

# RHEEM THERMAL

EASY INTEGRATION – HIGHER EFFICIENCY – LONGER LASTING  
DESIGNED AND MANUFACTURED BY RHEEM

## COMMERCIAL HEAT PUMP TECHNICAL BOOKLET



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**Note: Higher heating capacity (up to 550kW\*) available. Please consult Rheem or Rheem distributor for more information.**

*\*subject to product series*



# 1.0

## NOMENCLATURE



MODEL	RTHP	— HEATING POOL	— RTHW	— HOT WATER	— RTWW	— WATER TO WATER	— RTCH	— CHILLER POOL	— RTCW	— CHILLER WATER						
KW		NOMINAL KILOWATT AT RATING CONDITIONS	EVAP.	— AIR COOLED (NO LETTER REQUIRED)	— T — ABS TITANIUM SHELL & TUBE	— S — SINGLE WALL SHELL & TUBE COPPER	— V — COAXIAL VENTED COPPER	— P — BRAZED PLATE VENTED	— B — BRAZED PLATE							
REFRIG.	A — R410a	D — R134a	K — R407c	COND.	— AIR COOLED (NO LETTER REQUIRED)	T — ABS TITANIUM SHELL & TUBE	S — SINGLE WALL SHELL & TUBE COPPER	V — COAXIAL VENTED COPPER	P — BRAZED PLATE VENTED	B — BRAZED PLATE						
ELECTRICAL	D — 380-420V/3Ø/50HZ	J — 220-240V/1Ø/50HZ	7 — 380V/3Ø/60HZ	1 PHASE INVERTER	3 — 220-240V/50HZ	3 PHASE INVERTER	4 — 380-420V/50HZ									
OPTIONS	E — CAREL EASY	Q — RHEEM IQ	R — REVERSE CYCLE	C — CIRCULATION PUMP CONTACTOR / RELAY WITH REMOTE SENSOR	V — VERTICAL AIR	H — HORIZONTAL AIR	S — SPA UNITS	O — OPPOSITE HAND	L — LOW TEMP.	G — PUMP	B — BMS CONTROL	D — DOUBLE COATED EVAP. COIL	F — EC FAN	J — COMPRESSOR JACKET	P — POWDER COATED FINISH	A — STACK ABLE UNITS

EXAMPLE **R** **T** **H** **W** **0** **6** **5** **K** **S** **D** **E** **V** **1**

— RHEEM THERMAL HOT WATER  
 — 65Kw  
 — REVISION 1  
 — VERTICAL FANS  
 — CAREL EASY  
 — 380-420V 3Ø/50HZ  
 — SINGLE WALL SHELL & TUBE COPPER  
 — R407c

6	0353	ADDED IN OPTIONS A- STACK ABLE UNITS	30/07/19
5	0330	ADDED 3-1P INVERTER, 4-3P INVERTER, B-BMS, D-DOUBLE COATED COIL, F-EC FAN, j-COMP JACKET, P-POWDER COATED FINISH	22/02/19
4	0321	ADDED L - LOW TEMP, G - PUMP	4/12/18
3		OPPOSITE HAND	17/08/18
REV	ECN	DESCRIPTION	DATE

**Note: The heat pump features can be customized according to customer requirement. All customization are subject to factory review.**



**Rheem**  
THERMAL SYSTEMS GROUP

43 Marigold Sireet  
Revesby NSW 2212  
Australia  
Phone: 02 9684 3684

### NOMENCLATURE

REF. DWG	Date	Drawn	Issue
26793	04/06/18	J.Bates	6

**2.0**

**EQUIPMENT**

**SPECIFICATION SHEET,**

**DRAWING &**

**WIRING DIAGRAM**



## 2.1

# AIR TO WATER HEAT PUMP (50Hz),

*RTHW###K#-##V-1*



## HOT WATER HEAT PUMP SPECIFICATIONS

Single wall / thermostat control	RTHW010KS-JEV-1
Single wall / Rheem IQ control	RTHW010KS-JQV-1

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	220 - 240 Volts / 1 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	14.2 FLA / 61 LRA
Min. Circuit Size	16.0 Amps
Refrigerant	R407C
Nominal Heating capacity	10.38 kW
Power input	2.08 kW
COP	5.00 COP
Noise Level	59 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	10.08 Amps

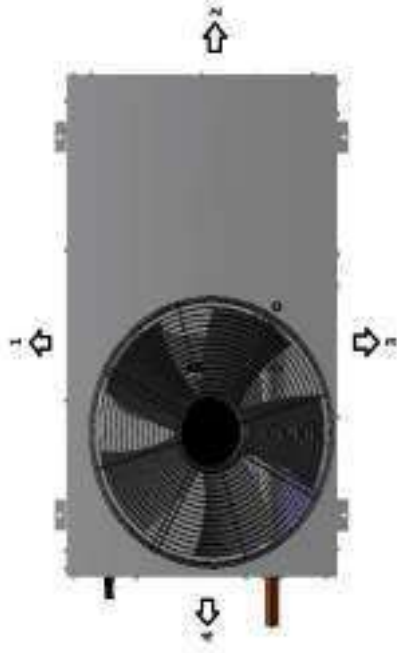
<b>TECHNICAL DATA</b>	
<b>Compressor</b>	<b>Fan</b>
Make	EBM-Papst
Type	Axial
Number Per Unit	1
FLA (Full Load Amps)	0.64 Amps (Each)
Voltage / Phase	220 - 240 / 1
Pole/RPM	6/890
Air Flow	800 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	0.41 L/s
Max. Outlet Water Temp	61°C / 65°C*
Design Pressure Drop	60 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	25.4 mm (1") Copper
Drain	20mm PVC
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	90 kg
Size L x W x H	1000mm x 640mm x 800mm

## COP TABLE

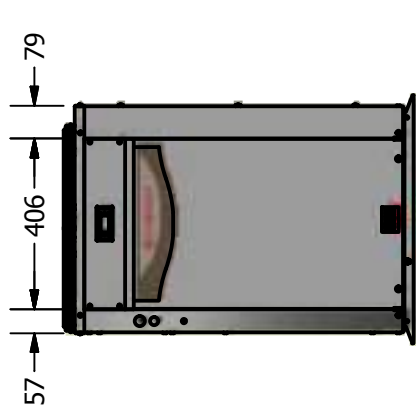
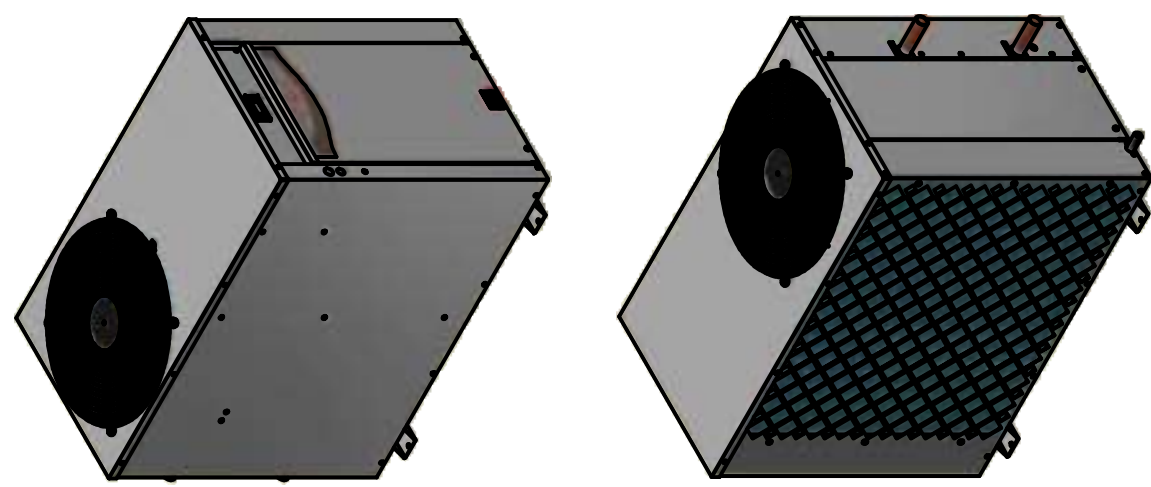
Water Out °C	Ambient Temperature									
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C		
45 °C	5.43 kW 2.49 COP	6.97 kW 3.25 COP	7.76 kW 3.65 COP	8.47 kW 4.00 COP	9.24 kW 4.40 COP	9.79 kW 4.70 COP	10.38 kW 5.00 COP	10.63 kW 5.14 COP		
50 °C	5.44 kW 2.21 COP	6.91 kW 2.86 COP	7.62 kW 3.17 COP	8.29 kW 3.48 COP	9.04 kW 3.82 COP	9.56 kW 4.06 COP	10.09 kW 4.32 COP	10.34 kW 4.43 COP		
55 °C	5.36 kW 1.93 COP	6.48 kW 2.35 COP	7.50 kW 2.75 COP	8.11 kW 3.00 COP	8.83 kW 3.30 COP	9.32 kW 3.50 COP	9.86 kW 3.71 COP	10.09 kW 3.81 COP		
60 °C	N/A	6.37 kW 2.08 COP	7.31 kW 2.42 COP	8.01 kW 2.67 COP	8.68 kW 2.91 COP	9.14 kW 3.09 COP	9.68 kW 3.28 COP	9.88 kW 3.36 COP		



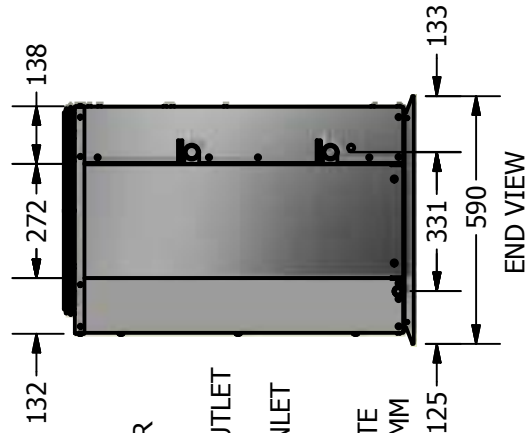
UNIT CLEARANCES	
Direction	Description
1	Evaporator Coil
2	Compressor Access
3	Plain Back
4	Water Connections
5	Fan Clearance
	Minimum Clearance Required
	500mm
	850mm
	Nil
	500mm
	2500mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C

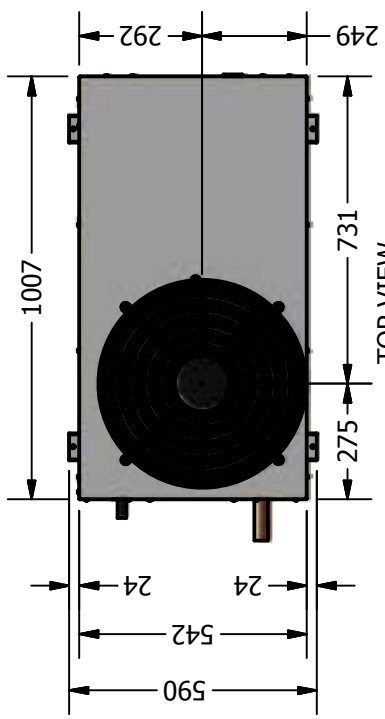




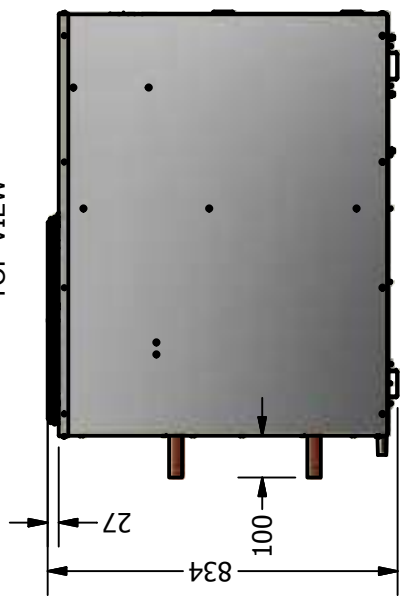
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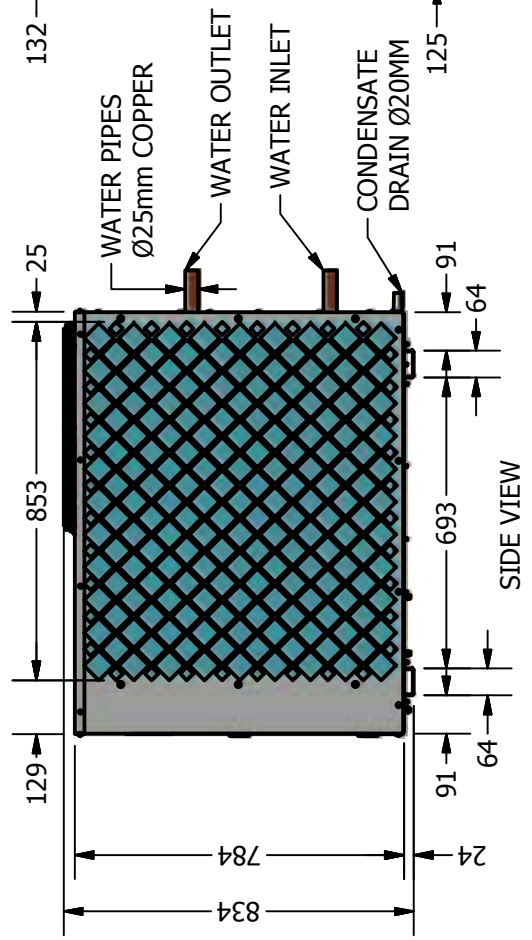
END VIEW




TOP VIEW



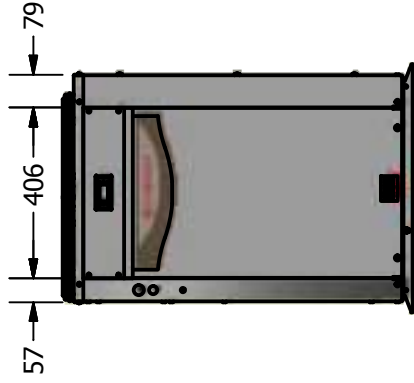
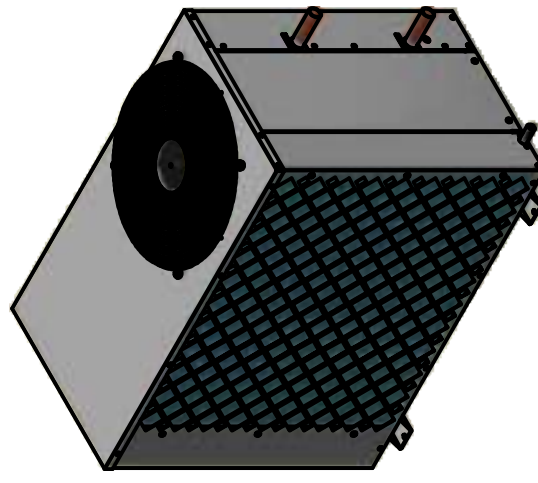
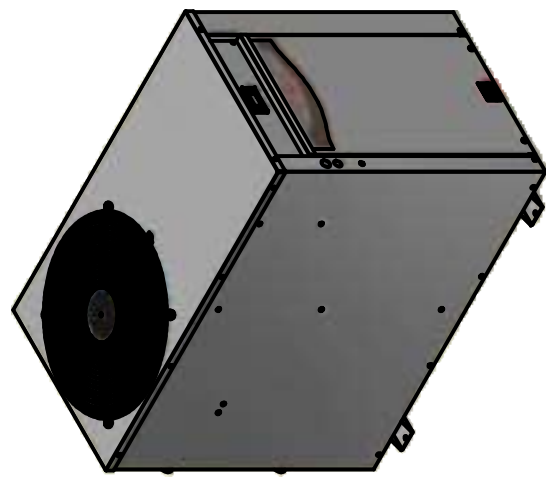
SIDE VIEW



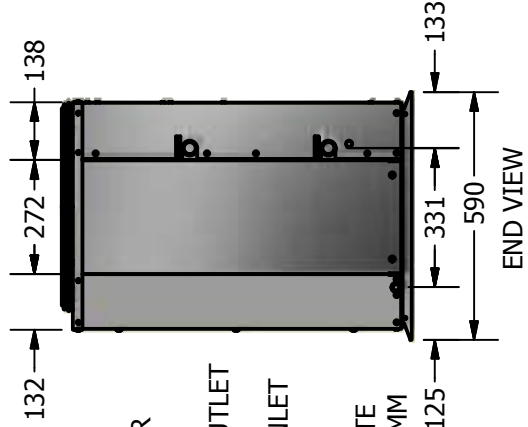
SIDE VIEW

 <b>Rheem</b> THERMAL SYSTEMS GROUP		SHEET 1 OF 3	
		<b>Description:</b> RHEEM THERMAL HW A2W HP 10kW	<b>Rev.</b> 1
<b>Part No:</b> RTHW010KS-JEV-1	<b>Date:</b> 21/11/2018	<b>Drawn By:</b> J.Bates	<b>Checked By:</b>
<b>General Tolerance:</b> Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2	<b>Scale:</b> N.T.S		

