

HWP 290 – 445

Ducted Water Cooled R410A Packaged Air Conditioner

Installation & Maintenance

Dimensions (mm)

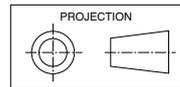
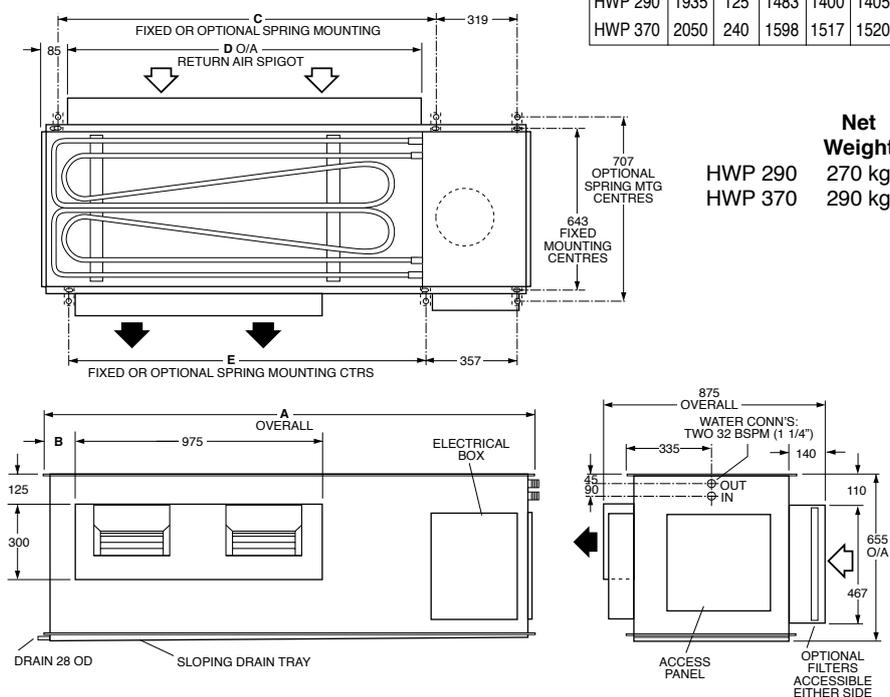


Fig. 1 HWP 290, 370



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. Filters - 2 of, EU4 rated.

Spring mounts are supplied as standard.

AIR FILTRATION / FILTER (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 filters are available for the return air spigot. The filters may be accessed from either side of this spigot.

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.

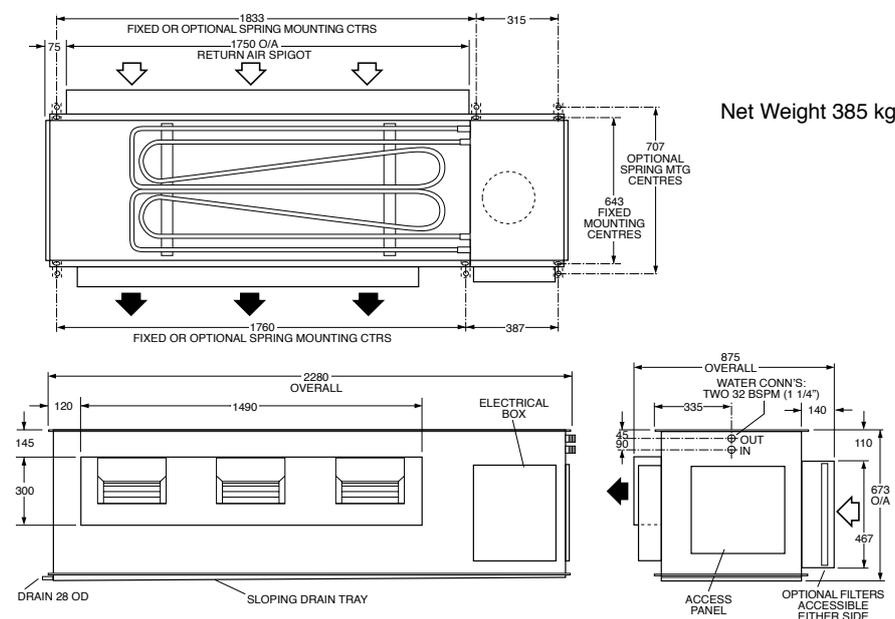
When determining the position of the air conditioner, allow adequate space around the unit to facilitate future servicing and maintenance. Ensure there is enough working space in front of the electrical access panel. Allow adequate clearance for the filters (optional) to be withdrawn to its full length.

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 six threaded rods using locknuts (not supplied), as shown in Fig. 4.

Mount the unit level as it comes with a sloping drain tray. The preferred placement of the reversible drain tray is for the drain pipe to be at the opposite end to the compressor.

Fig. 2 HWP 445



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.

If a condensate lift-pump is fitted, the drain exit can only be at the opposite end to the compressor.

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).

Fig. 3 Spring Mounting

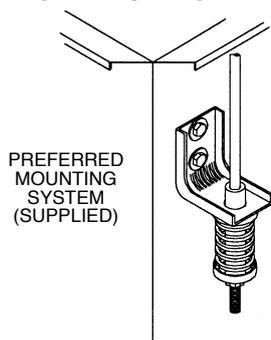
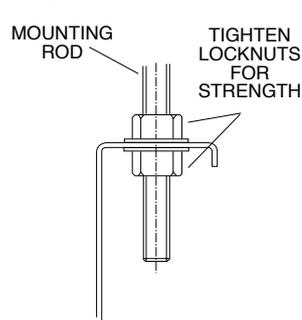


Fig. 4 Solid Mounting



Condensate Drain

The drain line must be maintained at least 28 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.

