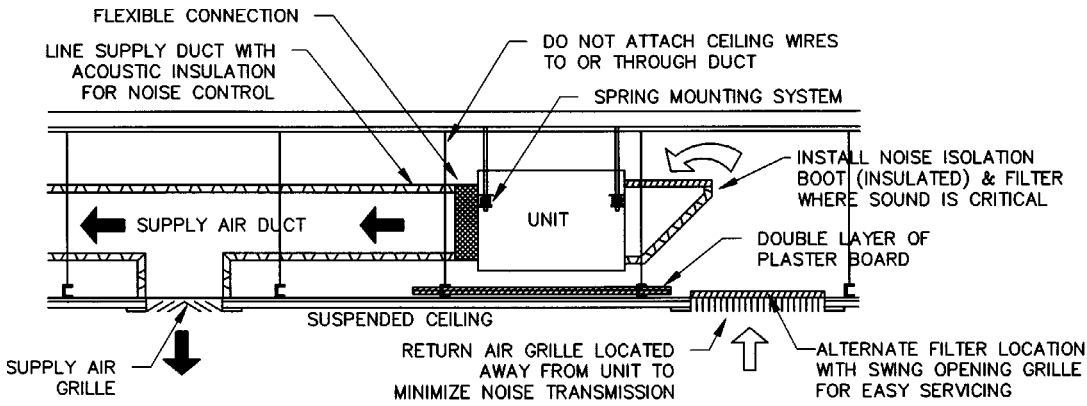
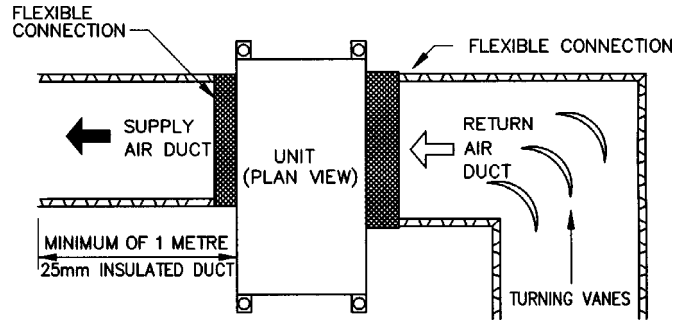
If an fault is detected, an 'ERR' symbol will light up on the Wall plaque display. The following error codes may be displayed:

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	

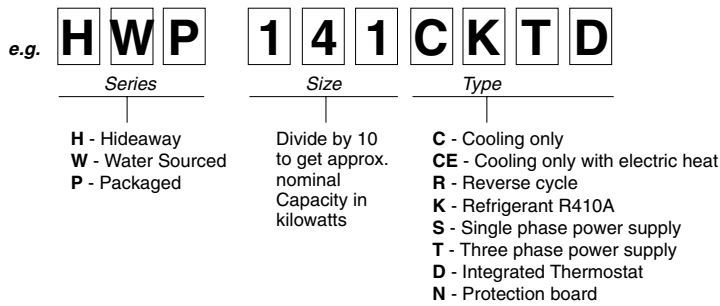
**Fig. 5 Application Considerations**

**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.



**Fig. 6 Nomenclature**



# HWP 141-191 CKTD & CEKTD

**SPECIFICATION TABLE**

CAPACITIES - AS/NZS 3823	HWP MODEL	HWP	HWP
COOLING - NET	KW	141C	171C
HEATING - ELECTRIC HEAT OPTION	KW	13.14	15.3
ELECTRICAL INPUT		9	9
COOLING -	KW	3.6	4.28
HEATING - ELECTRIC HEAT OPTION	KW	9.5	9.6
E.E.R./ COOLING	KW/KW	3.65	3.57
A.E.E.R./ COOLING	KW/KW	3.64	3.56
ELECTRICAL			
SUPPLY REQUIRED 3PH, 380-415V, ~ 50Hz	A	5.5/5.7/5.6	6.7/7.4/6.6
COMPRESSOR RUN AMPS AT RATING	FLA	1.9	2.61
FAN MOTOR	FLA	12	15
FAN MOTOR CAPACITOR SIZE	µF	15	15
RUNNING AMPS./PH - COOLING	TRA/PH	7.5/5.7/5.6	9.3/7.4/6.6
RUNNING AMPS./PH - ELECTRIC HEAT	TRA/PH	14.8/13/13	15.3/13/13
MAXIMUM OPERATING CURRENT	A/PH	10.3	11.7
MAXIMUM CURRENT WITH ELECT. HEAT OPTION	A/PH	16	15.2
REFRIGERANT - R410A	grams	2100	2150
WEIGHT - NETT	Kg	151	155
WEIGHT - GROSS	Kg	179	183