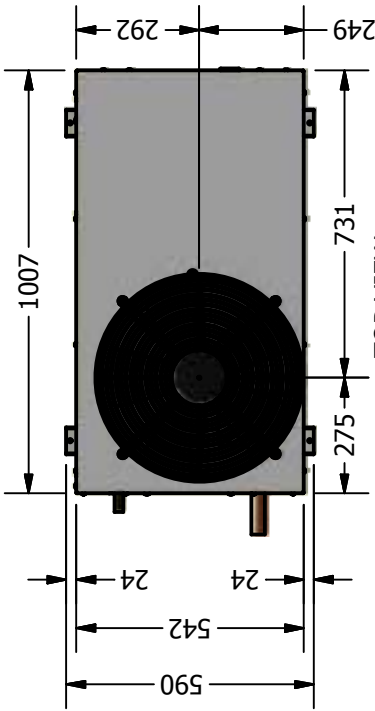
REV	ECN	DESCRIPTION	DATE
01	0383	COMPRESSOR ACCESS PANEL MOVED	21/2/20



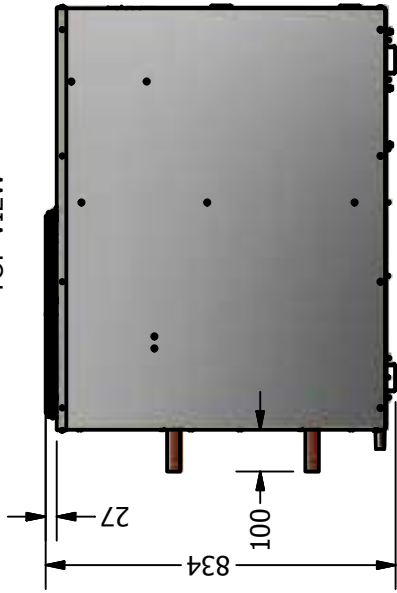
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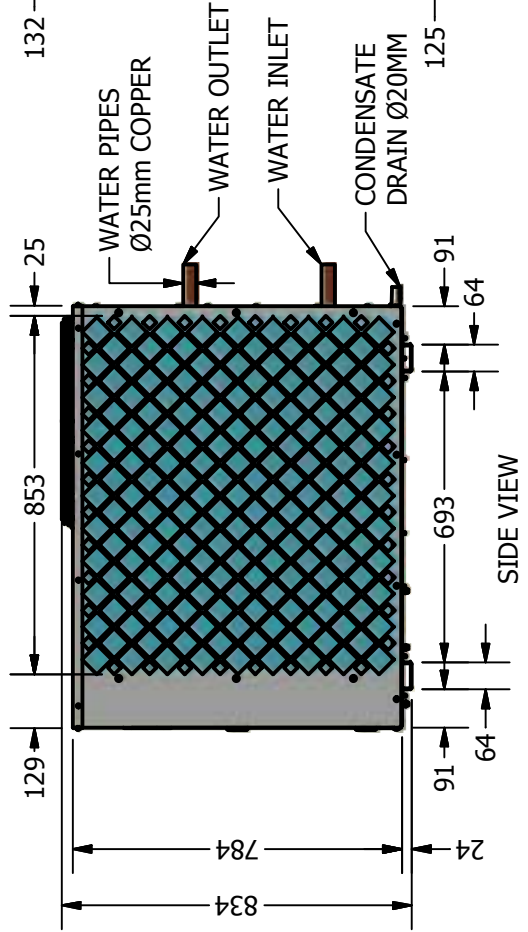
END VIEW



TOP VIEW



SIDE VIEW



SIDE VIEW



**Rheem**  
THERMAL SYSTEMS GROUP

SHEET 1 OF 3

<b>Description:</b>	RHEEM THERMAL HW A2W HP 10kW	
<b>Part No:</b>	RTHW010KS-JQV-1	<b>Rev.</b>
<b>Material:</b>		<b>Date:</b> 21/11/2018
<b>Drawn By:</b>	J. Bates	<b>Checked By:</b>
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2	
<b>Scale:</b>	N.T.S	

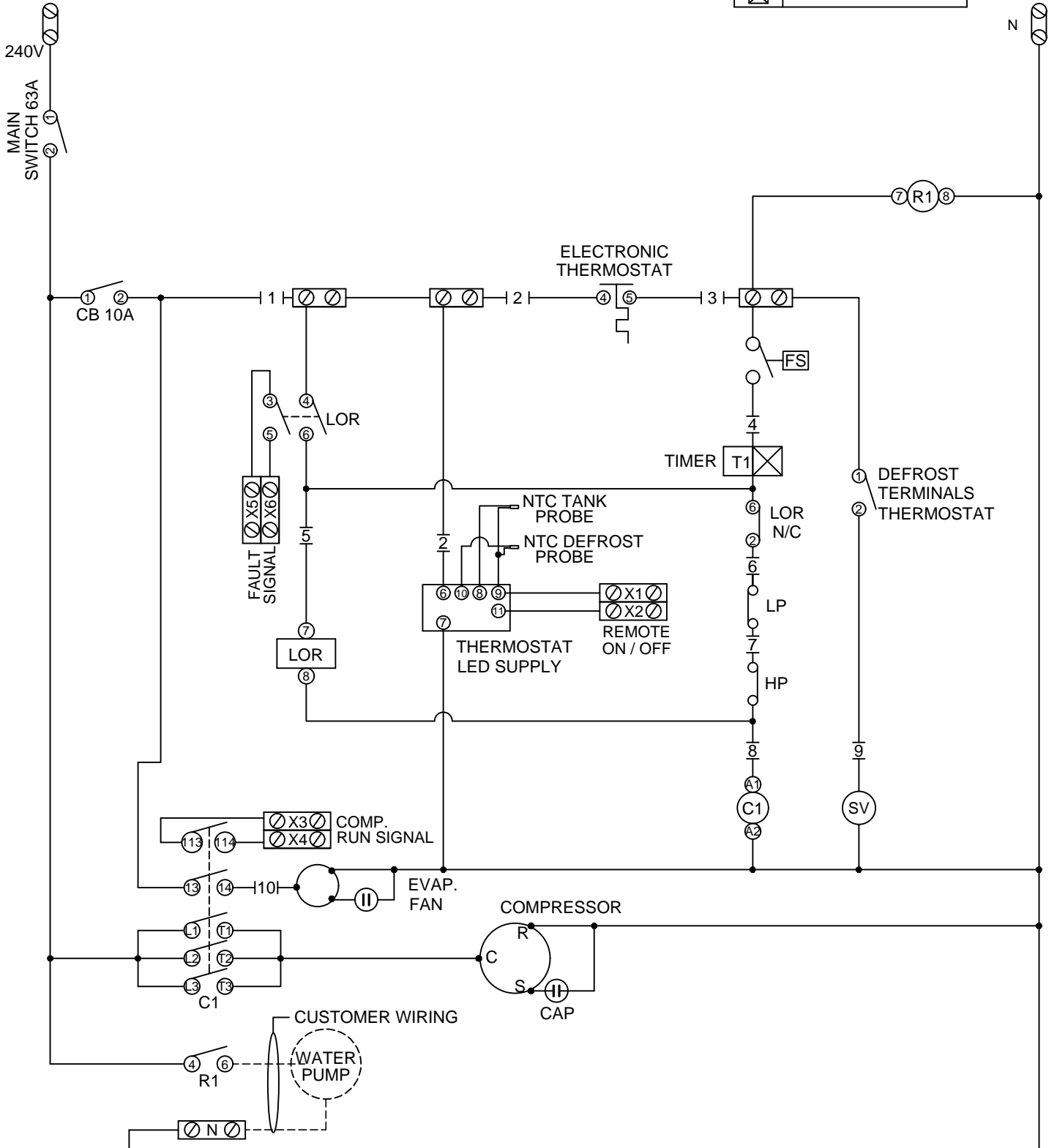
REV	ECN	DESCRIPTION	DATE

# WIRING DIAGRAM FOR 3Ø WITH WATER PUMP.

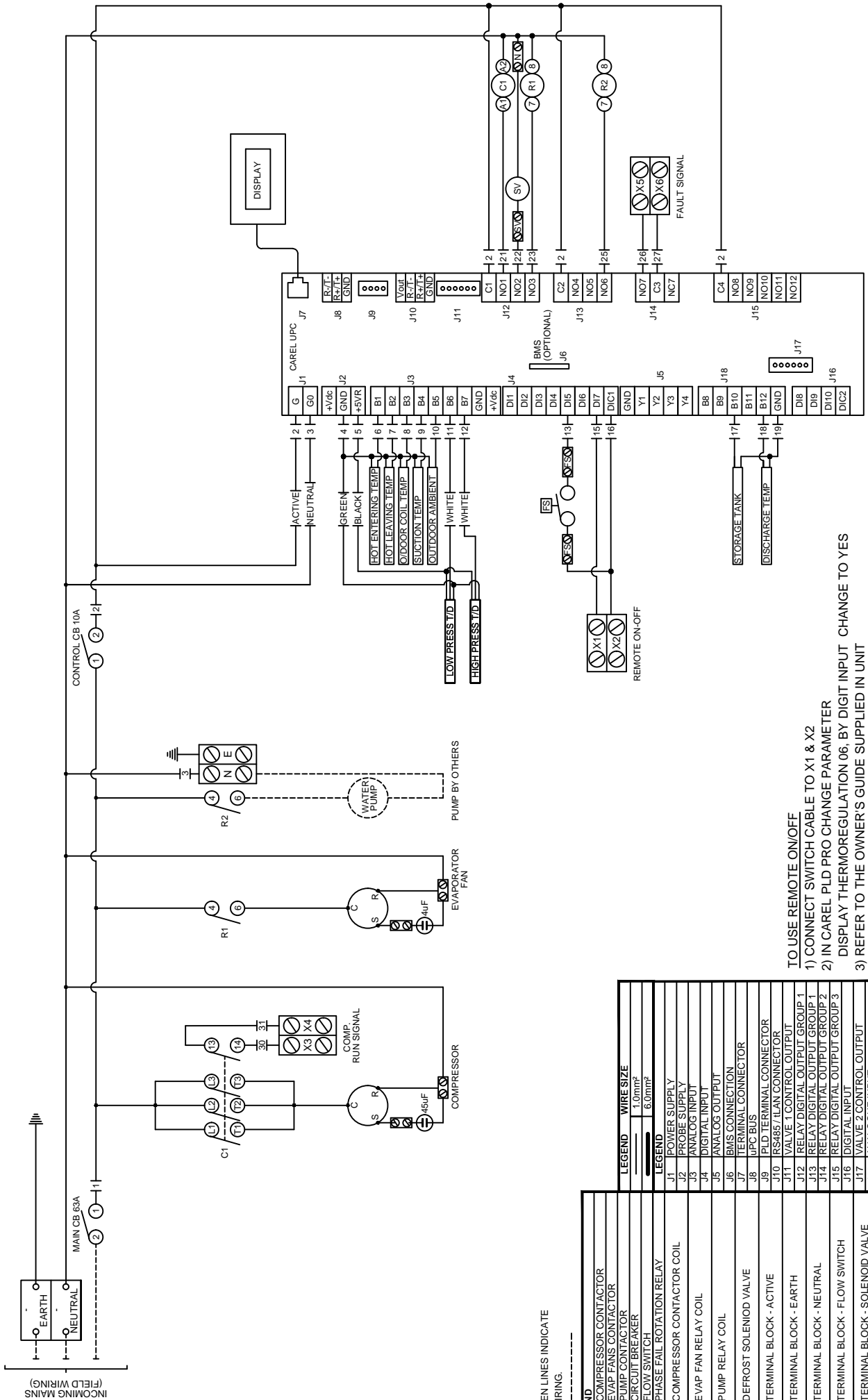
**TO USE REMOTE ON/OFF**

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
R1	PUMP RELAY
CB	CIRCUIT BREAKER
LOR	LOCKOUT RELAY
SV	SOLENOID
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(R1)	WATER PUMP RELAY COIL
	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE	Rheem Thermal Systems Group		43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		RTHW010 on R407C	
01	0383	Description and water pump relay updated	18/02/20	Drawn By:	B.Fleming	Date:	23/09/2019	Part No:	47100E
								Rev:	01



NOTE:  
 1) BROKEN LINES INDICATE FIELD WIRING.  
 i.e. -----

LEGEND	DESCRIPTION	WIRE SIZE
C1	COMPRESSOR CONTACTOR	1.0mm <sup>2</sup>
RT	EVAP FANS CONTACTOR	6.0mm <sup>2</sup>
R2	PUMP CONTACTOR	
CB	CIRCUIT BREAKER	
FS	FLOW SWITCH	
PF	PHASE FAIL ROTATION RELAY	
C	COMPRESSOR CONTACTOR COIL	
R1	EVAP FAN RELAY COIL	
R2	PUMP RELAY COIL	
S	DEFROST SOLENIOD VALVE	
A	TERMINAL BLOCK - ACTIVE	
E	TERMINAL BLOCK - EARTH	
N	TERMINAL BLOCK - NEUTRAL	
F	TERMINAL BLOCK - FLOW SWITCH	
V	TERMINAL BLOCK - SOLENIOD VALVE	

TO USE REMOTE ON/OFF  
 1) CONNECT SWITCH CABLE TO X1 & X2  
 2) IN CAREL PLD PRO CHANGE PARAMETER DISPLAY THERMOREGULATION 06 BY DIGIT INPUT CHANGE TO YES  
 3) REFER TO THE OWNER'S GUIDE SUPPLIED IN UNIT

		<b>RTHW010, 15 on R407C</b>	
43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		Part No: <b>47161E</b> Rev: <b>01</b>	
DATE 18/02/20	Drawn By: <b>B.Fleming</b>	Date: <b>11/02/2020</b>	
REV 01	DESCRIPTION Added unit wiring & unit description		

## HOT WATER HEAT PUMP SPECIFICATIONS

Single wall / thermostat control	<b>RTHW015KS-JEV-1</b>
Single wall / Rheem IQ control	<b>RTHW015KS-JQV-1</b>
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	220 - 240 Volts / 1 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	19.9 FLA / 97 LRA
Min. Circuit Size	25.0 Amps
Refrigerant	R407C
Nominal Heating capacity	15.00 kW
Power input	3.00 kW
COP	5.00 COP
Noise Level	59 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	14.61 Amps

<b>TECHNICAL DATA</b>	
<b>Compressor</b>	<b>Fan</b>
Make	EBM-Papst
Type	Axial
Number Per Unit	1
FLA (Full Load Amps)	0.64 Amps (Each)
Voltage / Phase	220 - 240 / 1
Pole/RPM	2/2,900
Air Flow	800 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	0.60 L/s
Max. Outlet Water Temp	61°C / 65°C*
Design Pressure Drop	60 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	32mm (1 1/4") Copper
Drain	20mm PVC
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	90 kg
Size L x W x H (RTHW015KS-JEV-1)	1000mm x 640mm x 800mm

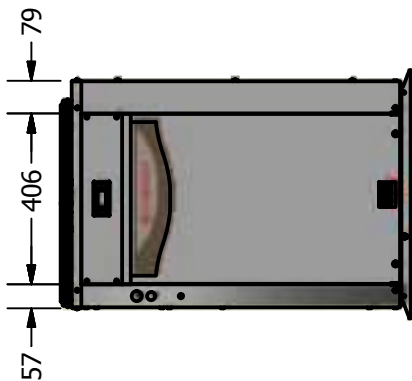
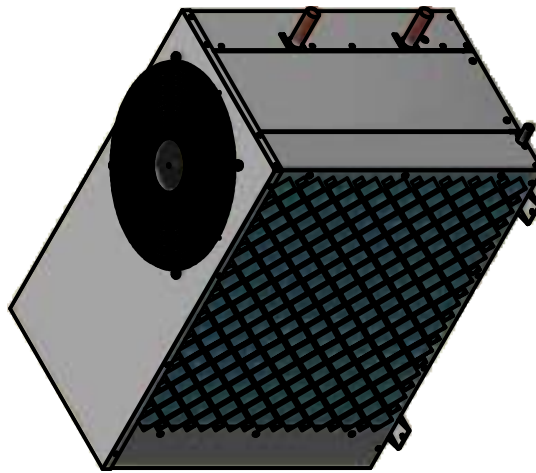
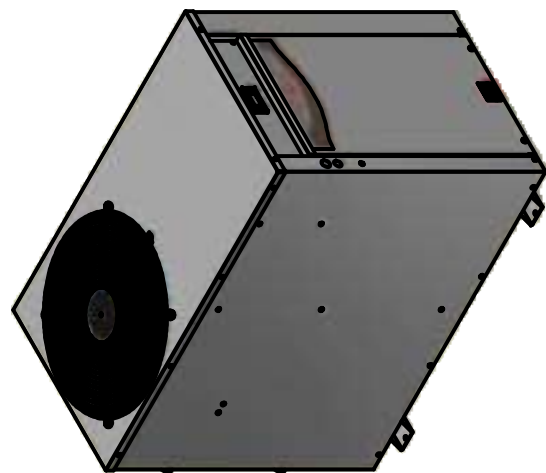
## COP TABLE

Water Out °C	Ambient Temperature									
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C		
45 °C	9.14 kW 2.95 COP	10.19 kW 3.29 COP	11.94 kW 3.90 COP	12.28 kW 4.02 COP	13.40 kW 4.42 COP	14.18 kW 4.71 COP	15.00 kW 5.00 COP	15.36 kW 5.14 COP		
50 °C	8.51 kW 2.42 COP	9.93 kW 2.85 COP	11.70 kW 3.39 COP	12.02 kW 3.49 COP	13.11 kW 3.84 COP	13.86 kW 4.07 COP	14.63 kW 4.32 COP	14.99 kW 4.44 COP		
55 °C	8.09 kW 2.09 COP	9.47 kW 2.46 COP	11.54 kW 3.03 COP	11.85 kW 3.12 COP	12.89 kW 3.42 COP	13.61 kW 3.62 COP	14.34 kW 3.84 COP	14.68 kW 3.94 COP		
60 °C	N/A	9.24 kW 2.16 COP	11.32 kW 2.69 COP	11.66 kW 2.77 COP	12.68 kW 3.04 COP	13.37 kW 3.22 COP	14.10 kW 3.41 COP	14.43 kW 3.50 COP		

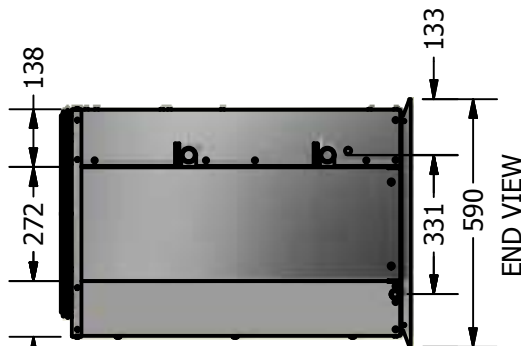


UNIT CLEARANCES	
Direction	Description
1	Evaporator Coil
2	Compressor Access
3	Plain Back
4	Water Connections
5	Fan Clearance
	Minimum Clearance Required
	500mm
	850mm
	Nil
	500mm
	2500mm