Maximum water pressure for the HWP unit alone, excluding hoses, is 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:	290	370	445
Minimum	1.5	2.0	2.25

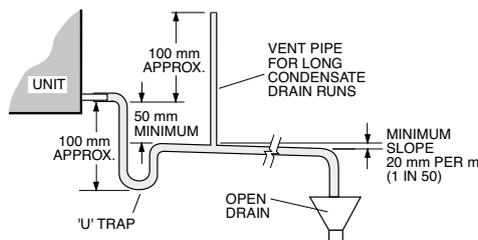
Electrical

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 290–445 Data Sheet pamphlets for detailed information on air handling performance and water flow rates.

Fig. 5 Condensate Drain



Unit Protection

Unit protection is incorporated in either:

- a.) HWP Protection Board, 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).

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.

Water Valve Control Option

Once the SAT-2 room thermostat reaches the desired room temperature, it is capable of switching off both the HWP unit's compressor and an external water control valve (if fitted); refer wiring diagram. This provides economy of operation by reducing the load on the central water supply system.

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. 3393a dated 11/13. Wiring revisions H & F.

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.

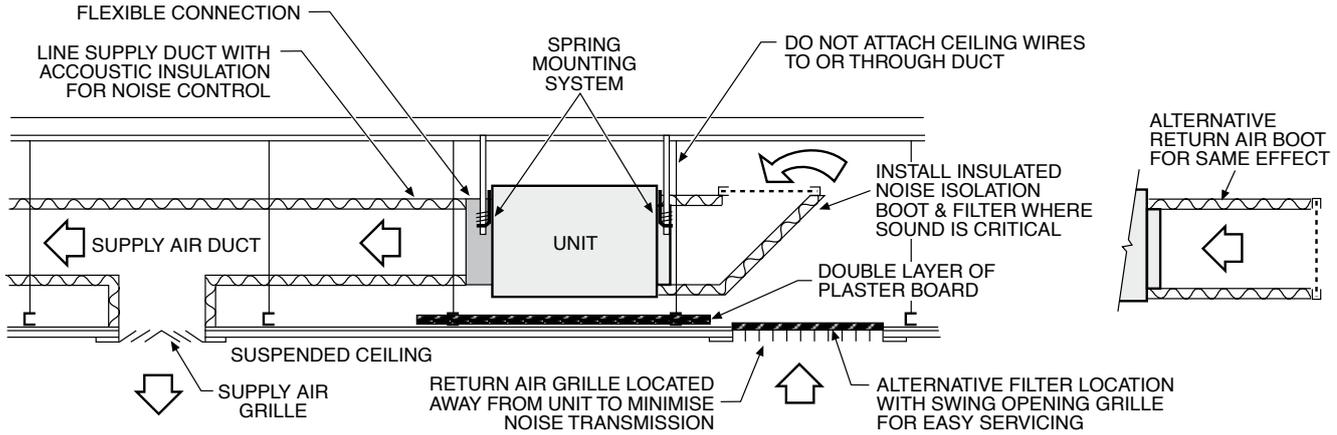
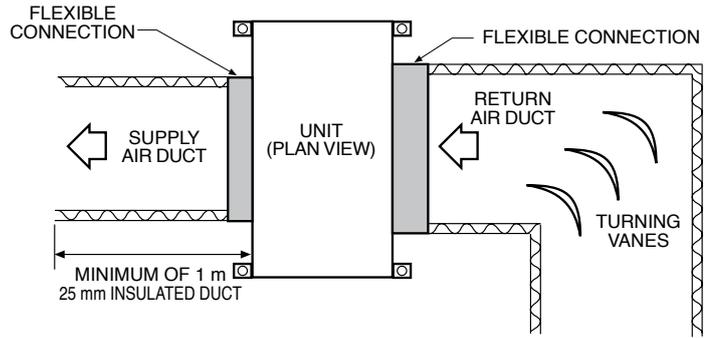
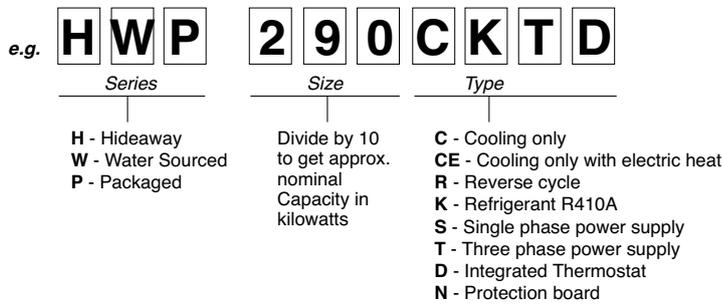


Fig. 7 Nomenclature



HWP 290-445 CKTD & CEKTD

SPECIFICATION TABLE		HWP	HWP	HWP
CAPACITIES - AS/NZS 3823		MODEL	290C	445C
COOLING - NET		KW	27.51	34.65
HEATING - ELECTRIC HEAT OPTION		KW	18	24
ELECTRICAL INPUT				
COOLING -		kW	7.6	9.35
HEATING - ELECTRIC HEAT OPTION		kW	19.20	26.5
E.E.R./ COOLING		kW/kW	3.62	3.41
ELECTRICAL				
SUPPLY REQUIRED 3Ph 380-415V ~ 50Hz				
COMPRESSOR (3PH) RUN AMPS AT RATING		A/Ph	12.2	14.2
FAN MOTOR (1PH)		FLA	4.18 X2	4.18 X2
FAN MOTOR CAPACITOR SIZE		µF	15 X2	15 X3
MAX RUNNING AMPS/PH - COOLING		TRA/Ph	19/19/13.5	21/21/15.5
MAX RUNNING AMPS/PH - ELECTRIC HEAT		TRA/Ph	35/35/30	35/35/30
REFRIGERANT - R410A		grams	4100	4800
WEIGHT - NETT		kg	270	290