**SAT 2 BOARD DEFINITIONS**

QUT1	4-WAY VALVE	FM	FAN MOTOR
QUT2	HEATER	FRB	FAULT RELAY BOARD
QUT3	SWING/COMP2	HP	HIGH PRESSURE CONTROL
QUT4	DRAIN PUMP	HST	AUTO HIGH TEMP SAFETY T/STAT
QUT5	POWER IN	MST	MANUAL HIGH TEMP SAFETY T/STAT
QUT6	ZONE/MOTOR	PFVR	PUMP FLOW VERIFICATION RELAY
ALARM OUT FAULT RELAY	PRC	PHASE ROTATION RELAY	
RELAY1 ZONE CONTROL BOARD	PRR	PHASE ROTATION RELAY	
COM	COMMON	PRC	PHASE ROTATION RELAY
DIS	HP SWITCH	PRR	PHASE ROTATION RELAY
DIS	LP SWITCH	PRR	PHASE ROTATION RELAY
DIS	FLOAT SWITCH	PRR	PHASE ROTATION RELAY
DIS	HYDRONIC PUMP	PRR	PHASE ROTATION RELAY
DIS	NO FUNCTION	PRR	PHASE ROTATION RELAY
DIT	SHUT DOWN	PRR	PHASE ROTATION RELAY
ADB	DISCHARGE 2	PRR	PHASE ROTATION RELAY
AD7	DISCHARGE 1	PRR	PHASE ROTATION RELAY
AD6	RETURN AIR 4	PRR	PHASE ROTATION RELAY
AD5	RETURN AIR 3/INDOOR COIL 2	PRR	PHASE ROTATION RELAY
AD4	RETURN AIR 2/1ST	PRR	PHASE ROTATION RELAY
AD3	RETURN AIR 1	PRR	PHASE ROTATION RELAY
AD2	INDOOR COIL 1	PRR	PHASE ROTATION RELAY
SEC	TRANSFORMER SECONDARY	PRR	PHASE ROTATION RELAY
PRI	TRANSFORMER PRIMARY	PRR	PHASE ROTATION RELAY