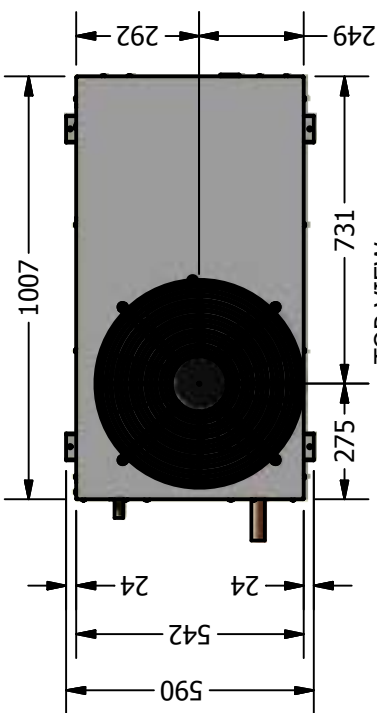
When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C



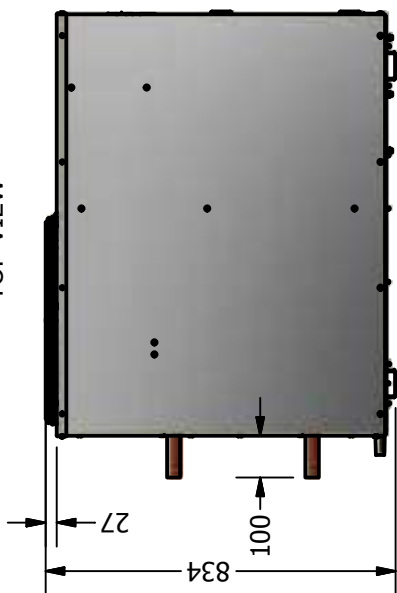
END VIEW



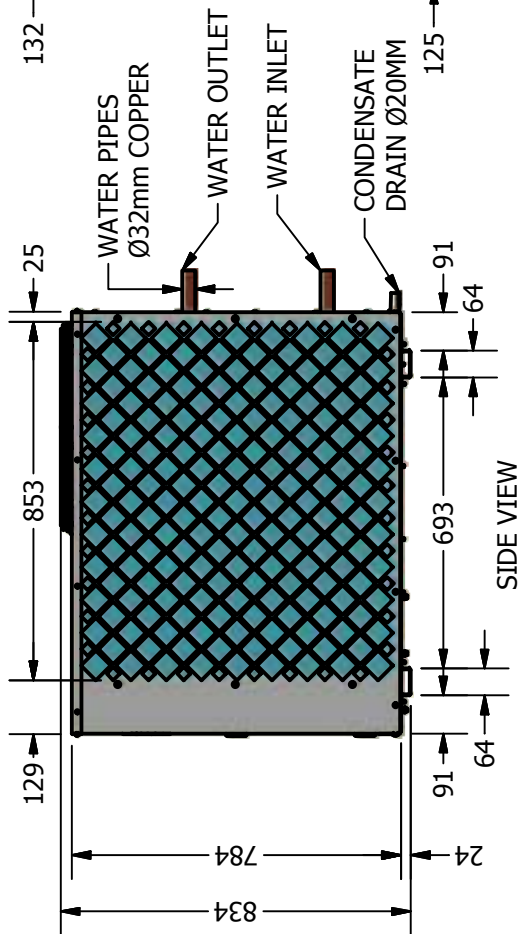
END VIEW



TOP VIEW



SIDE VIEW



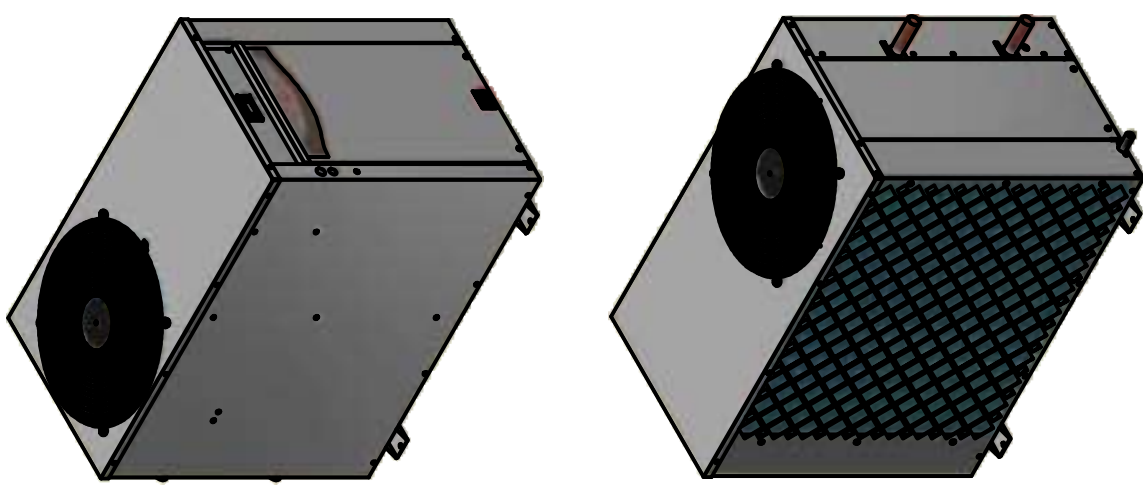
SIDE VIEW




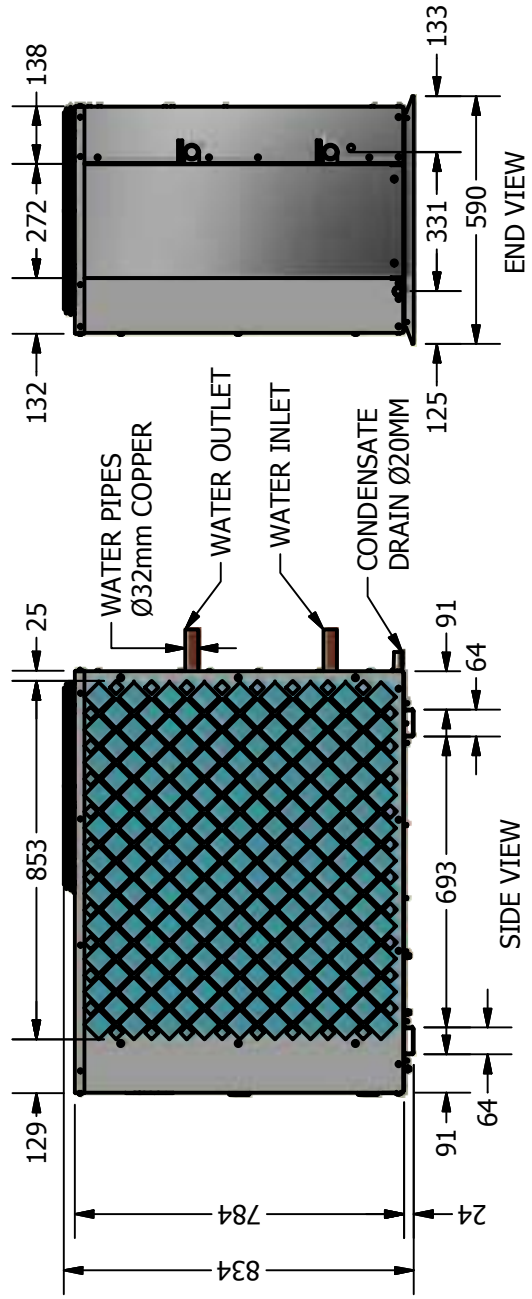
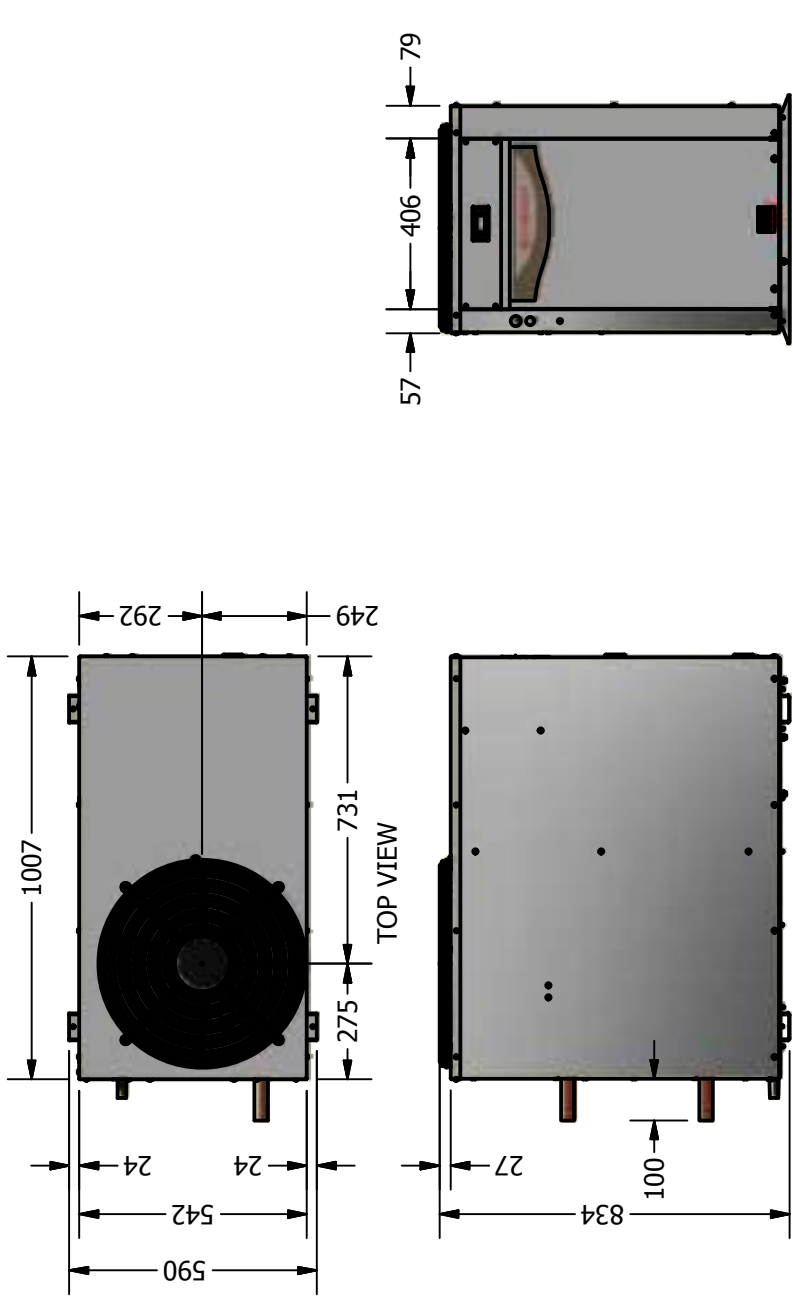
**Rheem**  
THERMAL SYSTEMS GROUP

SHEET 1 OF 3	
<b>Description:</b>	RHEEM THERMAL HW A2W HP 10kW
<b>Part No:</b>	RTHW015KS-JEV-1
<b>Material:</b>	Rev. 2
<b>Drawn By:</b>	J. Bates
<b>Checked By:</b>	21/11/2018
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2
<b>Scale:</b>	N.T.S

REV	ECN	DESCRIPTION	DATE
01	0369	HX REPLACED BY 16919	20/09/19
02	0383	COMPRESSOR ACCESS PANEL MOVED	21/02/20



		RHEEM THERMAL HW A2W HP 10kW	
Description:		RHEEM THERMAL HW A2W HP 10kW	
Part No:	RTHW015KS-JQV-1	Rev.	
Material:		Date:	21/11/2018
Drawn By:	J. Bates	Checked By:	
General Tolerance:	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2		
			Scale: N.T.S



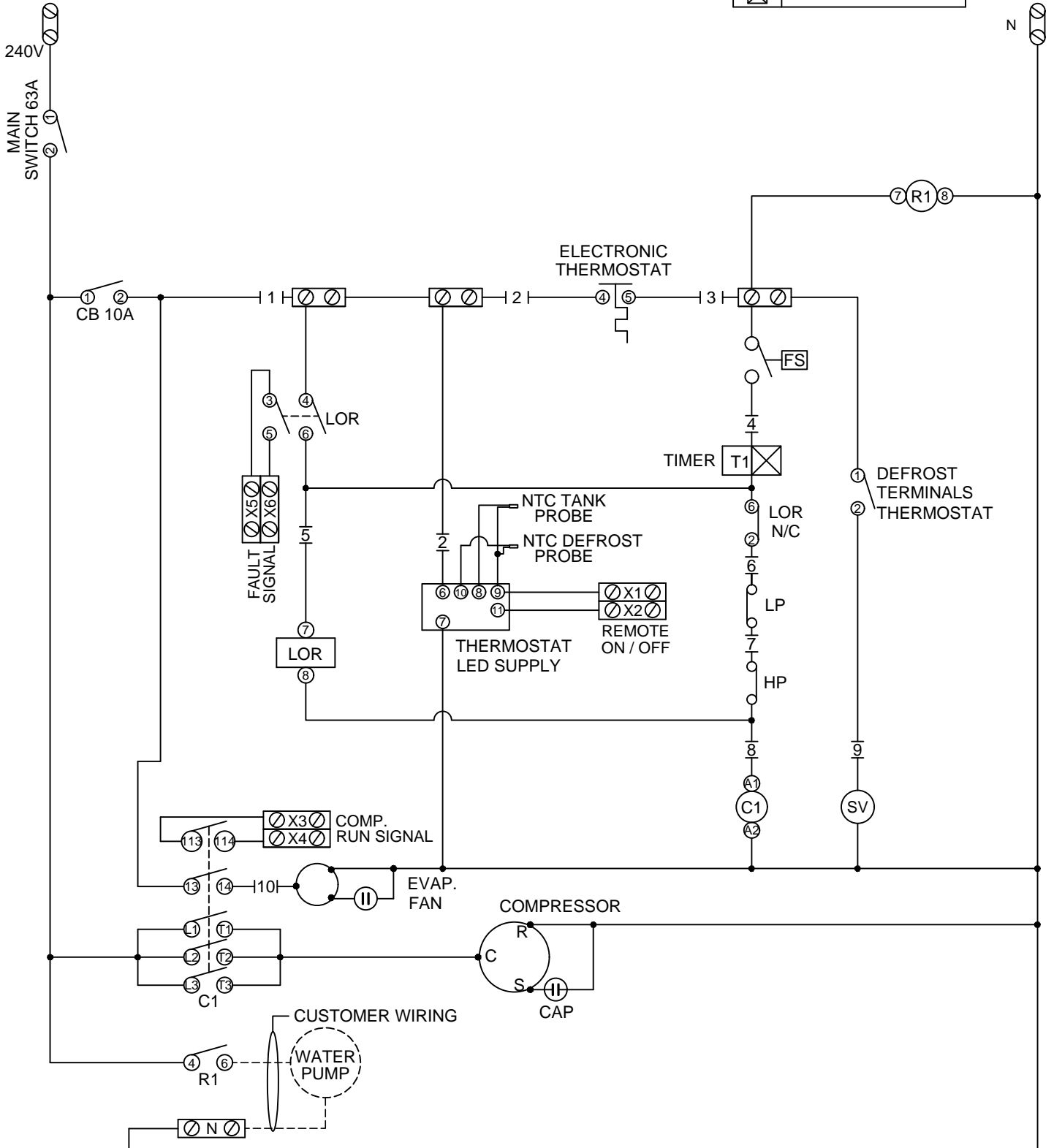
REV	ECN	DESCRIPTION	DATE

# WIRING DIAGRAM FOR 3Ø WITH WATER PUMP.

**TO USE REMOTE ON/OFF**

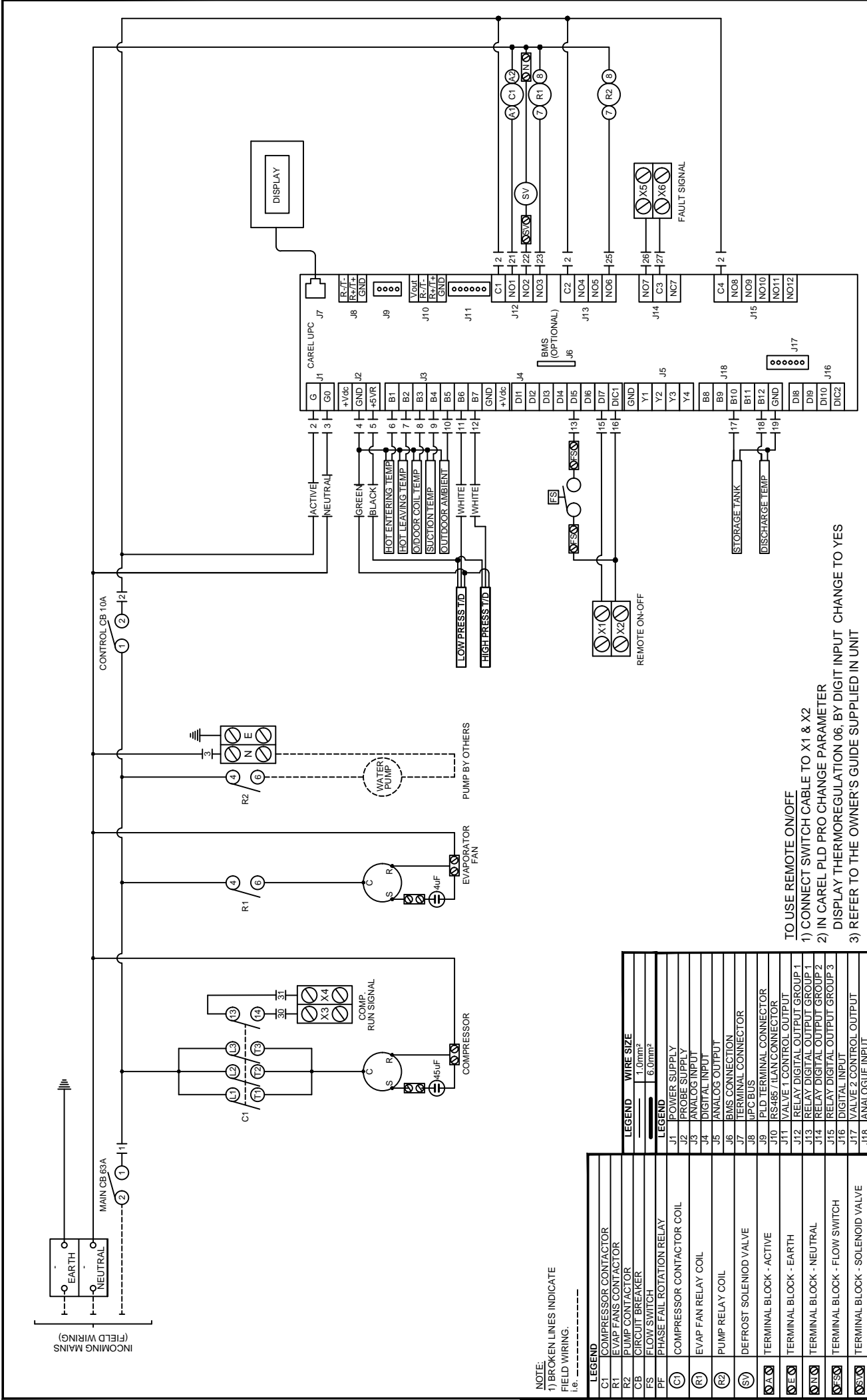
- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
R1	PUMP RELAY
CB	CIRCUIT BREAKER
LOR	LOCKOUT RELAY
SV	SOLENOID
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(R1)	WATER PUMP RELAY COIL
	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE	Rheem Thermal Systems Group		43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		RTHW015 on R407C	
01	0383	Description and water pump relay updated	18/02/20	Drawn By:	J. Bates	Date:	23/08/2019	Part No:	47101E
								Rev:	01