C		COOLING ONLY	IFC	FAN CONTACTOR
CAP	CAPACITOR	IFCC	FAN CONTACTOR COIL	
CB	CIRCUIT BREAKER	FLA	FULL LOAD AMPS	
CM	COMPRESSOR MOTOR	FM	FAN MOTOR	
CMC	COMPRESSOR CONTACTOR	FRB	FAULT RELAY BOARD	
CMCC	COMPRESSOR CONTACTOR COIL	HP	HIGH PRESSURE CONTROL	
CMOL	COMPRESSOR OVERLOAD	HST	AUTO HIGH TEMP SAFETY T/STAT	
EH	ELECTRIC HEAT ELEMENT	MST	MANUAL HIGH TEMP SAFETY T/STAT	
EH1	ELECTRIC HEAT CONTACTOR	PFV	PUMP FLOW VERIFICATION RELAY	
EH2	ELECTRIC HEAT CONTACTOR	PRC	PHASE ROTATION RELAY	
EHCB1	ELECTRIC HEAT CIRCUIT BREAKER	PRRC	PHASE ROTATION RELAY COIL	
EHCB2	ELECTRIC HEAT CIRCUIT BREAKER	TRA	TOTAL RUNNING AMPS	
EHCC1	ELECTRIC HEAT CONTACTOR COIL	WVR	WATER VALVE RELAY	
EHCC2	ELECTRIC HEAT CONTACTOR COIL	WVRC	WATER VALVE RELAY COIL	

DIP SWITCH SETTINGS		STANDARD SETTING
OFF	ON	ON
1	COOL ONLY	HEAT PUMP
2	NO ELECTRIC HEATERS	ELECTRIC HEATERS FITTED
3	1.5°C DIFFERENTIAL CONTROL	1.0°C 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 COMPLETE LOCKOUT OF SYSTEM FAULT.	ALARM RELAY TURNS ON WHENEVER THERE IS SYSTEM FAULT.
8	FAN ON IN HEAT CYCLE DEAD BAND (RECOMMENDED FOR IN-DUCT SENSORS)	FAN OFF IN HEAT CYCLE DEAD BAND

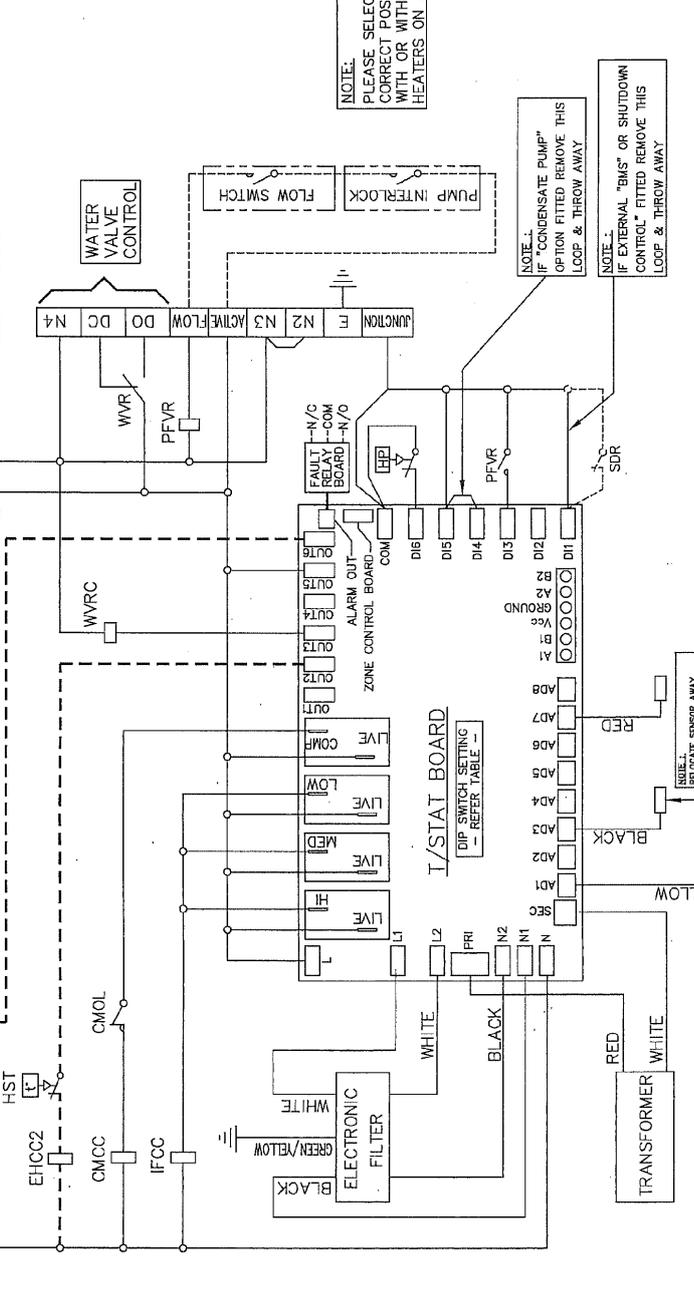
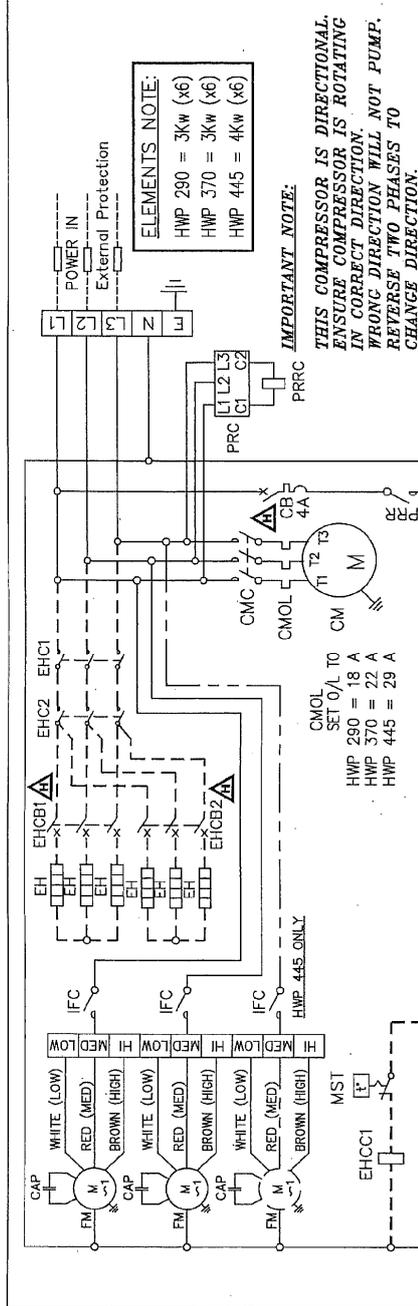
Title HWP 290-445 CKTD & CEKTD