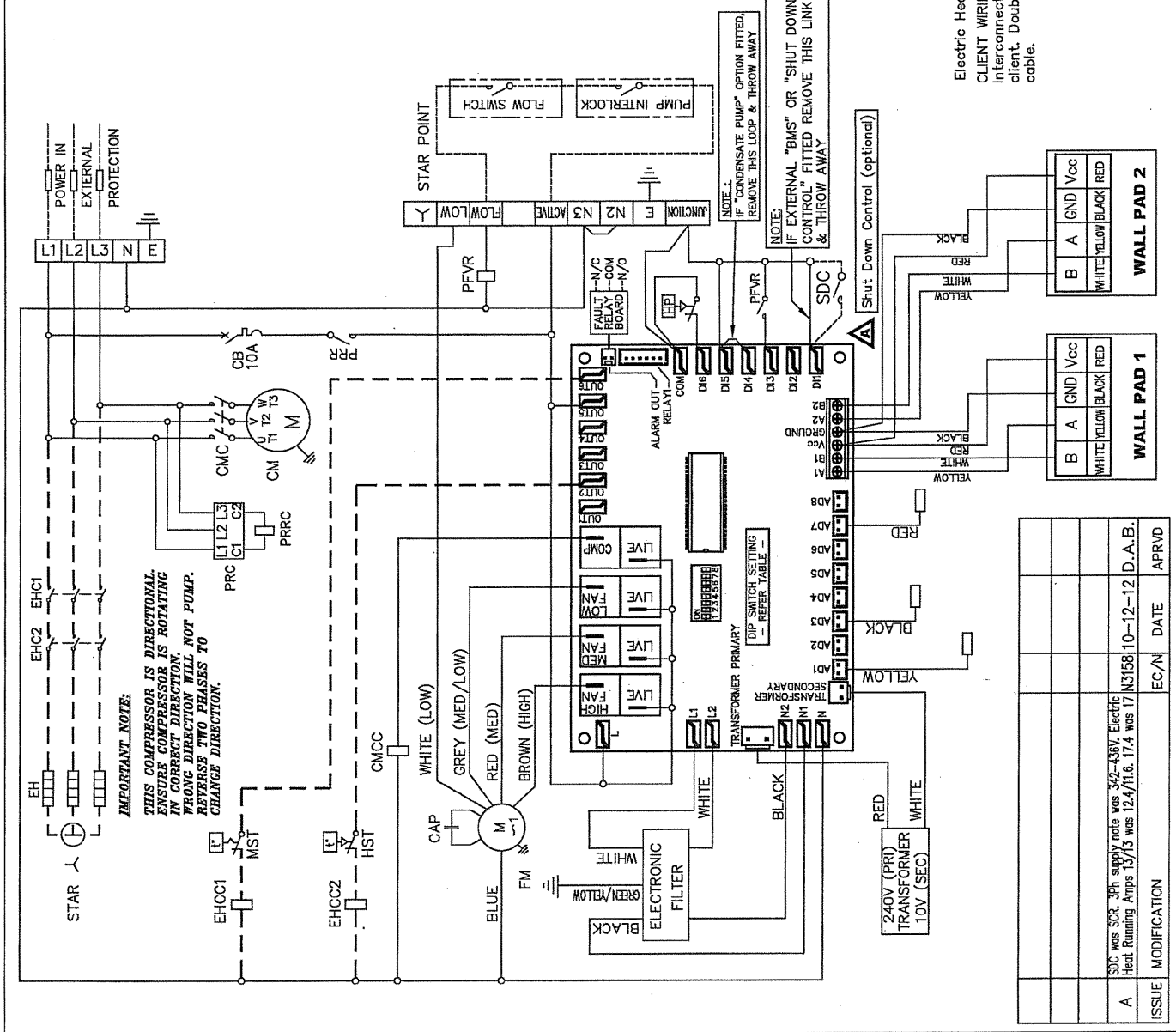
**DIPSWITCH SETTINGS**

STANDARD SETTING	OFF	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-DUCT SENSORS)	FAN OFF IN COOL CYCLE DEAD BAND
5	AIR COOLED	HYDRONIC
6	TWO STAGE	SINGLE STAGE
7	ALARM RELAY TURNS ON UPON SYSTEM FAULT	ALARM RELAY TURNS ON WHEN THERE IS A SYSTEM FAULT
8	FAN ON IN HEAT CYCLE DEAD BAND (RECOMMENDED FOR IN-DUCT SENSORS)	FAN OFF IN HEAT CYCLE DEAD BAND

**temperzone**

Title HWP 141 & 171 & 191 CKTD & CEKTD  
WIRING SCHEMATIC C/W INTEGRATED ROOM T/STAT

Drawn: J.S.L. Date: 16-05-12 Drawing No. 508-444-302 Revision: A  
Scale: Aprvd: [Signature]



# HWP 141-191 RKTD

SPECIFICATION TABLE			
CAPACITIES - AS/NZS 3823	MODEL	HWP	HWP
COOLING - NET	kW	14.14	15.3
HEATING - REVERSE CYCLE	kW	14.69	16.48
ELECTRICAL INPUT			
COOLING -	kW	3.6	4.28
HEATING - REVERSE CYCLE	kW	3.36	4.04
E.E.R./ COOLING	kW/kW	3.65	3.59
A.E.E.R./ COOLING	kW/kW	3.64	3.58
ELECTRICAL			
SUPPLY REQUIRED 3Ph 380-415V ~ 50Hz			
COMPRESSOR RUN AMPS AT RATING	A	5.6/5.7/5.6	6.7/7.4/6.6
FAN MOTOR	FLA	1.9	2.61
FAN MOTOR CAPACITOR SIZE	µF	12	15
RUNNING AMPS/PH - COOLING	TRA/PH	7.5/5.7/5.6	9.3/7.4/6.6
MAXIMUM OPERATING CURRENT	A/PH	10.3	11.7
REFRIGERANT - R410A	grams	2100	2150
WEIGHT - NETT	kg	151	179

OIL TYPE: POLYVINYL ETHER (PVE) HWP 141 - P.O.E. FOR HWP 171 & 191			
CAP	CAPACITOR	PFVR	PUMP FLOW VERIFICATION RELAY
CB	CIRCUIT BREAKER	PRC	PHASE ROTATION CONTROLLER
CM	COMPRESSOR MOTOR	PRR	PHASE ROTATION RELAY
CMC	COMPRESSOR CONTACTOR	PRRC	PHASE ROTATION RELAY COIL
CMCC	COMPRESSOR CONTACTOR COIL R		REVERSE CYCLE
FLA	FULL LOAD AMPS	RCV	REVERSING VALVE
FM	FAN MOTOR	SDC	SHUT DOWN CONTROL
FRB	FAULT RELAY BOARD	TRA	TOTAL RUNNING AMPS
HP	HIGH PRESSURE CONTROL		

SAT 2 BOARD DEFINITIONS	
OUT1	HEAT VALVE
OUT2	HEAT VALVE
OUT3	SWAMP PUMP 2
OUT4	DRAIN PUMP
OUT5	POWER IN
OUT6	ZONE/MOTOR
ALARM OUT	FAULT RELAY
RELAY 1	ZONE CONTROL BOARD
CGM	COMMON
D16	HP SWITCH
D15	LP SWITCH
D14	FLOAT SWITCH
D13	HYDRONIC PUMP
D12	NO FUNCTION
D11	SHUT DOWN
ADB	DISCHARGE 2
AD7	DISCHARGE 1
AD5	RETURN AIR 4
AD4	RETURN AIR 3/INDOOR CH 2
AD3	RETURN AIR 2/1ST
AD2	RETURN AIR 1
AD1	INDOOR COIL 1
SEC	TRANSFORMER SECONDARY
PRI	TRANSFORMER PRIMARY