**NOTE:**  
 1) BROKEN LINES INDICATE FIELD WIRING.  
 i.e. -----

LEGEND	DESCRIPTION
C1	COMPRESSOR CONTACTOR
R1	EVAP FANS CONTACTOR
R2	PUMP CONTACTOR
CB	CIRCUIT BREAKER
FS	FLOW SWITCH
PF	PHASE FAIL ROTATION RELAY
(C)	COMPRESSOR CONTACTOR COIL
(R)	EVAP FAN RELAY COIL
(R2)	PUMP RELAY COIL
(SV)	DEFROST SOLENOID VALVE
(N/A)	TERMINAL BLOCK - ACTIVE
(N/E)	TERMINAL BLOCK - EARTH
(N/N)	TERMINAL BLOCK - NEUTRAL
(N/S)	TERMINAL BLOCK - FLOW SWITCH
(N/SV)	TERMINAL BLOCK - SOLENOID VALVE

LEGEND	WIRE SIZE
1.0mm <sup>2</sup>	
6.0mm <sup>2</sup>	

LEGEND	DESCRIPTION
J1	POWER SUPPLY
J2	PROBE SUPPLY
J3	ANALOG INPUT
J4	DIGITAL INPUT
J5	ANALOG OUTPUT
J6	BMS CONNECTION
J7	TERMINAL CONNECTOR
J8	JFC-BUS
J9	PLD TERMINAL CONNECTOR
J10	RS-485 / I-LAN CONNECTOR
J11	VALVE 1 CONTROL OUTPUT
J12	RELAY DIGITAL OUTPUT GROUP 1
J13	RELAY DIGITAL OUTPUT GROUP 1
J14	RELAY DIGITAL OUTPUT GROUP 2
J15	RELAY DIGITAL OUTPUT GROUP 3
J16	DIGITAL INPUT
J17	VALVE 2 CONTROL OUTPUT
J18	ANALOGUE INPUT

**TO USE REMOTE ON/OFF**  
 1) CONNECT SWITCH CABLE TO X1 & X2  
 2) IN CAREL PLD PRO CHANGE PARAMETER DISPLAY THERMOREGULATION 06, BY DIGIT INPUT CHANGE TO YES  
 3) REFER TO THE OWNER'S GUIDE SUPPLIED IN UNIT

REV	ECN	DESCRIPTION	DATE	Drawn By:	Date:
01	0383	Added unit wiring & unit description	18/02/20	B.Fleming	11/02/2020

43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698	
<b>RTHW010, 15 on R407C</b>	
Part No:	47161E
Rev:	01

## HOT WATER HEAT PUMP SPECIFICATIONS

Single wall / thermostat control	RTHW020KS-DEV-1
Single wall / Rheem IQ control	RTHW020KS-DQV-1
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	10.5 FLA / 61 LRA
Min. Circuit Size	16.0 Amps
Refrigerant	R407C
Nominal Heating capacity	19.87 kW
Power input	4.02 kW
COP	4.94 COP
Noise Level	59 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	8.60 Amps

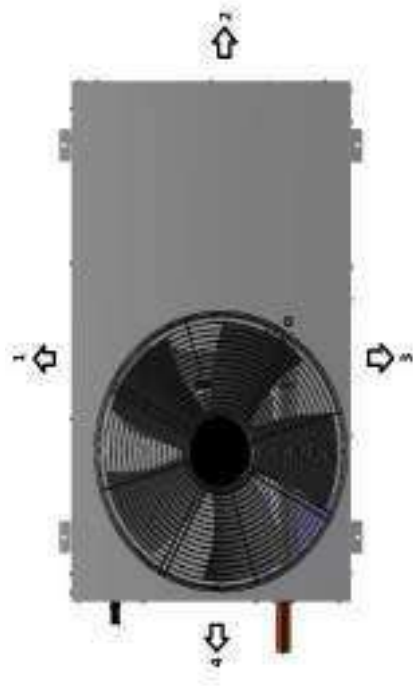
<b>TECHNICAL DATA</b>	
<b>Compressor</b>	<b>Fan</b>
Make	EBM-Papst
Type	Scroll 20111
Number Per Unit	1
FLA (Full Load Amps)	9.3 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900
Air Flow	N/A
	1150 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	0.79 L/s
Max. Outlet Water Temp	61°C
Design Pressure Drop	60 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	32mm (1 1/4") Copper
Drain	20mm PVC
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	110 kg
Size L x W x H	1007mm x 650mm x 1090mm

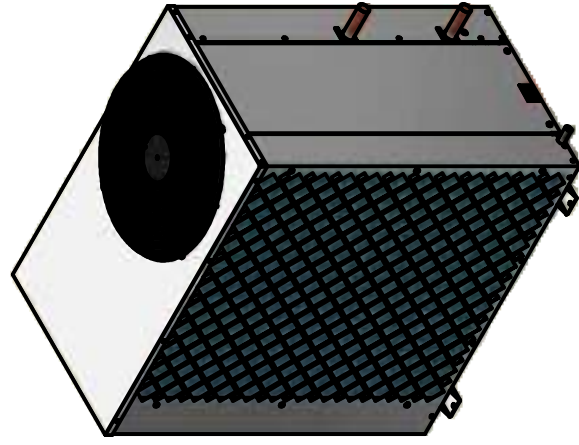
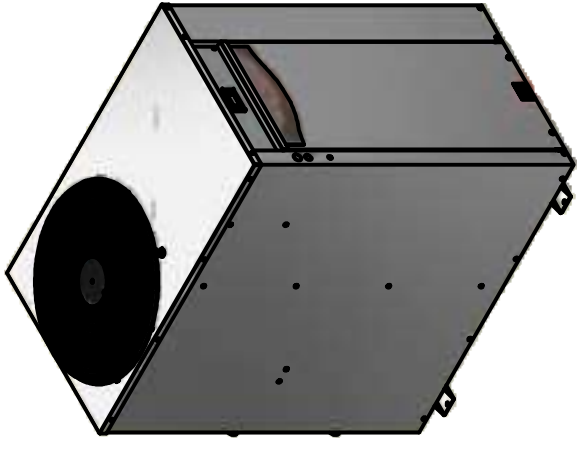
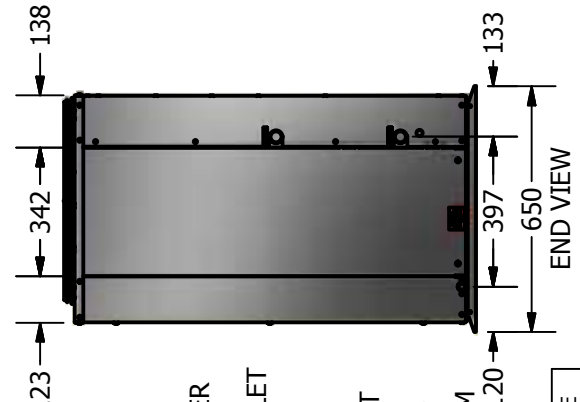
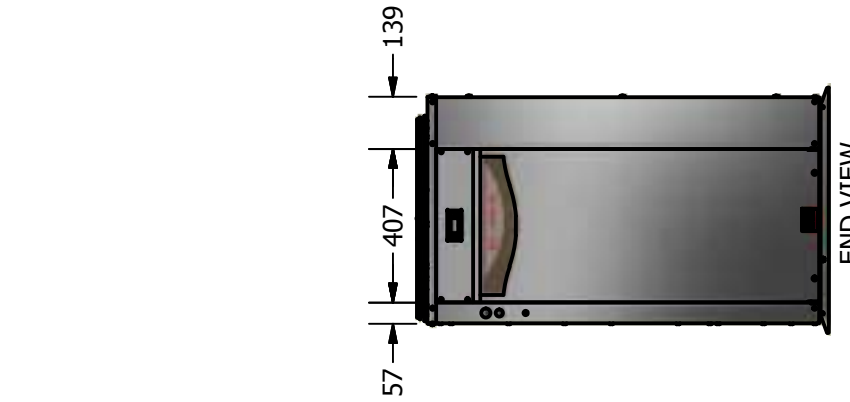
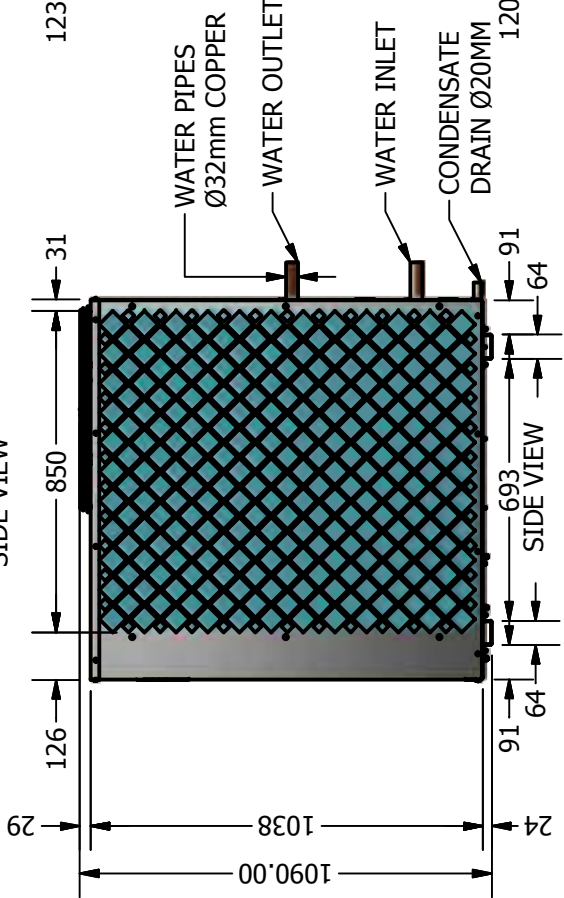
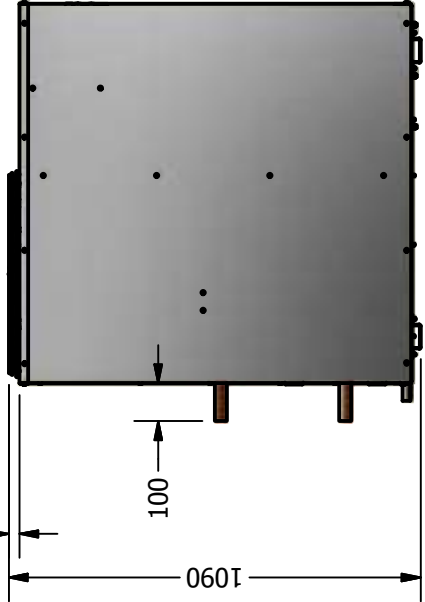
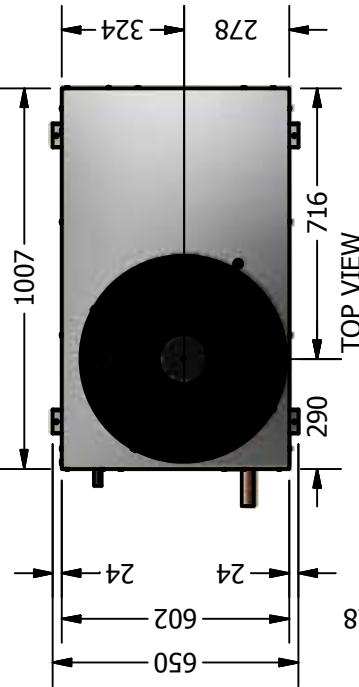
## COP TABLE

Water Out °C	Ambient Temperature									
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C		
45 °C	10.53 kW	13.08 kW	14.75 kW	16.11 kW	17.65 kW	18.72 kW	19.87 kW	20.36 kW		
	2.71 COP	3.34 COP	3.73 COP	4.06 COP	4.42 COP	4.67 COP	4.94 COP	5.05 COP		
50 °C	10.42 kW	12.39 kW	14.44 kW	15.81 kW	17.27 kW	18.28 kW	19.38 kW	19.84 kW		
	2.42 COP	2.86 COP	3.31 COP	3.60 COP	3.91 COP	4.13 COP	4.36 COP	4.46 COP		
55 °C	10.10 kW	12.06 kW	14.03 kW	15.54 kW	16.94 kW	17.93 kW	19.00 kW	19.44 kW		
	2.17 COP	2.57 COP	2.97 COP	3.26 COP	3.54 COP	3.74 COP	3.94 COP	4.03 COP		
60 °C	N/A	11.84 kW	13.77 kW	15.23 kW	16.66 kW	17.62 kW	18.61 kW	19.08 kW		
		2.33 COP	2.68 COP	2.95 COP	3.21 COP	3.38 COP	3.56 COP	3.64 COP		



UNIT CLEARANCES	
Direction	Description
1	Evaporator Coil
2	Compressor Access
3	Plain Back
4	Water Connections
5	Fan Clearance
	Minimum Clearance Required
	500 mm
	850 mm
	Nil
	500 mm
	2500 mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out

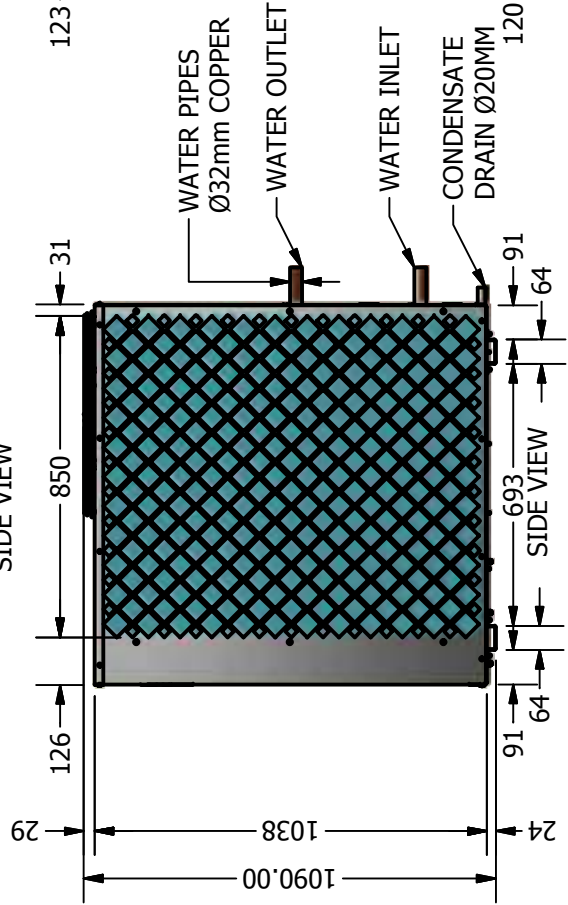
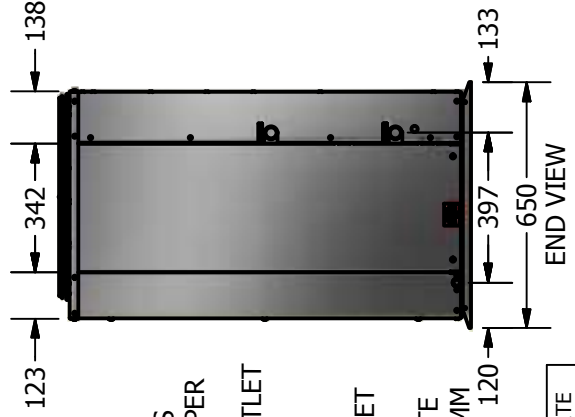
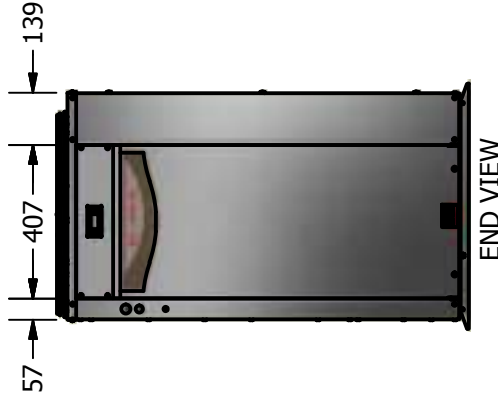
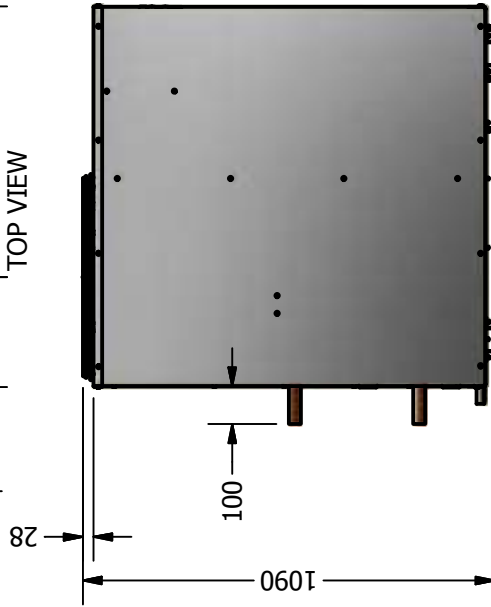
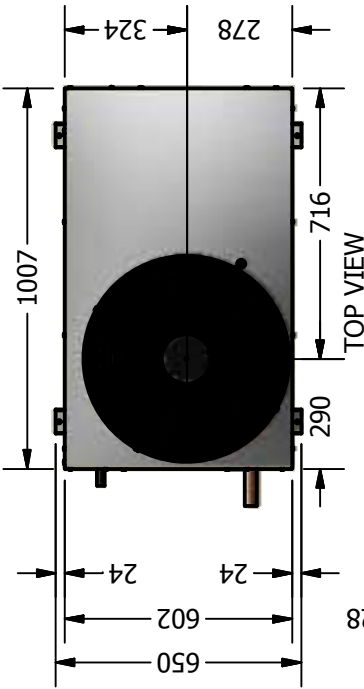
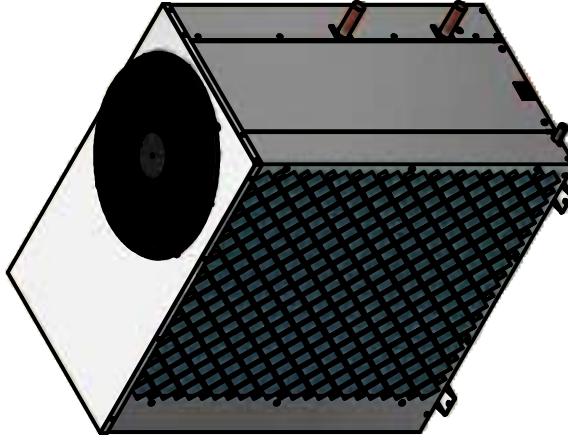
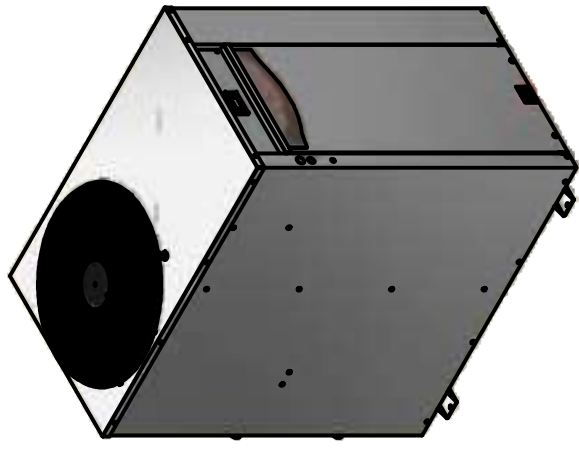