WIRING SCHEMATIC C/W INTEGRATED ROOM T/STAT



Drawn G.J.R. Date 15-01-08 Drawing No. 508-524-002 Revision H

Scale Aprvd *[Signature]*



Electric Heat Wiring

CLIENT WIRING

PLOTTED 04-08-14

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SAT 2 BOARD DEFINITIONS	
OUT1	4-WAY VALVE
OUT2	HEATER
OUT3	SWING/COMP2
OUT4	DRAIN/PUMP
OUT5	POWER IN
OUT6	ZONE/MOTOR
COM	COMMON
DIB	HP SWITCH
D14	FLOAT SWITCH
D15	HYDRONIC PUMP
D12	NO FUNCTION
D11	SD
ALARM OUT	FAULT RELAY
RELAY1	ZONE CONTROL BOARD
A08	DISCHARGE 2
A07	DISCHARGE 1
A06	RETURN AIR 4
A05	RETURN AIR 3/INDOOR COIL 2
A04	RETURN AIR 1
A03	RETURN AIR 2/1ST
A02	LST 1
A01	INDOOR COIL 1
SEC	HYDRONIC PUMP
PRI	TRANSFORMER SECONDARY
SD	TRANSFORMER PRIMARY

ISSUE	MODIFICATION	EC/N	DATE	APRVD
E	WAS 12.2/17.3/17.3/14.2/19/19/27/32/32/27/32/32	N2505	15-04-10	CMW
D	DIP SWITCH SETTINGS NOTE ADDED - IFC/IFCC WERE TO IFC	N2259	20-07-09	D.A.B
*H	Added Electric Heat (E)/Change Control CB from 20amp to 40amp	N3569	04-08-11	J.S.L
G	WVR added	N3238	12-08-13	D.A.B
F	Revised schematic to allow for 10 pin wiring. Hydronic pump safety test & test relay sensor. Control board definition table added. amended supply voltage value. Max running amps values & removed recommended external loop table.	N3186	07-03-13	S.D.H.

HWP 290-445 RKTD

SPECIFICATION TABLE

CAPACITIES - AS/ANZS 3823	HWP	HWP	HWP
COOLING - NET	290R	370R	445R
HEATING - REVERSE CYCLE	kw	27.51	34.65
HEATING - REVERSE CYCLE	kw	28.59	34.86
ELECTRICAL INPUT			
COOLING -	kw	7.60	9.35
HEATING - REVERSE CYCLE	kw	7.58	9.03
E.E.R./ COOLING	kw/kw	3.62	3.71
ELECTRICAL			
SUPPLY REQUIRED 3Ph 380-415V ~ 50HZ			
COMPRESSOR (3PH) RUN AMPS AT RATING	A/Ph	12.2	14.2
FAN MOTOR (1Ph)	FLA	4.18 X2	4.18 X3
FAN MOTOR CAPACITOR SIZE	µFφ	15 X2	15 X3
MAX RUNNING AMPS./PH - COOLING	TRA/Ph	19/19/13.5	21/21/15.5
		26/26/26	
REFRIGERANT - R410A	grams	4100	4800
WEIGHT - NETT	kg	290	385

DIPSWITCH SETTINGS

STANDARD SETTING	OFF	ON
1	COOL ONLY	HEAT PUMP
2	NO. ELECTRIC HEATERS	ELECTRIC HEATERS FITTED
3	1.5°C DIFFERENTIAL CONTROL	1.0°C 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 COMPLETE LOCKOUT OF SYSTEM FAULT	ALARM RELAY TURNS ON WHENEVER THERE IS SYSTEM FAULT
8	FAN ON IN HEAT CYCLE DEAD BAND (RECOMMENDED FOR IN-DUCT SENSORS)	FAN OFF IN HEAT CYCLE DEAD BAND