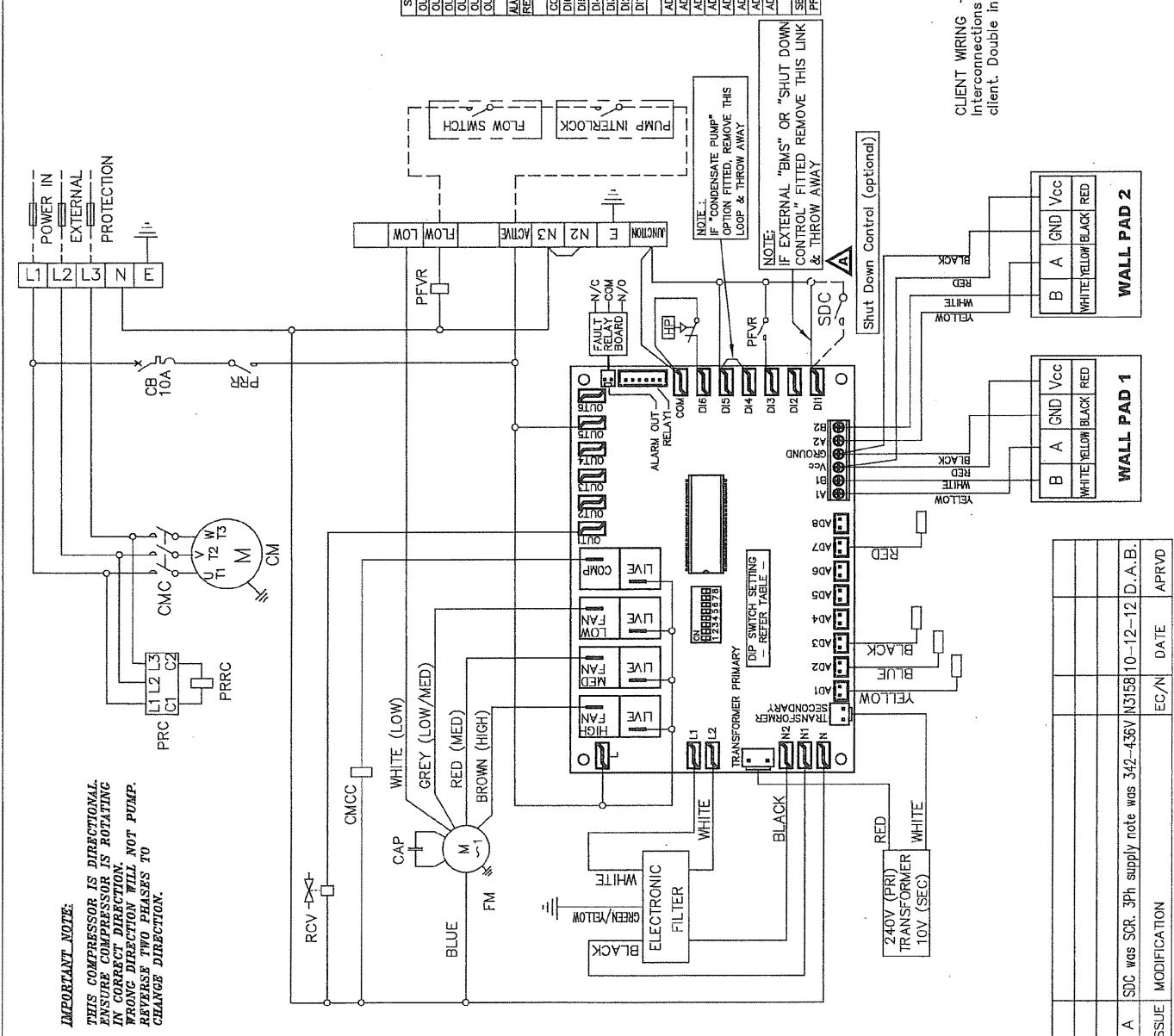
  

DIPSWITCH SETTINGS			
1	COOL ONLY	OFF	ON
2	NO ELECTRIC HEATERS	OFF	ON
3	1.5°C DIFFERENTIAL CONTROL	OFF	ON
4	FAN ON IN COOL CYCLE DEAD BAND (RECOMMENDED FOR IN-DUCT SENSORS)	OFF	ON
5	AIR COOLED	OFF	ON
6	TWO STAGE	OFF	ON
7	ALARM RELAY TURNS ON UPON COMPLETE LOCKOUT DUE TO SYSTEM FAULT.	OFF	ON
8	FAN ON IN HEAT CYCLE DEAD BAND (RECOMMENDED FOR IN-DUCT SENSORS)	OFF	ON

**temperzone**

Title: HWP 141 & 171 & 191 RKTD WIRING SCHEMATIC  
C/W INTEGRATED ROOM T/STAT

Drawn U.S.L. Date 15-05-12 Revision  
Scale Aprvd *[Signature]* 507-444-302  
©temperzone ltd 2007



CLIENT WIRING  
Interconnections between units by  
client. Double insulated multi-core cable.

ISSUE	MODIFICATION	EC/N	DATE	APRVD
A	SDC was SCR. 3ph supply note was 342-436V	N3158	10-12-12	D.A.B.