**Rheem**  
THERMAL SYSTEMS GROUP

Description:		RHEEM THERMAL A2W RTHW	
Part No:	RTHW020KS-DEV-1	Rev.	1
Material:		Date:	21/02/2020
Drawn By:	j.bates	Checked By:	
General Tolerance:	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2		
Scale:			N.T.S

SHEET 1 OF 3

REV	ECN	DESCRIPTION	DATE
01	0383	COMPRESSOR ACCESS PANEL MOVED	21/2/20



REV	ECN	DESCRIPTION	DATE






**Rheem**  
THERMAL SYSTEMS GROUP

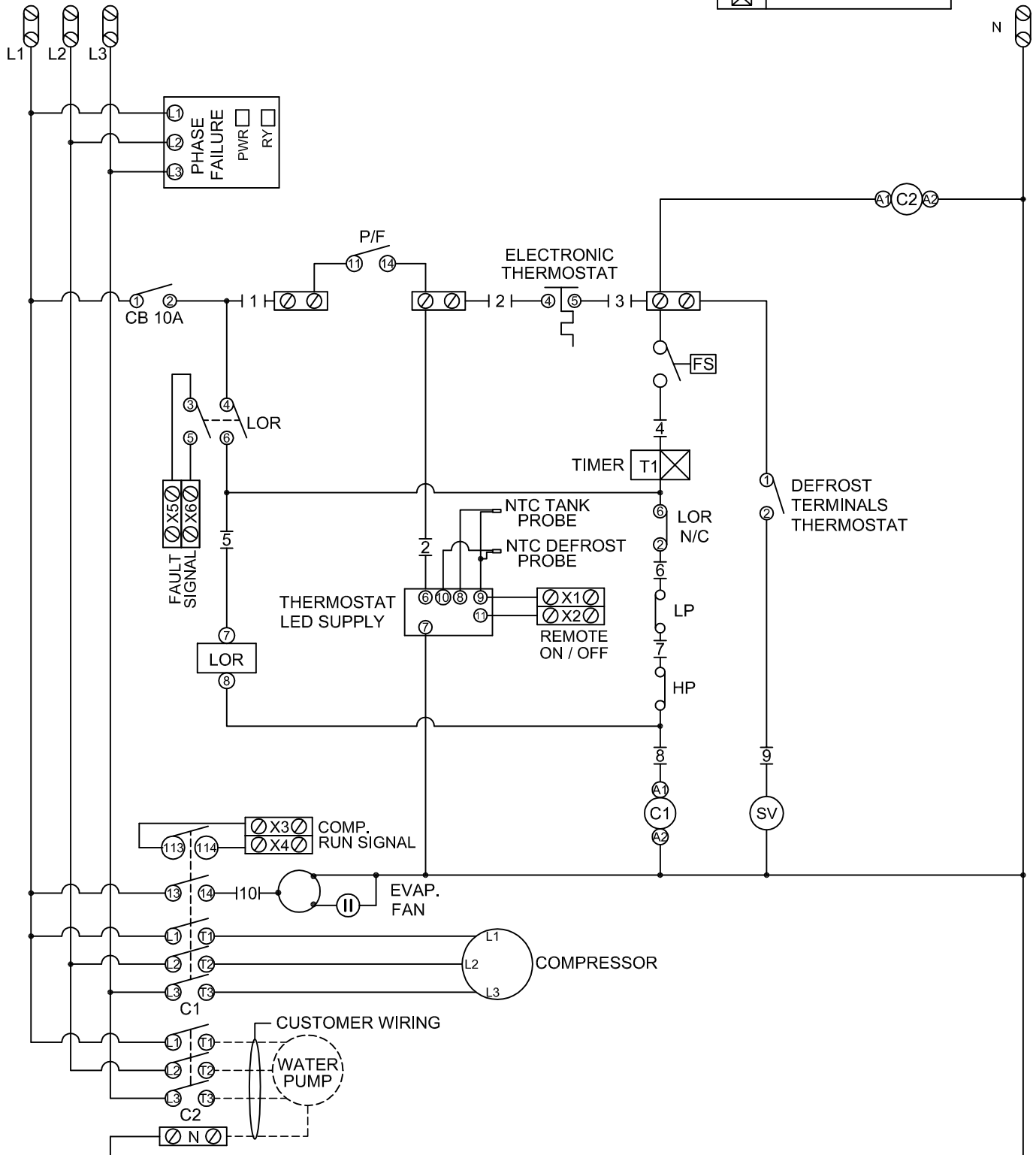
SHEET 1 OF 3	
<b>Description:</b>	RHEEM THERMAL A2W RTHW
<b>Part No:</b>	RTHW020KS-DQV-1
<b>Material:</b>	Rev.
<b>Drawn By:</b>	Date: 21/02/2020
<b>General Tolerance:</b>	Checked By: j.bates
Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm	
Tubes - Dimensions +2, Angle ±2	
<b>Scale:</b> N.T.S	

# WIRING DIAGRAM FOR 3Ø HOT WATER HEAT PUMP.

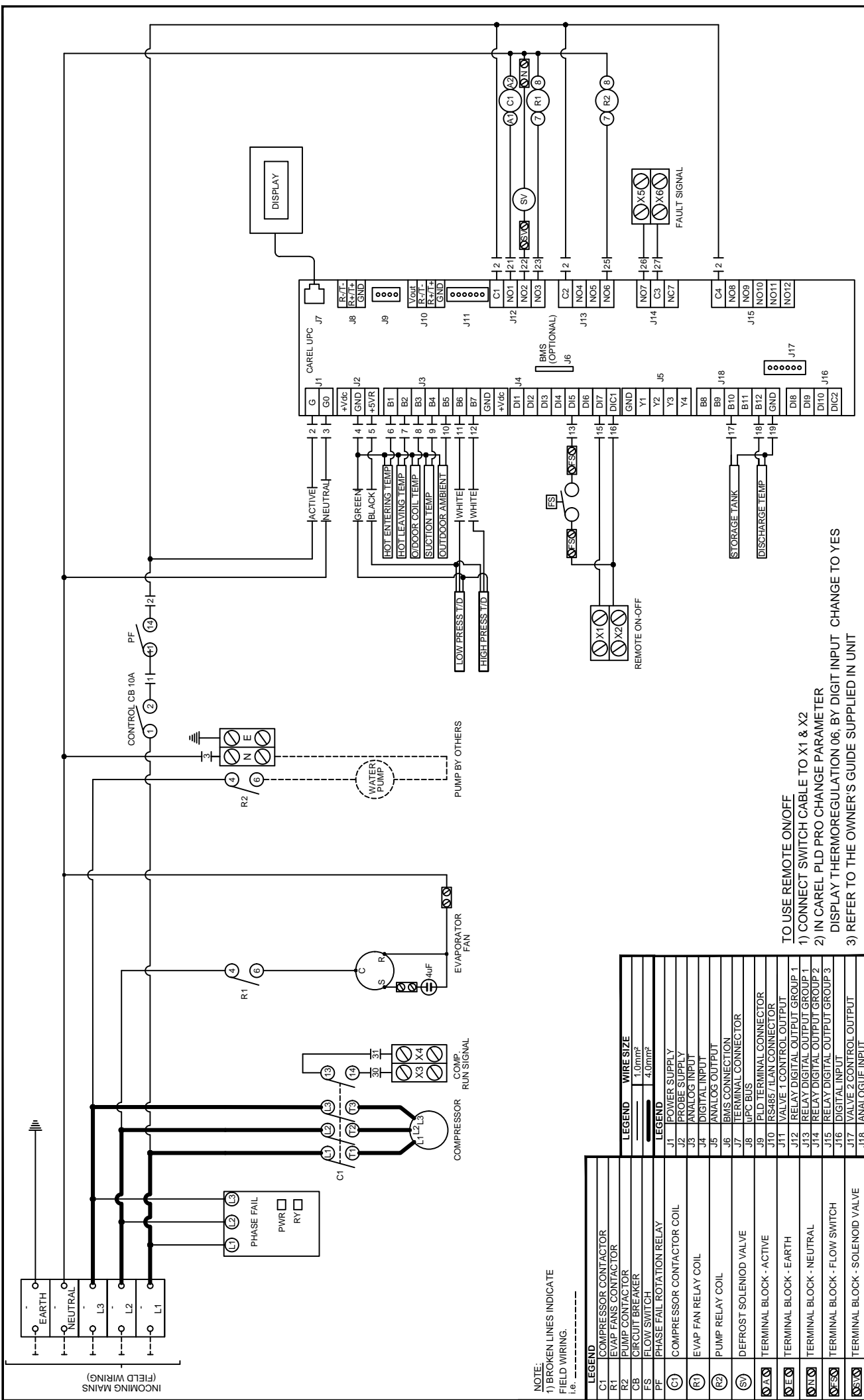
TO USE REMOTE ON/OFF

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	PUMP CONTACTOR
CB	CIRCUIT BREAKER
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
	COMPRESSOR CONTACTOR COIL
	WATER PUMP CONTACTOR COIL
	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE			43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		RTHW020KS-DEV-1 RTHW020KS-DEH-1	
				Drawn By:	B.Fleming	Date:	2/9/2019	Part No:	47103E
								Rev:	0



**LEGEND**

C1	COMPRESSOR CONTACTOR
RT	EVAP FANS CONTACTOR
R2	PUMP CONTACTOR
CB	CIRCUIT BREAKER
FS	FLOW SWITCH
PF	PHASE FAIL ROTATION RELAY
(C)	COMPRESSOR CONTACTOR COIL
(R)	EVAP FAN RELAY COIL
(R2)	PUMP RELAY COIL
(S)	DEFROST SOLENIOD VALVE
(A)	TERMINAL BLOCK - ACTIVE
(E)	TERMINAL BLOCK - EARTH
(N)	TERMINAL BLOCK - NEUTRAL
(S)	TERMINAL BLOCK - FLOW SWITCH
(S)	TERMINAL BLOCK - SOLENIOD VALVE

**LEGEND WIRE SIZE**

1.0mm <sup>2</sup>	---
4.0mm <sup>2</sup>	---

**LEGEND**

J1	POWER SUPPLY
J2	PROBE SUPPLY
J3	ANALOG INPUT
J4	DIGITAL INPUT
J5	ANALOG OUTPUT
J6	BMS CONNECTION
J7	TERMINAL CONNECTOR
J8	IFC BUS
J9	PLD TERMINAL CONNECTOR
J10	RS485/ILAN CONNECTOR
J11	VALVE 1 CONTROL OUTPUT
J12	RELAY DIGITAL OUTPUT GROUP 1
J13	RELAY DIGITAL OUTPUT GROUP 1
J14	RELAY DIGITAL OUTPUT GROUP 2
J15	RELAY DIGITAL OUTPUT GROUP 3
J16	DIGITAL INPUT
J17	VALVE 2 CONTROL OUTPUT
J18	ANALOGUE INPUT

**TO USE REMOTE ON/OFF**

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL PLD PRO CHANGE PARAMETER DISPLAY THERMOREGULATION 06 BY DIGIT INPUT CHANGE TO YES
- 3) REFER TO THE OWNER'S GUIDE SUPPLIED IN UNIT

**NOTE:**  
 1) BROKEN LINES INDICATE FIELD WIRING.  
 i.e. -----

REV	ECN	DESCRIPTION	DATE

**43 Marigold Street  
 Revesby NSW 2212  
 Phone: (02) 9684 3684  
 Fax: (02) 9684 3698**

**Rheem**  
 THERMAL SYSTEMS GROUP

Drawn By: J.Bates Date: 19/02/2020

**RTHW020 on R407C**

Part No: 47167E Rev: 00

<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger / thermostat control	<b>RTHW025KS-DEV-1</b>
Double wall heat exchanger / thermostat control	<b>RTHW025KV-DEV-1</b>
Single wall heat exchanger / Rheem IQ control	<b>RTHW025KS-DQV-1</b>
Double wall heat exchanger / Rheem IQ control	<b>RTHW025KV-DQV-1</b>

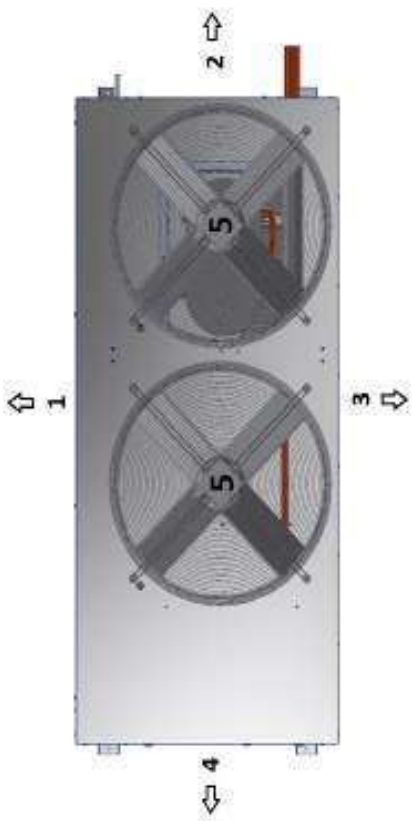
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	12.5 FLA / 74 LRA
Min. Circuit Size	20.0 Amps
Refrigerant	R407C
Nominal Heating capacity	25.43 kW
Power input	4.98 kW
COP	5.11 COP
Noise Level	59 dBA @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	9.64 Amps

<b>TECHNICAL DATA</b>	
Make	<b>Compressor</b> Copeland
Type	Scroll 20012
Number Per Unit	1
FLA (Full Load Amps)	11.2 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900
Air Flow	N/A
	<b>Fan</b> EBM-Papst
	Axial
	2
	0.64 Amps (Each)
	220 - 240 / 1
	6/890
	1600 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	1.01 L/s
Max. Outlet Water Temp	61°C / 65°C*
Design Pressure Drop	60 kPa
Max. Operating Pressure	2,450 kPa
<b>GENERAL INFORMATION</b>	
Water Connections	32mm (1 1/4") Copper
Drain	20mm PVC
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	110 kg
Size L x W x H	1155mm x 565mm x 985mm