SAT 2 BOARD DEFINITIONS

OUT1	4-WAY VALVE
OUT2	HEATER
OUT3	SWING/COMP2
OUT4	DRAIN/PUMP
OUT5	DRYER IN
OUT6	ZONE/MOTOR
RELAY1	ZONE CONTROL BOARD
COM	COMMON
D16	HP SWITCH
D15	LP SWITCH
D14	FLOAT SWITCH
D13	HYDRONIC PUMP
D12	NO FUNCTION
D11	SD
AD8	DISCHARGE 2
AD7	DISCHARGE 1
AD6	RETURN AIR 4
AD5	RETURN AIR 3/INDOOR COIL 2
AD4	RETURN AIR 2/LST
AD3	RETURN AIR 1
AD1	LST 1
AD1	INDOOR COIL 1
SEC	TRANSFORMER SECONDARY
FRI	TRANSFORMER PRIMARY

temperzone

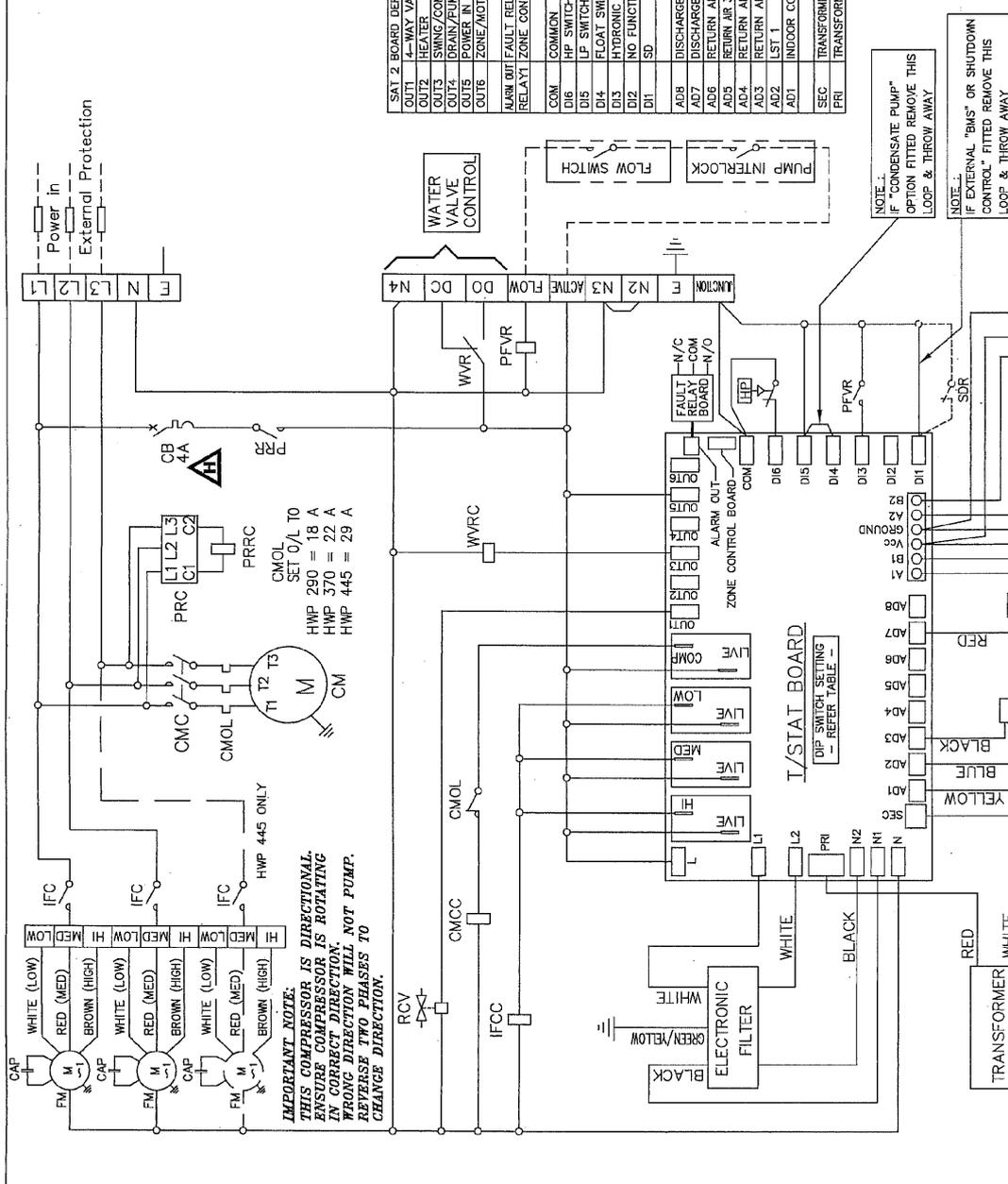
Title: HWP 290-445 RKTD WIRING SCHEMATIC
C/W INTEGRATED ROOM T/STAT

PLOTTED 04-08-14

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Drawn G.J.R. Date 15-01-08 Drawing No. 507-524-002 Revision H

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CLIENT WIRING

WALL PAD 1

B	A	GND	Vcc
WHITE	YELLOW	BLACK	RED

WALL PAD 2

B	A	GND	Vcc
WHITE	YELLOW	BLACK	RED

T/STAT BOARD

DIP SWITCH SETTING - REFER TABLE -

Wiring connections for the thermostat board are shown, including connections to the transformer, control boards, and various sensors. The board has terminals for L1, L2, L3, N, and PE, as well as terminals for the control boards (COM, D16, D15, D14, D13, D12, D11, AD8, AD7, AD6, AD5, AD4, AD3, AD1, SEC, FRI).