# HWP 141-191 CKT

Capacities - Nett to AS/NZS 3823		141	171	HWP
Cooling - Net	kW	13.14	15.30	18.30
Electrical Input	kW	3.60	4.28	5.09
Cooling -	kW/kW	3.65	3.57	3.59
E.E.R. (Cooling)	kW/kW	3.64	3.56	3.58
A.E.E.R. (Cooling)				
Electrical				
Supply required	3Ph 380-415V ~ 50Hz			
Compressor type	: Scroll			
Compressor (3Ph) run amps rated conditions	A/ph 5.6/5.7/5.6	6.7/7.4/6.6	7.7/7.8/0	
Oil type	: P.V.E (HWP 141) - P.O.E (HWP 171 & 191)			
IFM	Indoor Fan Motor (1Ph)	W 450	450	550
	Indoor fan motor (1Ph) Full load amps	A 2.7	2.7	3.4
	Fan Capacitor size	MFD 12	15	15
	Rating Amps	A/ph 7.5/5.7/5.7	9.3/7.4/7.6	10.6/7.7/8.0
	Max Running Amps (total)	A/ph 9.4/7.6/7.6	12.7/10.10	13.1/10.4/10.5
CCB	Control circuit breaker	A 10	10	10
24VCB	24 Volt circuit breaker	A 2	2	2
	Refrigerant - R410A	Kg 2.10	2.15	3.20
	Unit Weight - Nett	Kg 155	155	179

ARB	Auxiliary Relay Board	HPT	High Pressure Transducer
CAP	Capacitor	LFR	Low Fan Relay
CCB	Control Circuit Breaker	LFCR	Low Fan Relay Coil
CM	Compressor Motor	MFR	Med Fan Relay
CMC	Compressor Contactor	MFCR	Med Fan Relay Coil
CMCC	Compressor Contactor Coil	PFVR	Pump Flow Verification Relay
CPC	Circulating Pump Control	PFVRC	Pump Flow Verification Relay Coil
CPCC	Circulating Pump Control Coil	PRC	Phase Rotation Controller
CR	Compressor Relay 24 v Control	PRR	Phase Rotation Relay
CRC	Compressor Relay Coil 24v	PRRC	Phase Rotation Relay Coil
CRB	UC7 Fault Relay Board	TR	Transformer
HFR	High Fan Relay	UC7	Unit Controller 7
HFCR	High Fan Relay Coil		

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

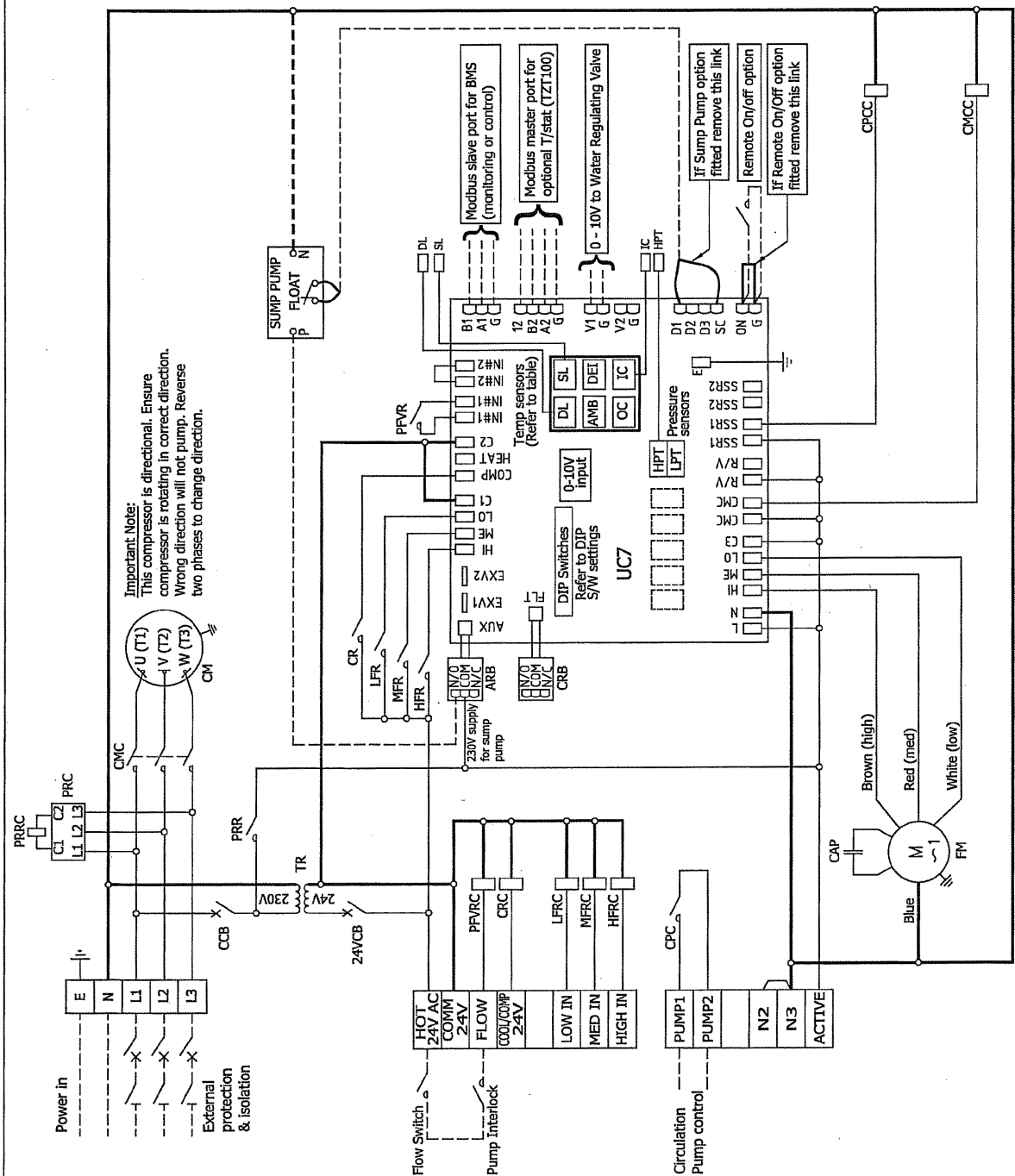
  

Temperature Sensor	
Sensor	Colour
SL	Blue
DL	Red
IC	Yellow

Title **HWP 141 & 171 & 191 CKT**  
c/w UC7 Wiring schematic



Plot date	18-12-12	Drawn D.A.B./	Drawn date	18-12-12	Revision	A
temperzone Ltd	Aprv'd			291-000-356		