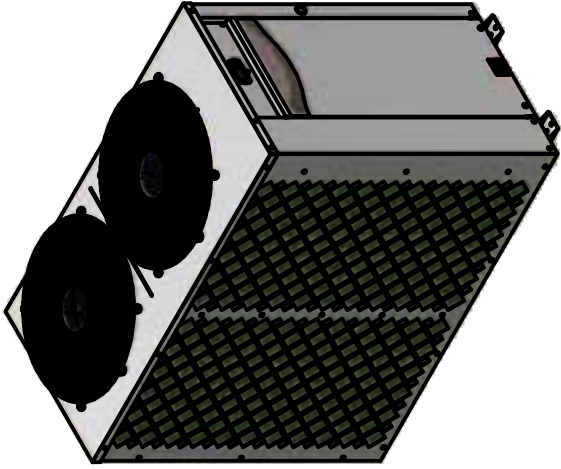
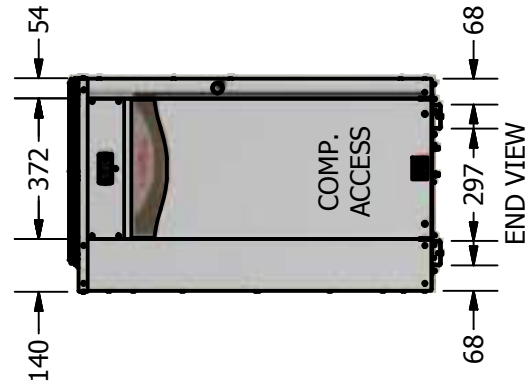
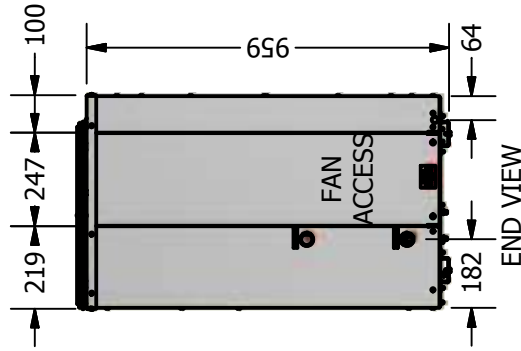
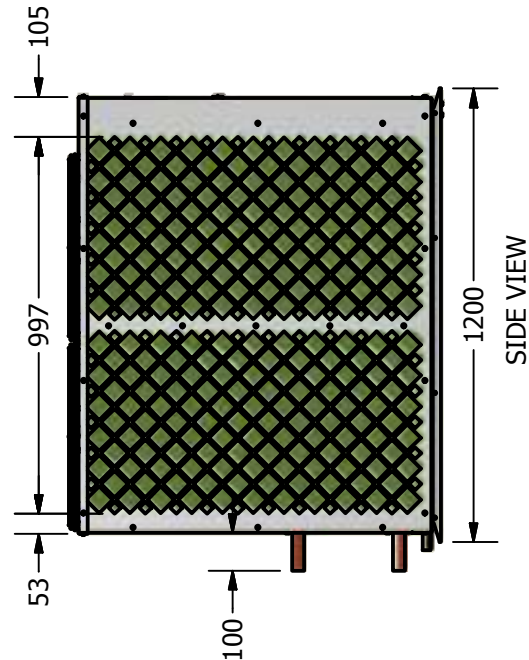
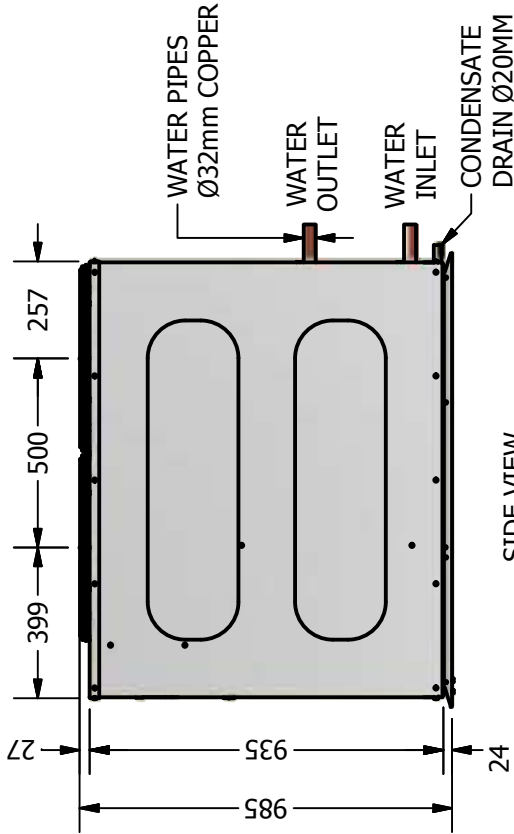
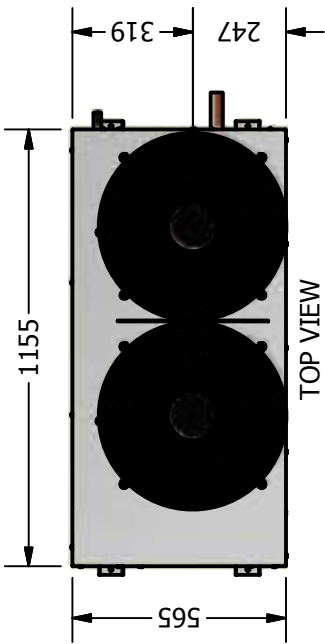
**COP TABLE**

Water Out °C	Ambient Temperature						
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C
45 °C	12.58 kW	14.86 kW	17.31 kW	19.46 kW	21.91 kW	23.62 kW	26.22 kW
	2.53 COP	2.99 COP	3.49 COP	3.92 COP	4.41 COP	4.75 COP	5.27 COP
50 °C	11.28 kW	14.37 kW	16.93 kW	19.04 kW	21.38 kW	22.98 kW	24.76 kW
	2.00 COP	2.55 COP	3.01 COP	3.38 COP	3.80 COP	4.08 COP	4.40 COP
55 °C	10.27 kW	13.32 kW	16.56 kW	18.60 kW	20.90 kW	22.50 kW	24.20 kW
	1.66 COP	2.15 COP	2.68 COP	3.00 COP	3.38 COP	3.63 COP	3.91 COP
60 °C	N/A	12.83 kW	15.90 kW	18.16 kW	20.35 kW	21.90 kW	23.52 kW
		1.87 COP	2.33 COP	2.66 COP	3.00 COP	3.23 COP	3.46 COP



<b>UNIT CLEARANCES</b>	
Direction	Description
1	Evaporator Coil
2	Water Connections
3	Plain Back
4	Compressor Access
5	Top - Fan Discharge
	Minimum Clearance Required
	1000mm
	500mm
	Nil
	850mm
	3500mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C



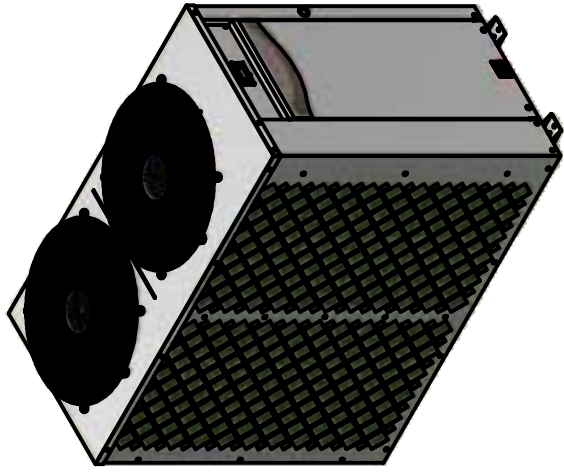
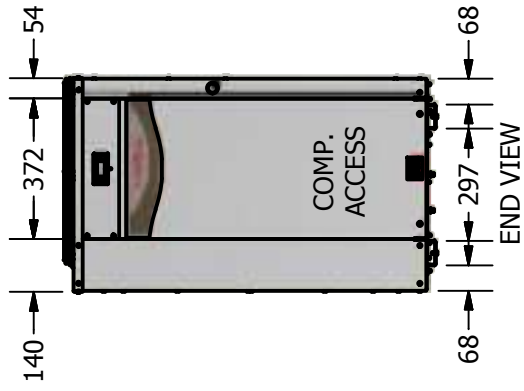
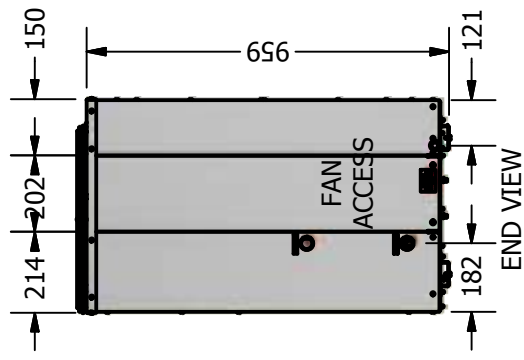
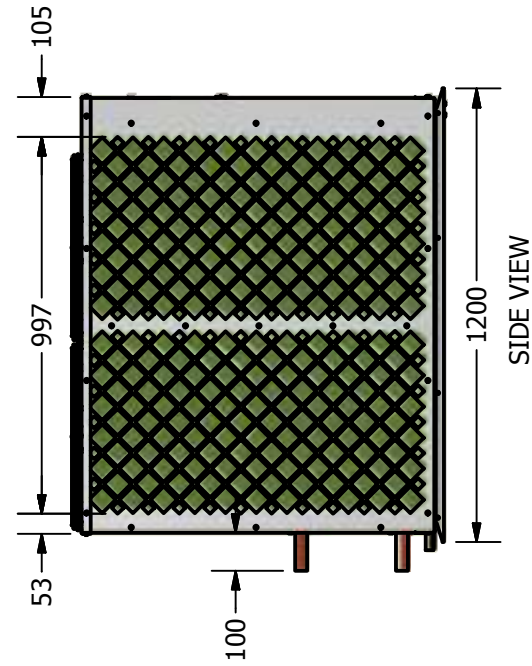
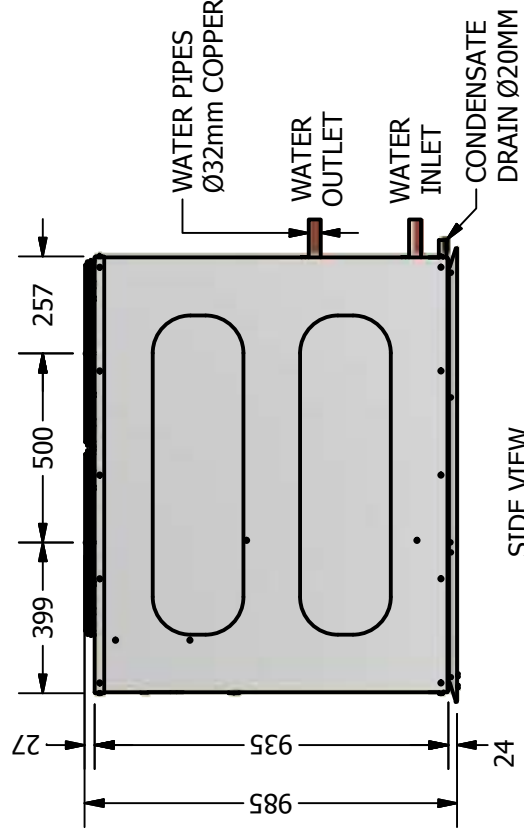
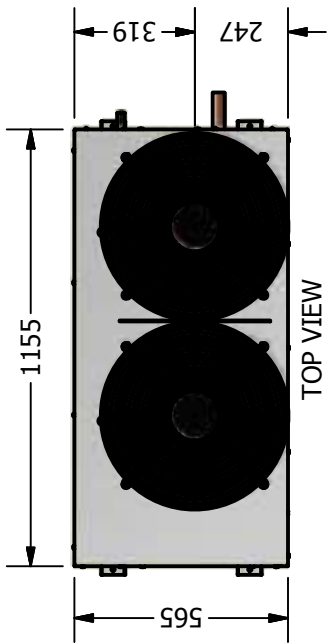
**Rheem**  
THERMAL SYSTEMS GROUP

<b>Description:</b>		RHEEM THERMAL A2W RTHW	
<b>Part No:</b>	RTHW025KS-DEV-1	<b>Rev.</b>	
<b>Material:</b>		<b>Date:</b>	22/05/2018
<b>Drawn By:</b>	j.bates	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2		
			<b>Scale:</b> N.T.S

SHEET 1 OF 3

REV	ECN	DESCRIPTION	DATE





**Rheem**  
THERMAL SYSTEMS GROUP

<b>Description:</b>		RHEEM THERMAL A2W RTHW	
<b>Part No:</b>	RTHW025KS-DQV-1	<b>Rev.</b>	1
<b>Material:</b>		<b>Date:</b>	15/06/2018
<b>Drawn By:</b>	j.bates	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2		
			<b>Scale:</b> N.T.S

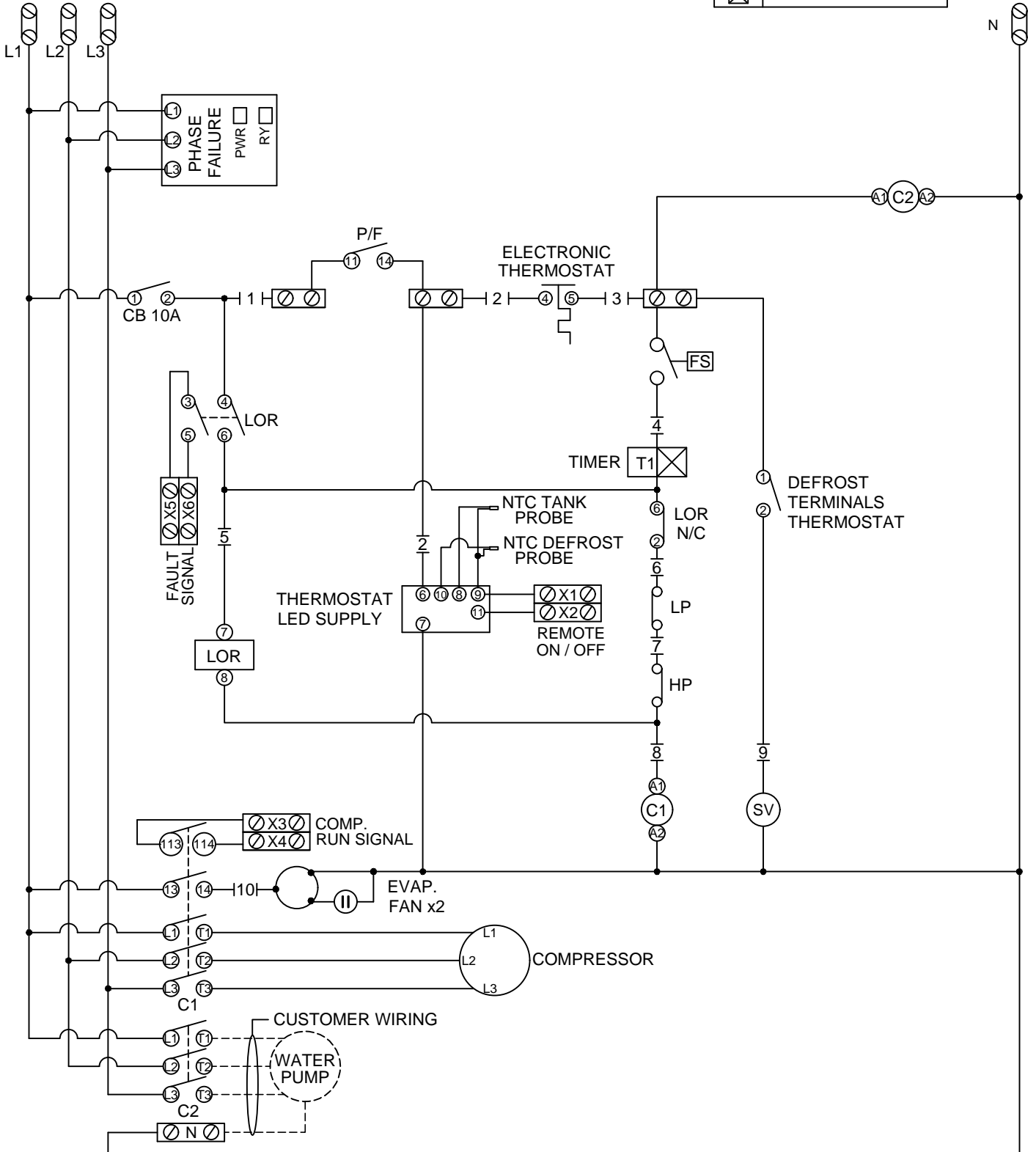
SHEET 1 OF 3

REV	ECN	DESCRIPTION	DATE
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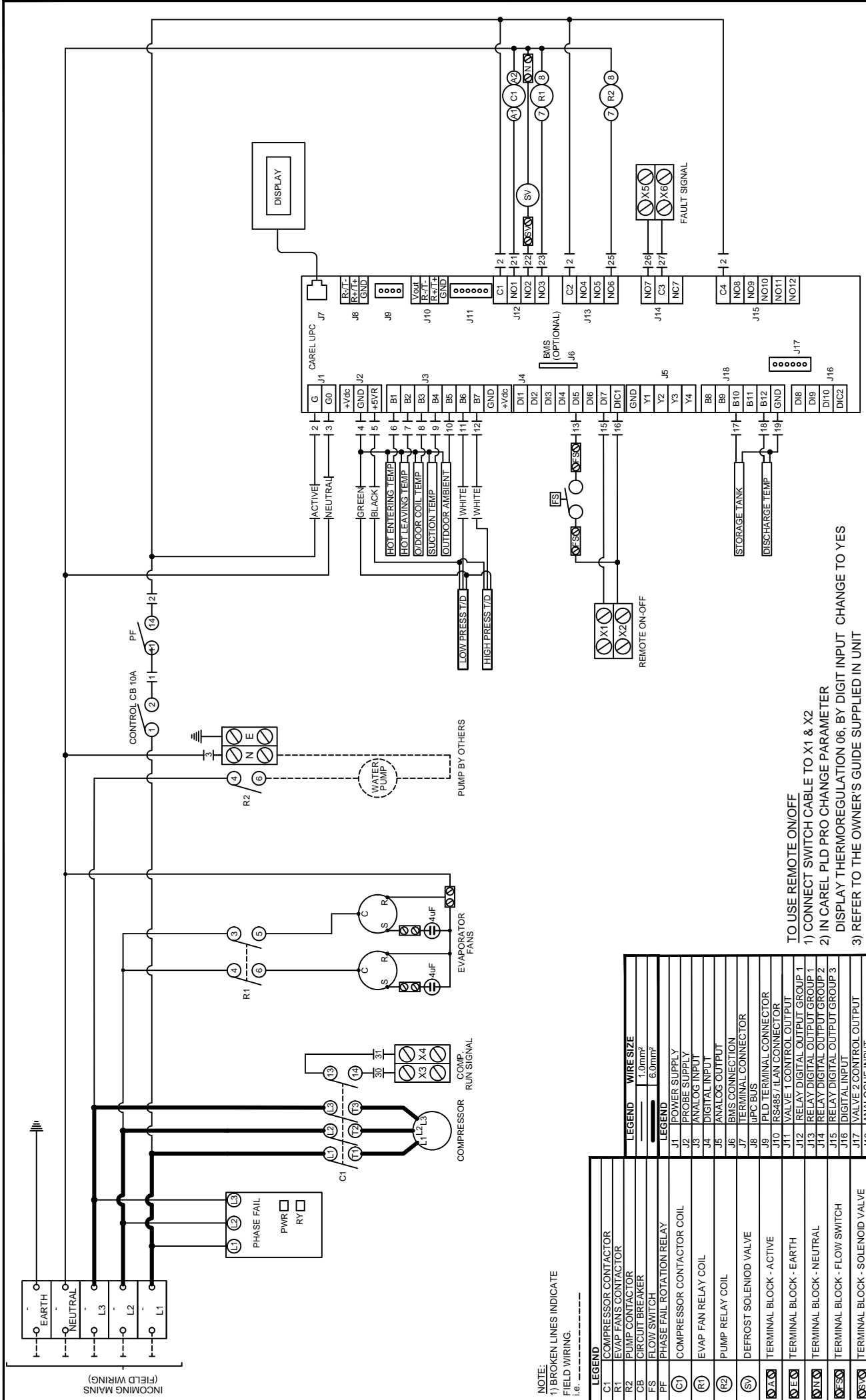
**TO USE REMOTE ON/OFF**