ISSUE MODIFICATION

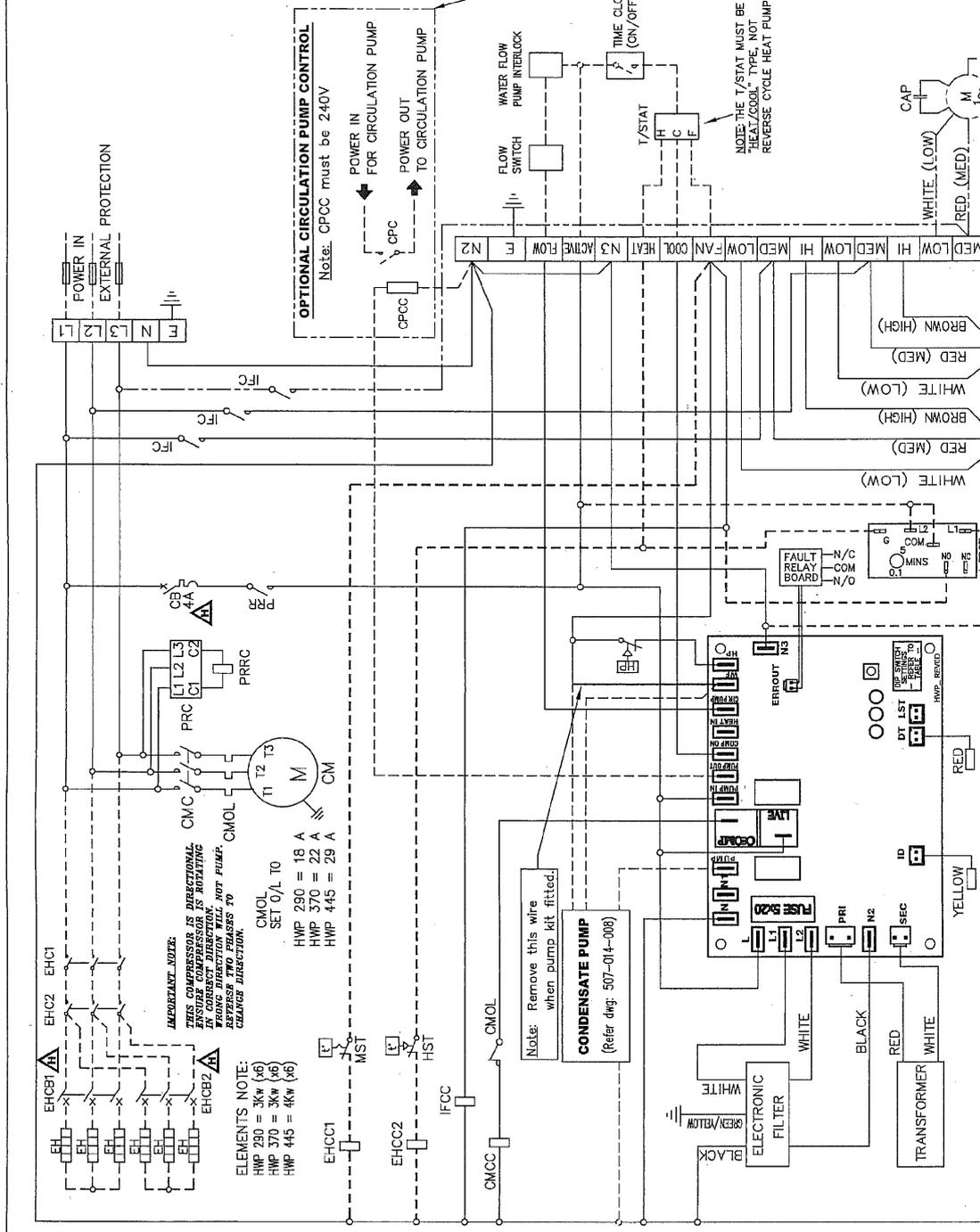
*H	Changed Control Circuit Breaker from 20amp to 4 amp	N3569	04-08-14	J.S.L.
G	WVR added	N3238	12-08-13	D.A.B.
F	Wiring schematic for alarm (MTR) control temperzone pump capacitors & MTR PMS sensor. Control board definition table added, amended supply voltage, Max. tripable amp values & removed recommended national fuse table.	N1786	07-03-13	S.D.H.
E	WAS 12.2/17.3/17.3 & 14.2/19/19	N2505	15-04-10	CMW
ISSUE	MODIFICATION	EC/N	DATE	APRVD

HWP 290-445 CKTN & CEKTN

SPECIFICATION TABLE

CAPACITIES - AS/NZS 3823	HWP	HWP	HWP
COOLING - NET	290C	370C	445C
HEATING - ELECTRIC HEAT OPTION	27.51	34.65	42.22
ELECTRICAL INPUT	kw	18	18
COOLING -	kw	7.6	9.35
HEATING - ELECTRIC HEAT OPTION	kw	19.20	19.83
E.E.R./ COOLING	kw/kw	3.82	3.71
ELECTRICAL			
SUPPLY REQUIRED 3Ph 342-436V ~ 50Hz INCLUDING VOLTAGE FLUCTUATION LIMITS	A/Ph	12.2	14.2
COMPRESSOR (3PH) RUN AMPS AT RATING	FLA	4.18 X2	4.18 X2
FAN MOTOR CAPACITOR SIZE	µF4	15 X2	15 X2
RUNNING AMPS/PH - COOLING	TRA/PH	13.7/192	19.19/143
RUNNING AMPS/PH - ELECTRIC HEAT	TRA/PH	35/25/30	35/25/30
RECOMMENDED EXTERNAL PROTECTION SIZE	A	32	40
EXTERNAL FUSE SIZE WITH ELECTRIC HEAT OPTION	A	40	40
REFRIGERANT - R410A	grams	4100	4800
WEIGHT - NETT	kg	270	290
			365