ISSUE	MODIFICATION	ECN	DATE	APRVD
Client wiring ----- Visit <a href="http://www.temperzone.biz">www.temperzone.biz</a> for client wiring diagrams				

# HWP 141-191 CEKT

Capacities - Nett to AS/NZS 3823		HWP	
Cooling - Net	kW 13.14	141	171
Heating - Electric Heat	kW 9.00	15.30	18.30
Electrical Input		9.00	12.00
Cooling -	kW 3.60	4.28	5.09
Heating - Electric Heat	kW 9.50	9.60	12.60
E.E.R. (Cooling)	kW/kW 3.65	3.57	3.59
A.E.E.R. (Cooling)	kW/kW 3.64	3.56	3.58
Electrical			
Supply required	3ph 380-415V ~ 50Hz		
Compressor type	: Scroll		
Compressor (3Ph) run amps rated conditions	A/ph 5.6/5.7/5.6	6.7/7.1/4.6	7.7/7.1/7.0
Oil type	: P.V.E (HWP 141) - P.O.E (HWP 171 & 191)		
IPM Indoor Fan Motor (1Ph)	W 450	450	550
Indoor fan motor (1Ph) Full load amps	A 2.7	2.7	3.4
Fan Capacitor size	MFD 12	15	15
Rating Amps Cooling	A/ph 1.5/1.5/1.5	1.9/1.7/1.6	10.6/7.7/8.0
Max Running Amps Cooling (total)	A/ph 8.4/7.6/7.6	12/10/10	13.1/10.4/10.4
Electric Heat Running Amps	A/ph 14.8/13/13	15.3/13/13	18.7/17.4/17.4
Max Electric Heat Amps	A/ph 15.7/13/13	16.2/13/13	20.9/17.4/17.4
Control circuit breaker	A 10	10	10
24VCB 24 Volt circuit breaker	A 2	2	2
Refrigerant - R410A	Kg 2.10	2.15	3.20
Unit Weight - Nett	Kg 155	155	179
ARB Auxiliary Relay Board	HR Heating Relay		
CAP Capacitor	HRC Heating Relay Coil		
CCB Control Circuit Breaker	HTSS Auto High Temp. Safety Sensor		
CM Compressor Motor	LFR Low Fan Relay		
CMCC Compressor Contactor	LFRC Low Fan Relay Coil		
CPC Circulating Pump Control Coil	MFR Med Fan Relay		
CPC Circulating Pump Control	MFRC Med Fan Relay Coil		
CR Compressor Relay 24 v Control	MST Manual High Temp. Safety T/stat		
CRB Compressor Relay 24 v Control	PFVRC Pump Flow Verification Relay Coil		
CRB Compressor Relay Board	PRC Phase Rotation Controller		
EH Electric Heater	PRR Phase Rotation Relay		
EHCC Electric Heater Contactor	PRCC Phase Rotation Relay Coil		
HFR High Fan Relay	RCV Reverse Cycle Valve		
HFR High Fan Relay Coil	TR Transformer		
HPT High Pressure Transducer	UC7 Unit Controller 7		