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	PUMP CONTACTOR
CB	CIRCUIT BREAKER
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	WATER PUMP CONTACTOR COIL
	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE	Rheem THERMAL SYSTEMS GROUP		43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		RTHW025 on R407C RTHW030 on R407C			
01	0383	Description updated	18/02/20	Drawn By:	B.Fleming	Date:	24/9/2019	Part No:	47108E	Rev:	01



NOTE:  
1) BROKEN LINES INDICATE FIELD WIRING.  
i.e. -----

LEGEND	WIRE SIZE
C1 COMPRESSOR CONTACTOR	1.0mm <sup>2</sup>
R1 EVAP FANS CONTACTOR	6.0mm <sup>2</sup>
R2 PUMP CONTACTOR	
CB CIRCUIT BREAKER	
FS FLOW SWITCH	
PF PHASE FAIL ROTATION RELAY	
(C) COMPRESSOR CONTACTOR COIL	
(R) EVAP FAN RELAY COIL	
(R2) PUMP RELAY COIL	
(S) DEFROST SOLENIOD VALVE	
(X) TERMINAL BLOCK - ACTIVE	
(E) TERMINAL BLOCK - EARTH	
(N) TERMINAL BLOCK - NEUTRAL	
(F) TERMINAL BLOCK - FLOW SWITCH	
(V) TERMINAL BLOCK - SOLENIOD VALVE	

TO USE REMOTE ON/OFF  
1) CONNECT SWITCH CABLE TO X1 & X2  
2) IN CAREL PLD PRO CHANGE PARAMETER DISPLAY THERMOREGULATION 06, BY DIGIT INPUT CHANGE TO YES  
3) REFER TO THE OWNER'S GUIDE SUPPLIED IN UNIT

REV	ECN	DESCRIPTION	DATE	Drawn By:	Date:
01	0383	Added unit wiring & unit description	18/02/20	B.Fleming	11/02/2020

43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698	RTHW025, 30, 40 on R407C RTHW030 on R134A	Part No: <b>47160E</b> Rev: <b>01</b>
--	--	--



<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger / thermostat control	<b>RTHW030KS-DEV-1</b>
Double wall heat exchanger / thermostat control	<b>RTHW030KV-DEV-1</b>
Single wall heat exchanger / Rheem IQ control	<b>RTHW030KS-DQV-1</b>
Double wall heat exchanger / Rheem IQ control	<b>RTHW030KV-DQV-1</b>

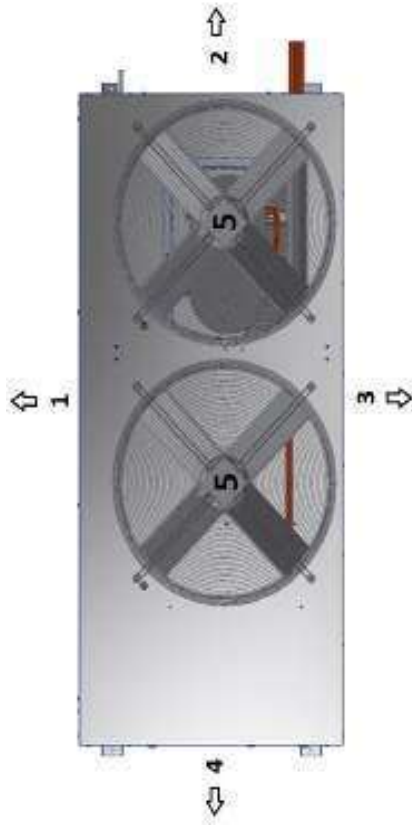
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	14.9 FLA / 101 LRA
Min. Circuit Size	20.0 Amps
Refrigerant	R407C
Nominal Heating capacity	29.08 kW
Power input	5.77 kW
COP	5.04 COP
Noise Level	59 dBA @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	11.71 Amps

<b>TECHNICAL DATA</b>	
<b>Make</b>	<b>Compressor</b>
Copeland	EBM-Papst
Type	Scroll 20014
Number Per Unit	1
FLA (Full Load Amps)	13.6 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900
Air Flow	N/A
	1600 L/s
<b>Make</b>	<b>Fan</b>
EBM-Papst	EBM-Papst
Type	Axial
Number Per Unit	2
FLA (Full Load Amps)	0.64 Amps (Each)
Voltage / Phase	220 - 240 / 1
Pole/RPM	6/890
Air Flow	1600 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	1.16 L/s
Max. Outlet Water Temp	61°C / 65°C*
Design Pressure Drop	60 kPa
Max. Operating Pressure	2,450 kPa
<b>GENERAL INFORMATION</b>	
Water Connections	32mm (1 1/4") Copper
Drain	20mm PVC
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	120 kg
Size L x W x H	1155mm x 565mm x 985mm

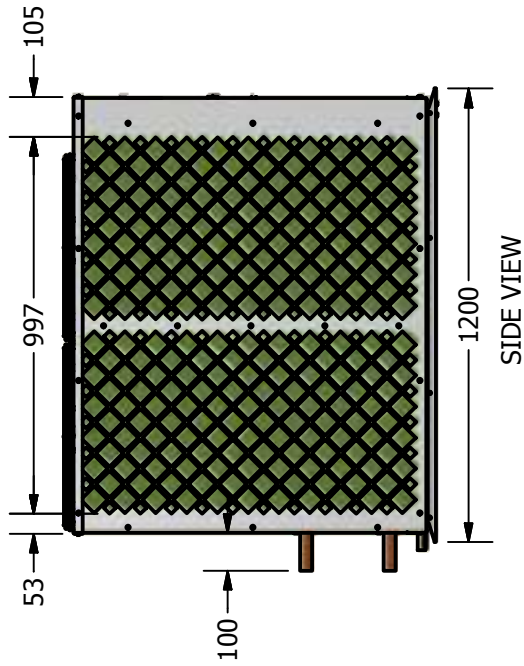
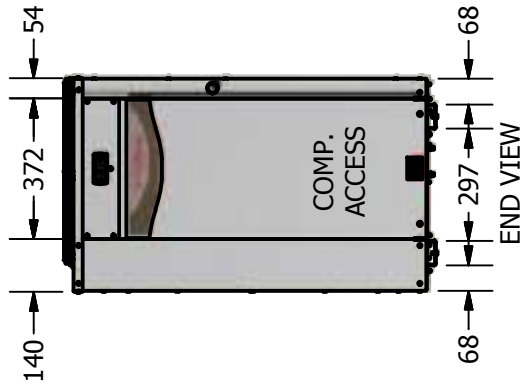
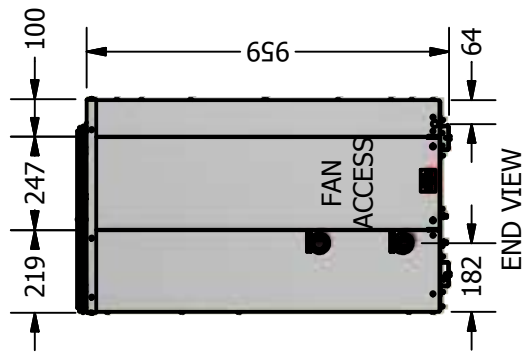
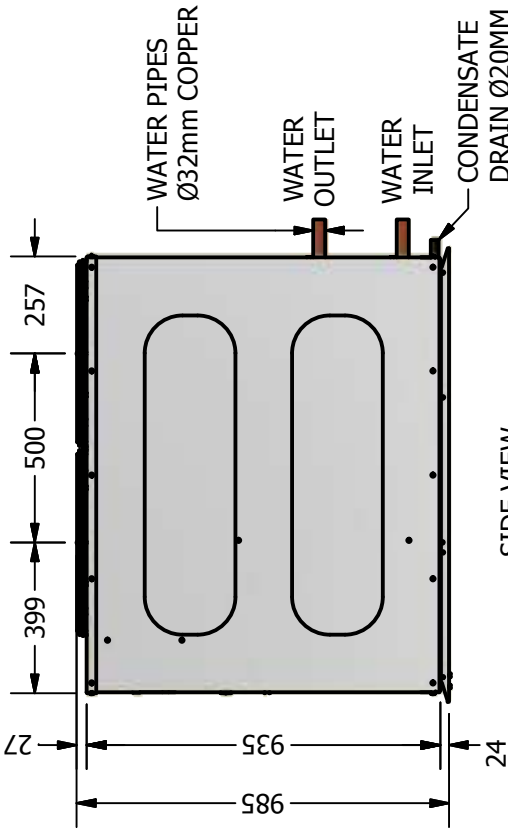
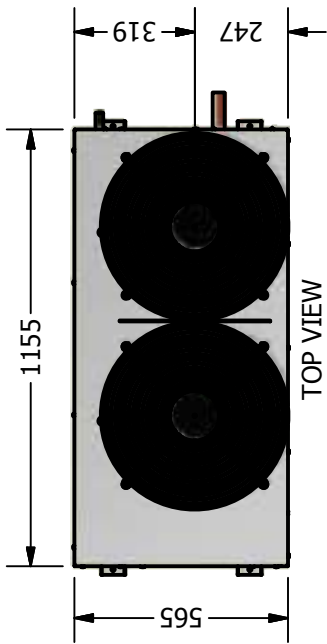
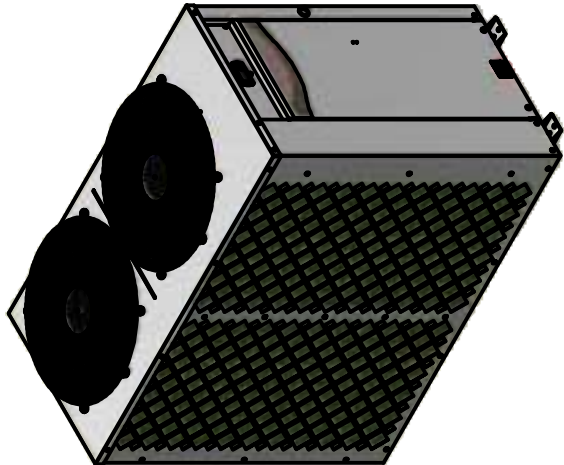
**COP TABLE**

Water Out °C	Ambient Temperature							
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C
45 °C	16.92 kW 2.96 COP	19.14 kW 3.35 COP	21.11 kW 3.71 COP	23.19 kW 4.05 COP	25.61 kW 4.46 COP	27.30 kW 4.73 COP	<b>29.08 kW</b> <b>5.04 COP</b>	29.86 kW 5.16 COP
50 °C	16.00 kW 2.50 COP	18.62 kW 2.90 COP	20.69 kW 3.23 COP	22.65 kW 3.54 COP	24.94 kW 3.89 COP	26.55 kW 4.12 COP	28.23 kW 4.38 COP	28.97 kW 4.49 COP
55 °C	14.44 kW 2.05 COP	17.58 kW 2.50 COP	20.39 kW 2.90 COP	22.25 kW 3.16 COP	24.42 kW 3.47 COP	25.95 kW 3.69 COP	27.55 kW 3.91 COP	28.25 kW 4.01 COP
60 °C	N/A	16.82 kW 2.18 COP	19.89 kW 2.58 COP	21.89 kW 2.84 COP	23.92 kW 3.10 COP	25.35 kW 3.28 COP	26.95 kW 3.49 COP	27.58 kW 3.57 COP



<b>UNIT CLEARANCES</b>		
Direction	Description	Minimum Clearance Required
1	Evaporator Coil	1000mm
2	Water Connections	500mm
3	Plain Back	Nil
4	Compressor Access	850mm
5	Top - Fan Discharge	3500mm

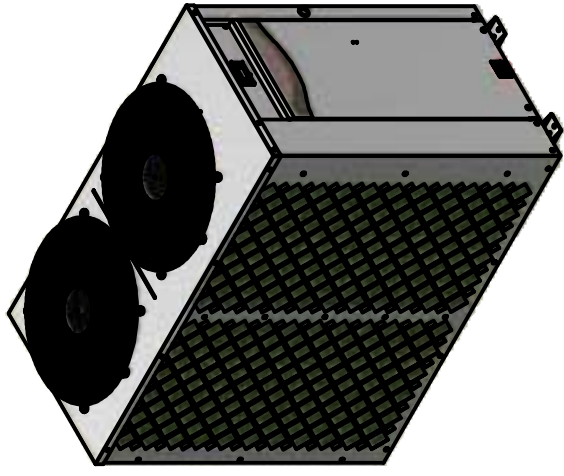
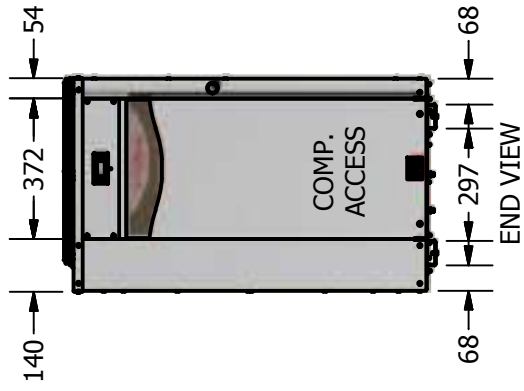
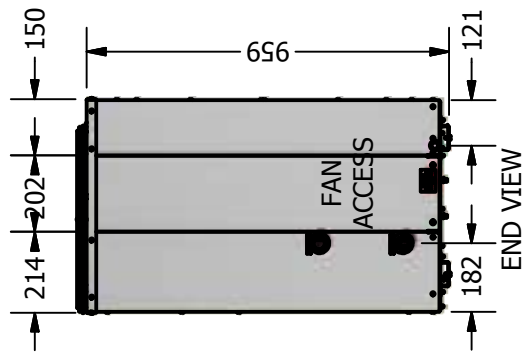
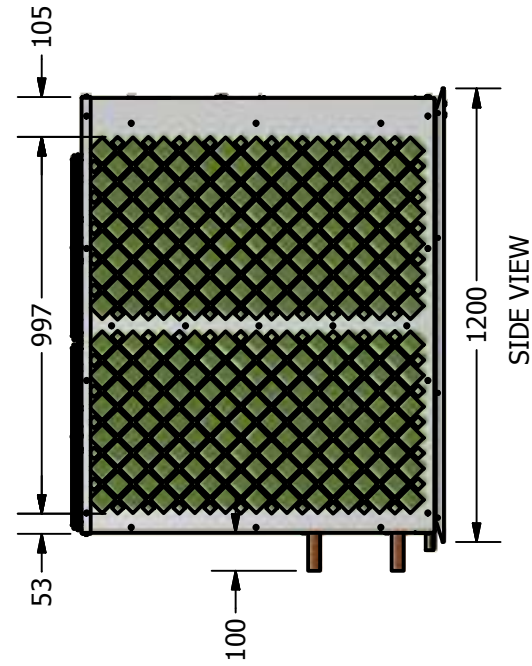
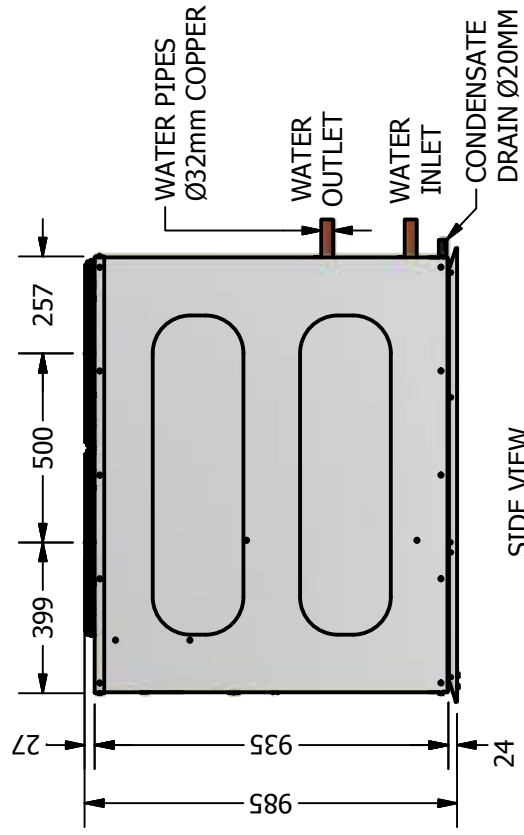
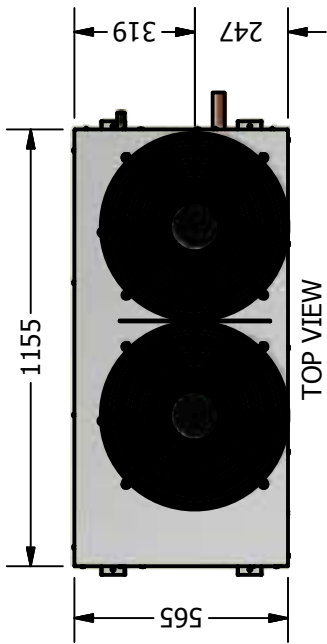
When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C



**Rheem**  
THERMAL SYSTEMS GROUP

Description:		RHEEM THERMAL A2W RTHW	
Part No:	RTHW030KS-DEV-1	Rev:	
Material:		Date:	22/05/2018
Drawn By:	j.bates	Checked By:	
General Tolerance:	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2		
			Scale: N.T.S