C	COOLING ONLY	EHCC1	ELECTRIC HEAT CONTACTOR COIL
CAP	CAPACITOR	EHCC2	ELECTRIC HEAT CONTACTOR COIL
CB	CIRCUIT BREAKER	IFC	FAN CONTACTOR
CM	COMPRESSOR MOTOR	IFCC	FAN CONTACTOR COIL
CMC	COMPRESSOR CONTACTOR FLA	FL	FULL LOAD AMPS
CMOL	COMPRESSOR OVERLOAD	FRB	FAULT RELAY BOARD
CPC	CIRCUIT BREAKER	FROT	FAN RUN ON TIMER
CPCC	CIRCUIT BREAKER	HP	HIGH PRESSURE CONTROL
EH	ELECTRIC HEAT ELEMENT	HST	AUTO HIGH TEMP SAFETY T/STAT
EHCB1	ELECTRIC HEAT CIRCUIT BREAKER	MST	MANUAL HIGH TEMP SAFETY T/STAT
EHCB2	ELECTRIC HEAT CIRCUIT BREAKER	PRC	PHASE ROTATION RELAY
EHCT1	ELECTRIC HEAT CONTACTOR	PRCC	PHASE ROTATION RELAY COIL
EHCT2	ELECTRIC HEAT CONTACTOR	TRA	TOTAL RUNNING AMPS



Title: HWP 290-445 CKTN & CEKTN
WIRING SCHEMATIC-PROTECTION BOARD

temperzone

Revision: H
Drawing No.: 1508-544-002
Date: 15-01-08
Scale: As shown
Aprvd: [Signature]

PLOTTED
04-08-14
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HWP445 ONLY
Electric Heat Wiring c/w Fan Run On Timer
CLIENT WIRING Interconnections between units by client. Double insulated multi-core cable.

ELECTRIC HEAT OPTION ONLY
FAN RUN ON TIMER MUST BE FITTED (SET TIMER TO 1MIN)

ISSUE	MODIFICATION	EC/N	DATE	APRVD
*H	Added Electric Heat, CB/Change Control CB from 20amp to 4amp	N3569	04-08-14	J.S.L.
G	Electric Heat Amps were 18/18/23.2, 18/18/25.3, 40/40/40	N3284	20-08-13	D.A.B.
F	WAS 12.2/17.3/17.4/19/19/23.2/18/18/25.3/18/18	N2505	15-04-10	CMW
E	FAN RUN ON TIMER FITTED FOR ELECTRIC HEAT OPTION ONLY. WIRING & NOTES UPDATED. ON/OFF SWITCH, SHOWN BLUE SENSOR NOT FITTED FOR REVISION N2133. LAYOUT UPDATED. HEAT IN WIRE REMOVED. COIL WAS COMP	N2133	08-08-09	D.A.B.
D	NEW VERSION, PROTECTION BOARD. HEAT WIRE SHOWN. DIP SWITCH SETTINGS NOTE ADDED	N2259	20-07-09	D.A.B.