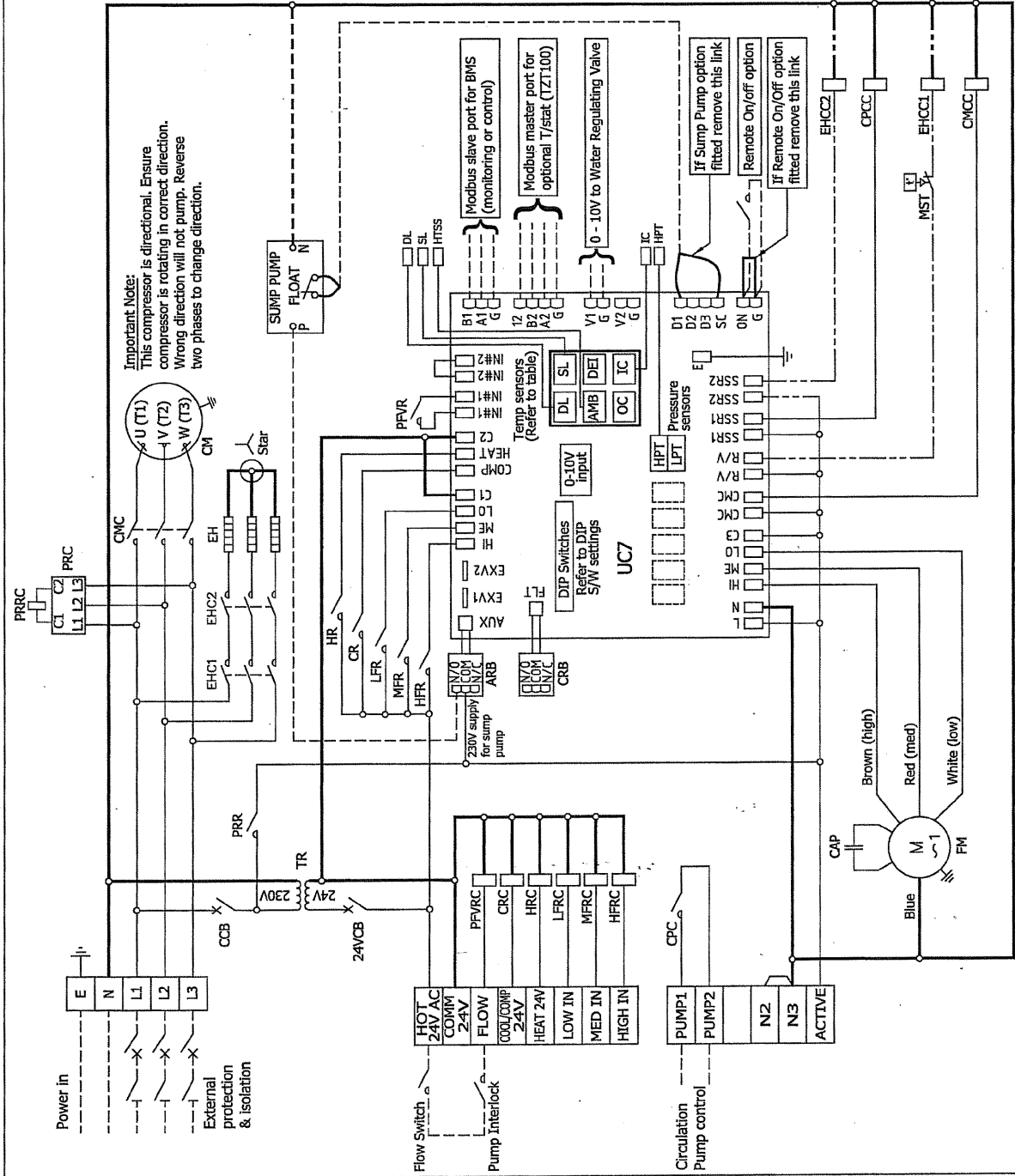
Title HWP 141 & 171 & 191 CEKT  
c/w UC7 Wiring schematic



Plot date	18-12-12	Drawn D.A.B.	Drawn date	18-12-12	Revision No.	291-000-357	Revision	A
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UC7 DIP switch settings	
DIP switch	On/Off ↓
1,3,4,13,14	On
2,5,6,7,8,9,10,11,12,15,16	Off

Temperature Sensor	
Sensor	Colour
SL Suction	Blue
DL Discharge	Red
AMB Return Air	Black
IC I/D Coil	Yellow



ISSUE	MODIFICATION	ECN	DATE	APRVD	Client wiring	Visit <a href="http://www.temperzone.biz">www.temperzone.biz</a> for client wiring diagrams
					Electric Heat wiring	



# HWP 141-191 RKT

Capacities - Nett to AS/NZS 3823		HWP	
Cooling - Net	kW 13.14	141	171
Heating - Reverse Cycle	kW 14.69	15.30	18.30
Electrical Input		16.48	18.37
Cooling -	kW 3.60	4.28	5.09
Heating - Reverse Cycle	kW 3.36	4.04	4.47
E.E.R. (Cooling)	kW/kW 3.65	3.57	3.59
A.E.E.R. (Cooling)	kW/kW 3.64	3.56	3.58
Electrical			
Supply required 3Ph 380-415V ~ 50Hz			
Compressor type : Scroll			
Compressor (3Ph) run amps rated conditions	A/ph 5.6/5.7/5.6/6.1/7.4/6.6/1.7/7.7/8.0		
Oil type : P.V.E (HWP 141) - P.O.E (HWP 171 & 191)			
Indoor Fan Motor (LPH)	W 450	450	550
Indoor fan motor (LPH) Full load amps	A 2.7	2.7	3.4
Fan Capacitor size	MFD 12	15	15
Rating Amps	A/ph 7.5/5.7/5.9/3.7/4.7/6.1/6.8/7.7/8.0		
Max Running Amps (total)	A/ph 8.4/7.6/7.6/12.7/10.7/10.13/10.4/10.4		
Control circuit breaker	A 10	10	10
24V/CB 24 Volt circuit breaker	A 2	2	2
Refrigerant - R410A	Kg 2.10	2.15	3.20
Unit Weight - Nett	Kg 155	155	179

ARB	Auxiliary Relay Board	HRC	Heating Relay
CAP	Capacitor	LFR	Low Fan Relay Coil
CCB	Control Circuit Breaker	LFR	Low Fan Relay Coil
CM	Compressor Motor	MFR	Med Fan Relay
CMC	Compressor Contactor	MFR	Med Fan Relay Coil
CMCC	Compressor Contactor Coil	PFVRC	Pump Flow Verification Relay Coil
CPC	Circulating Pump Control	PRC	Phase Rotation Controller
CPCC	Circulating Pump Control Coil	PRR	Phase Rotation Relay
CR	Compressor Relay 24 V Control	RCV	Reverse Cycle Valve
CRC	Compressor Relay Coil 24v	TR	Transformer
CRB	UC7 Fault Relay Board	UC7	Unit Controller 7
HFR	High Fan Relay Coil		
HFC	High Fan Relay Coil		
HPT	High Pressure Transducer		

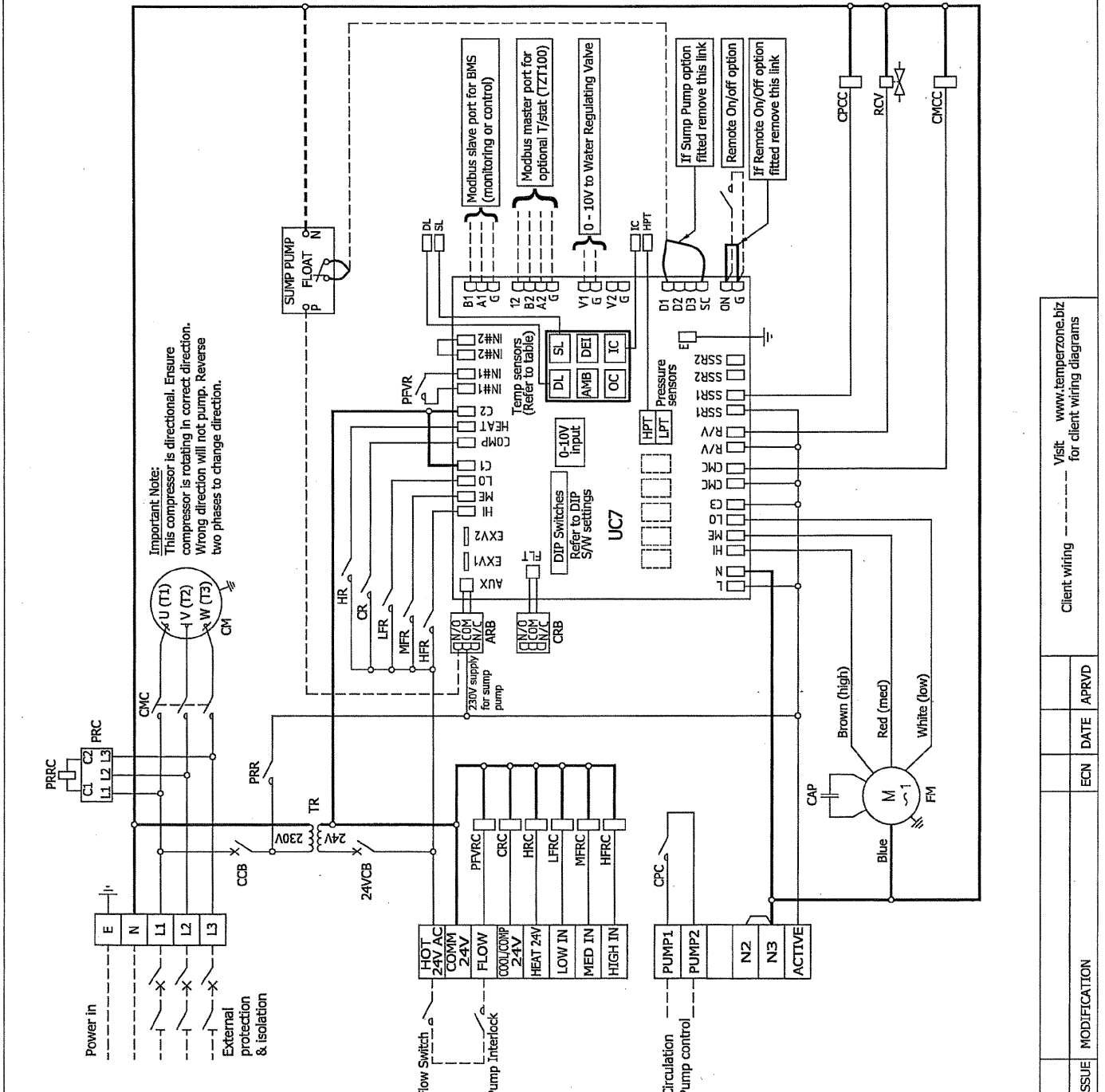
UC7 DIP switch settings	
DIP switch	↑ On/Off ↓
1,13,14	On
2,3,4,5,6,7,8,9,10,11,12,15,16	Off

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

Title HWP 141 & 171 & 191 RKT  
c/w UC7 Wiring schematic



Plot date	18-12-12	Drawn D.A.B./	19-12-12	Revision No.	291-000-355	Revision	A
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ISSUE	MODIFICATION	ECN	DATE	APR'VD	Client wiring	Visit <a href="http://www.temperzone.biz">www.temperzone.biz</a> for client wiring diagrams
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