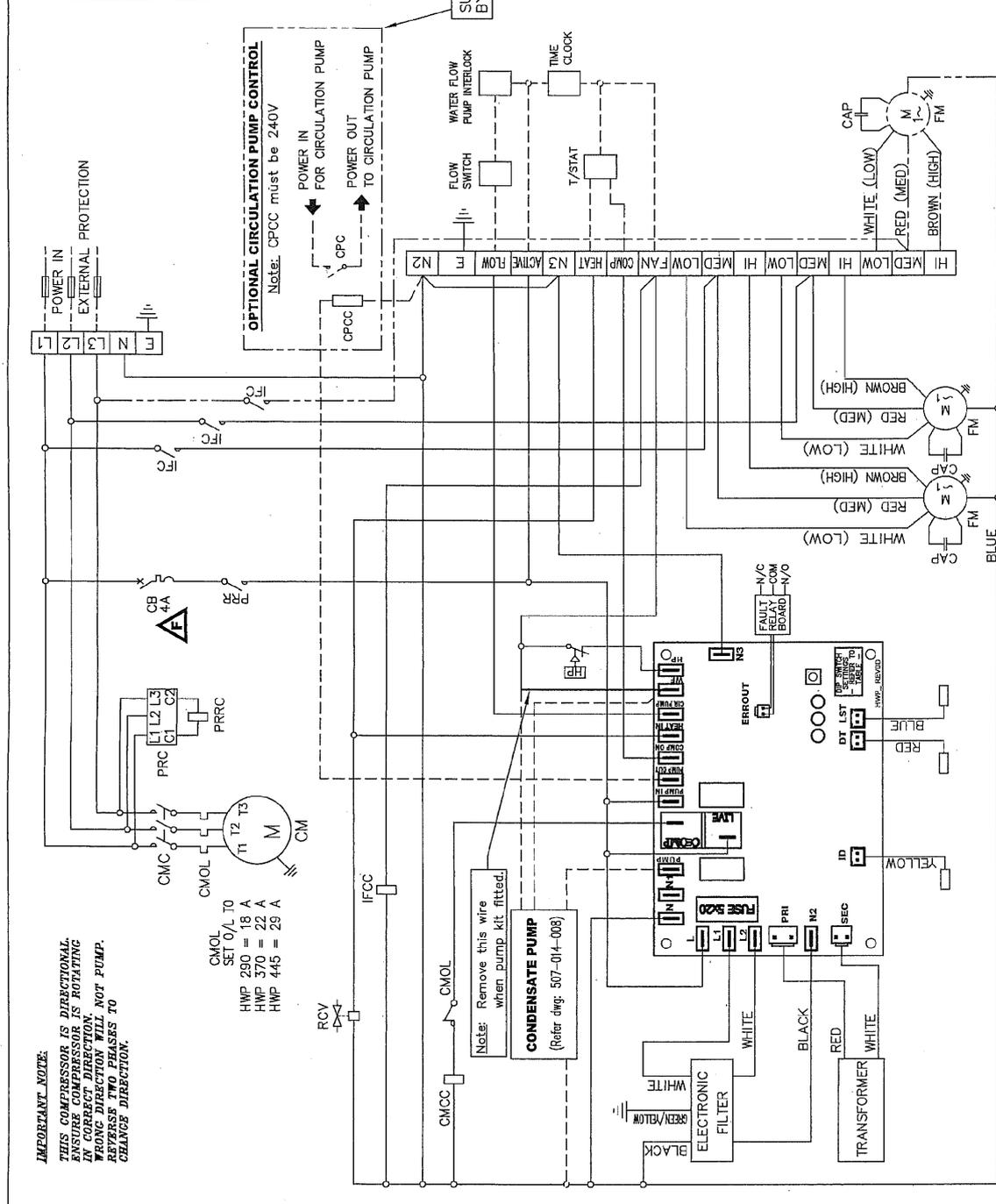
HWP 290-445 RKTN

SPECIFICATION TABLE		HWP	HWP	HWP
CAPACITIES - AS/ANZ 3823		290R	370R	445R
HEATING - REVERSE CYCLE		27.51	34.65	42.22
ELECTRICAL INPUT		28.59	34.86	42.20
COOLING - REVERSE CYCLE		7.60	9.35	12.4
HEATING - REVERSE CYCLE		7.58	9.03	11.6
E.E.R./ COOLING		3.62	3.71	3.41
ELECTRICAL				
SUPPLY REQUIRED 3Ph 342-435V ~ 50Hz INCLUDING VOLTAGE FLUCTUATION LIMITS				
COMPRESSOR (3PH) RUN AMPS AT RATING		A/PH	12.2	14.2
FAN MOTOR (IP4)		FLA	4.18 X2	4.18 X2
FAN MOTOR CAPACITOR SIZE		µF/Φ	15 X2	15 X2
RUNNING AMPS/PH - COOLING		TRA/PH	17.3/17.3/22	19/19/14.2
RECOMMENDED EXTERNAL FUSE SIZE		A	32	40
REFRIGERANT - R410A		grams	4100	4800
WEIGHT - NETT		kg	270	290
CAP. CAPACITOR		FLA	FULL LOAD AMPS	365
CB - CIRCUIT BREAKER		FM	FAN MOTOR	
CM - COMPRESSOR MOTOR		HP	HIGH PRESSURE CONTROL	
CMC - COMPRESSOR CONTACTOR		PRC	PHASE ROTATION RELAY	
CMOL - COMPRESSOR OVERLOAD		R	PHASE ROTATION RELAY COIL	
CPC - CIR. PUMP CONTACTOR		RCV	REVERSING VALVE	
CPCC - CIR. PUMP CMC COIL		TRA	TOTAL RUNNING AMPS	
IFCC - FAN CONTACTOR				
IFCC - FAN CONTACTOR COIL				

SUPPLIED BY CLIENT.

DIPSWITCH SETTINGS

STANDARD SETTING	OFF	ON
1	COOL ONLY	HEAT PUMP
2	FAULT RELAY ACTIVATED UPON FINAL LOCK OUT	FAULT RELAY ACTIVATED WITH EACH SYSTEM FAULT
3	LST ACTIVATED AT -2°C	LST ACTIVATED AT -1°C
4	SPARE	



IMPORTANT NOTE:
THIS COMPRESSOR IS DIRECTIONAL. ENSURE COMPRESSOR IS ROTATING IN CORRECT DIRECTION. WRONG DIRECTION WILL NOT PUMP. REVERSE TWO PHASES TO CHANGE DIRECTION.

CMOL SET 0/L TO
HWP 290 = 18 A
HWP 370 = 22 A
HWP 445 = 26 A

CONDENSATE PUMP
(Refer dng: 507-014-008)
Note: Remove this wire when pump kit fitted.

ISSUE	MODIFICATION	EC/N	DATE	APRVD
F	Changed Control Circuit Breaker from 20amp to 4amp	N3569	04-08-14	J.S.L.
E	WAS 12.2/17.3/17.3 & 14.2/19/19	N2505	15-04-10	CMW
D	DIP SWITCH SETTINGS NOTE ADDED	N2299	20-07-09	D.A.B
C	NEW VERSION PROTECTION BOARD. CIRCULATION PUMP CONTROL NOTE ADDED. DIPSWITCH SETTING'S NOTE ALTERED.	N2073	12-05-09	B.P

HWP445 ONLY

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

Title HWP 290-445 RKTN
WIRING SCHEMATIC-PROTECTION BOARD

temperzone

Drawn G.J.R. Date 15-01-08 Drawing No. 1507-544-002
Scale Aprvd [Signature] Revision F