REV	ECN	DESCRIPTION	DATE



REV	ECN	DESCRIPTION	DATE
01	0383	ADDED MINI IQ	21/02/20

**Rheem**  
THERMAL SYSTEMS GROUP

SHEET 1 OF 3

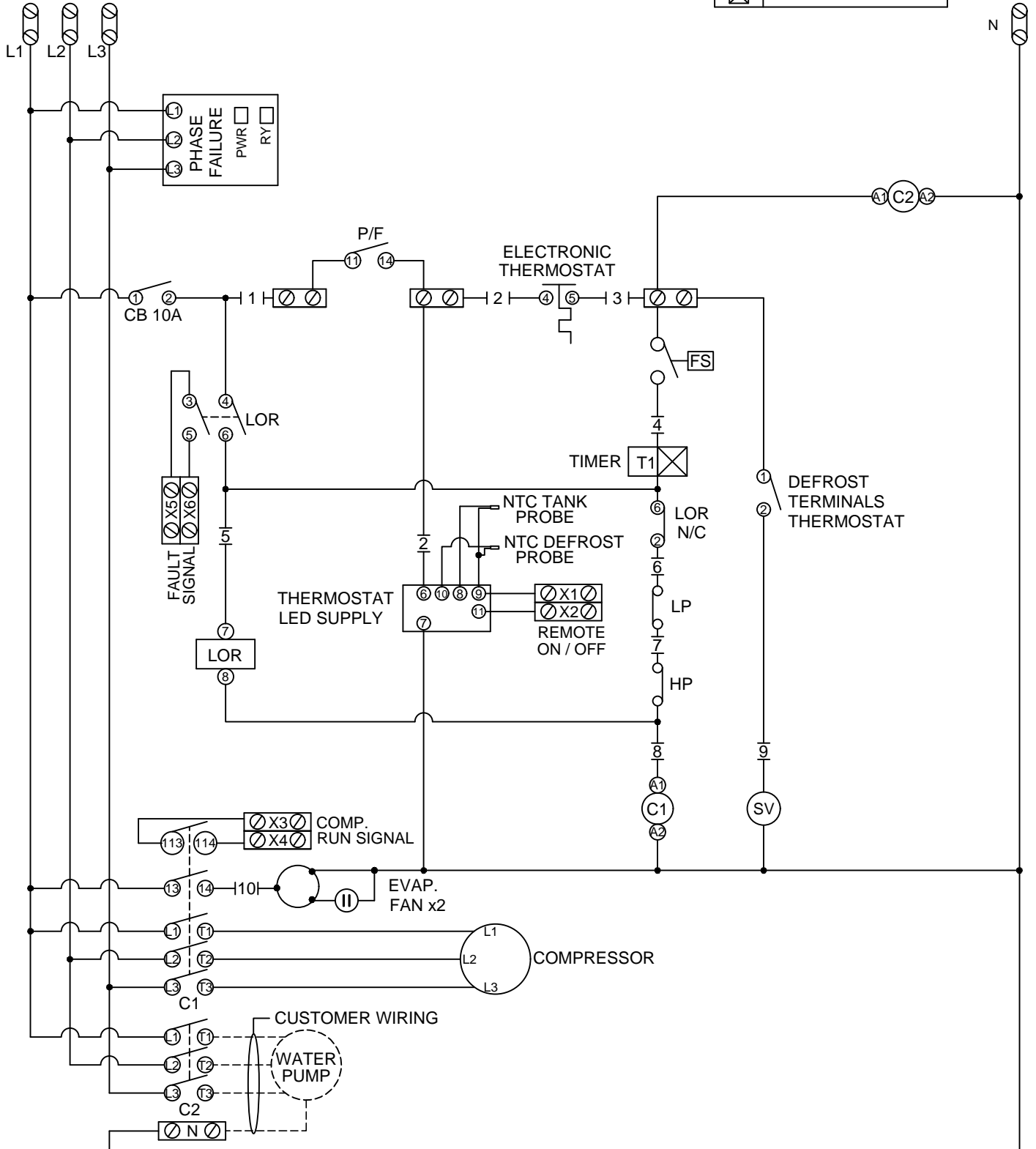
<b>Description:</b>	RHEEM THERMAL A2W RTHW		
<b>Part No:</b>	RTHW030KS-DQV-1	<b>Rev.</b>	1
<b>Material:</b>			
<b>Drawn By:</b>	j.bates	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2		
<b>Date:</b>	15/06/2018		
<b>Scale:</b>	N.T.S		

# WIRING DIAGRAM FOR 3Ø HOT WATER HEAT PUMP.

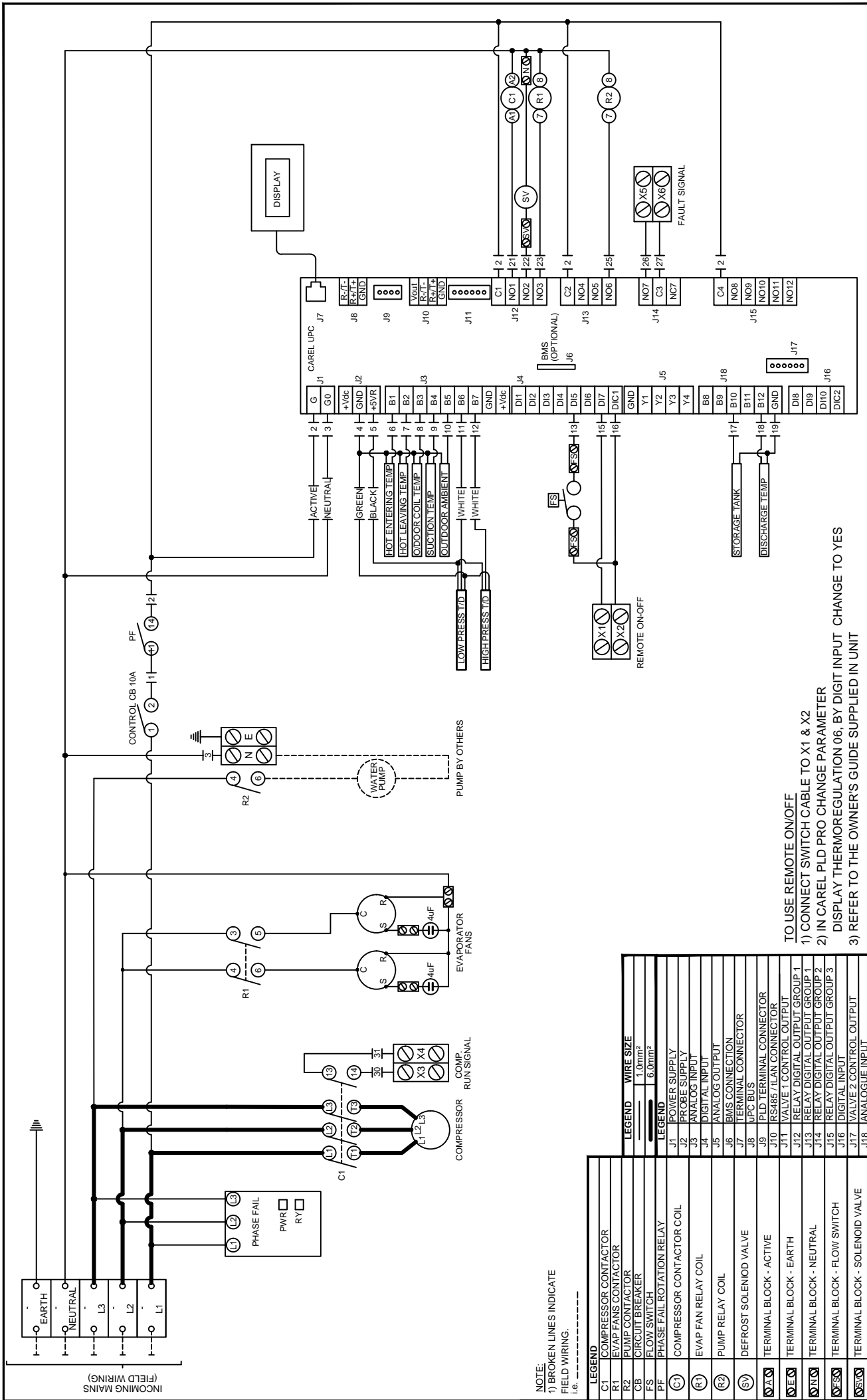
### TO USE REMOTE ON/OFF

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	PUMP CONTACTOR
CB	CIRCUIT BREAKER
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	WATER PUMP CONTACTOR COIL
	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE			43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		RTHW025 on R407C RTHW030 on R407C			
01	0383	Description updated	18/02/20	Drawn By:	B.Fleming	Date:	24/9/2019	Part No:	47108E	Rev:	01



NOTE:  
 1) BROKEN LINES INDICATE FIELD WIRING.  
 i.e. -----

LEGEND	DESCRIPTION
C1	COMPRESSOR CONTACTOR
R1	EVAP FANS CONTACTOR
R2	PUMP CONTACTOR
CB	CIRCUIT BREAKER
FS	FLOW SWITCH
PF	PHASE FAIL ROTATION RELAY
(C)	COMPRESSOR CONTACTOR COIL
(R)	EVAP FAN RELAY COIL
(R)	PUMP RELAY COIL
(S)	DEFROST SOLENOID VALVE
(S)	TERMINAL BLOCK - ACTIVE
(S)	TERMINAL BLOCK - EARTH
(S)	TERMINAL BLOCK - NEUTRAL
(S)	TERMINAL BLOCK - FLOW SWITCH
(S)	TERMINAL BLOCK - SOLENOID VALVE

LEGEND	WIRE SIZE
---	1.0mm <sup>2</sup>
---	6.0mm <sup>2</sup>

LEGEND	DESCRIPTION
J1	POWER SUPPLY
J2	PROBE SUPPLY
J3	ANALOG INPUT
J4	DIGITAL INPUT
J5	ANALOG OUTPUT
J6	BMS CONNECTION
J7	TERMINAL CONNECTOR
J8	UPC BUS
J9	PLD TERMINAL CONNECTOR
J10	RS485 / I/LAN CONNECTOR
J11	VALVE 1 CONTROL OUTPUT
J12	RELAY DIGITAL OUTPUT GROUP 1
J13	RELAY DIGITAL OUTPUT GROUP 1
J14	RELAY DIGITAL OUTPUT GROUP 2
J15	RELAY DIGITAL OUTPUT GROUP 3
J16	DIGITAL INPUT
J17	VALVE 2 CONTROL OUTPUT
J18	ANALOGUE INPUT

TO USE REMOTE ON/OFF:  
 1) CONNECT SWITCH CABLE TO X1 & X2  
 2) IN CAREL PLD PRO CHANGE PARAMETER DISPLAY THERMOREGULATION 06. BY DIGIT INPUT CHANGE TO YES  
 3) REFER TO THE OWNER'S GUIDE SUPPLIED IN UNIT

REV	ECN	DESCRIPTION	DATE	Drawn By:	Date:
01	0383	Added unit wiring & unit description	18/02/20	B.Fleming	11/02/2020

		43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698	RTHW025, 30, 40 on R407C RTHW030 on R134A
Part No:	47160E	Rev:	01



<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger / thermostat control	<b>RTHW040KS-DEV-1</b>
Double wall heat exchanger / thermostat control	<b>RTHW040KV-DEV-1</b>
Single wall heat exchanger / Rheem IQ control	<b>RTHW040KS-DQV-1</b>
Double wall heat exchanger / Rheem IQ control	<b>RTHW040KV-DQV-1</b>

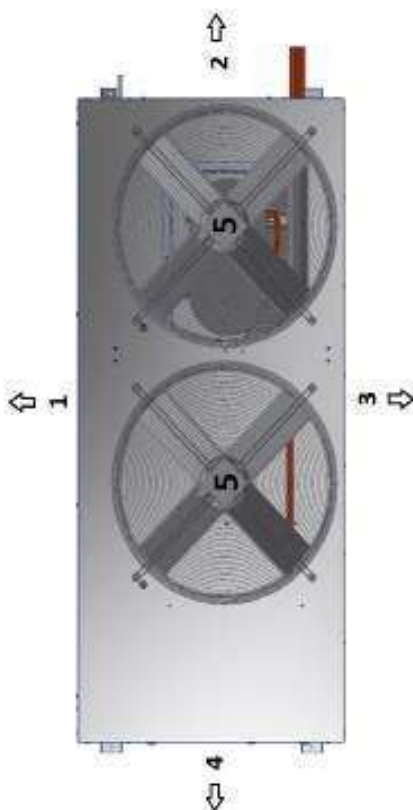
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	19.0 FLA / 111 LRA
Min. Circuit Size	25.0 Amps
Refrigerant	R407C
Nominal Heating capacity	39.35 kW
Power input	7.59 kW
COP	5.18 COP
Noise Level	62 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	15.46 Amps

<b>TECHNICAL DATA</b>	
<b>Make</b>	<b>Compressor</b>
Copeland	EBM-Papst
Type	Scroll 200T6
Number Per Unit	1
FLA (Full Load Amps)	16.6 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900
Air Flow	N/A
	2300 L/s
	<b>Fan</b>
	EBM-Papst
	Axial
	2
	1.18 Amps (Each)
	220 - 240 / 1
	6/890

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	1.57 L/s
Max. Outlet Water Temp	61°C / 65°C*
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa
<b>GENERAL INFORMATION</b>	
Water Connections	50.8mm (2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	220 kg
Size L x W x H	1755mm x 807mm x 994mm

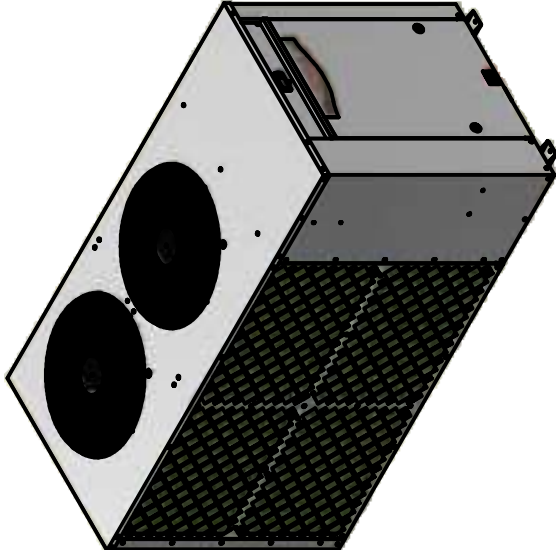
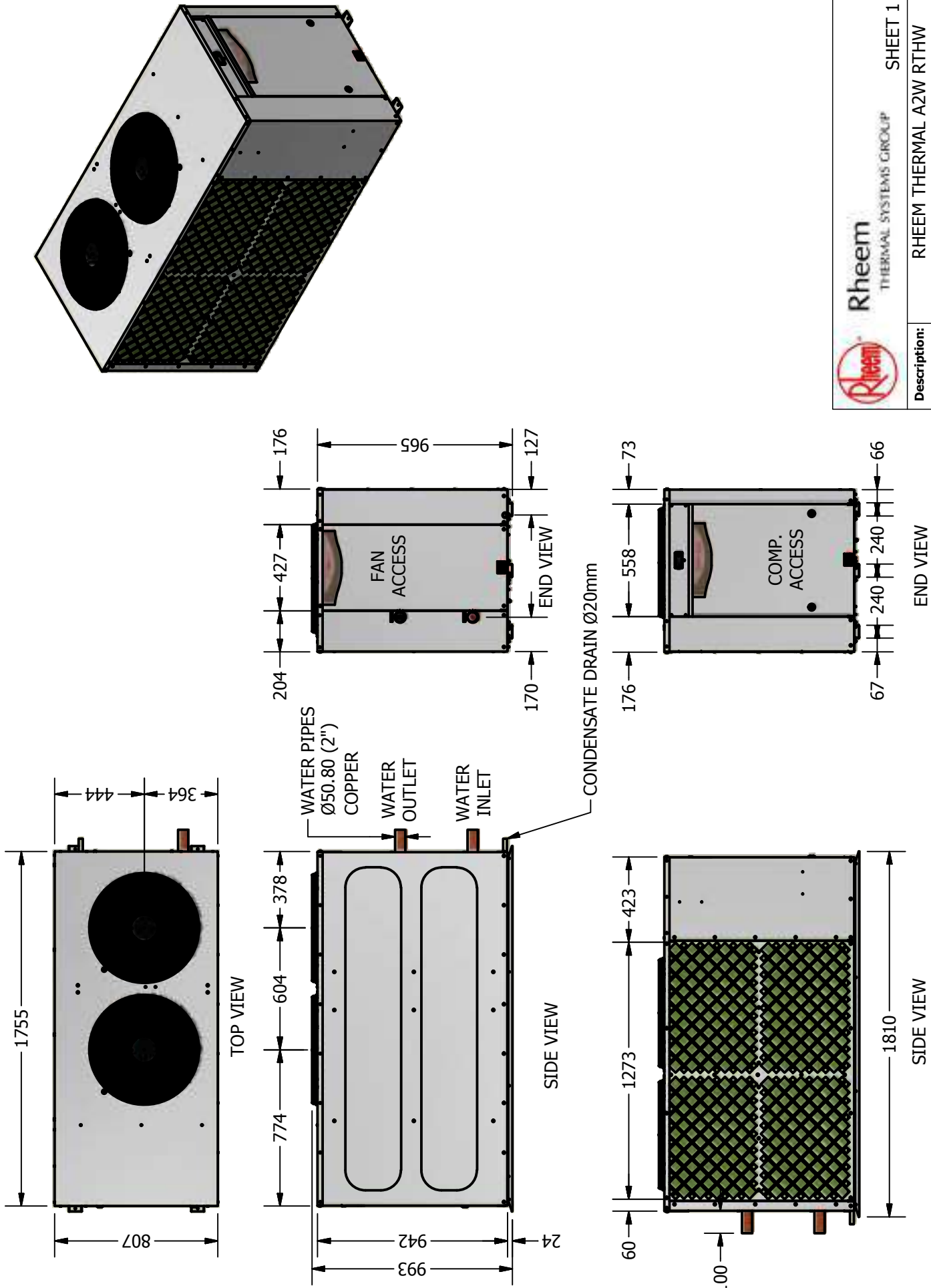
**COP TABLE**

Water Out °C	Ambient Temperature							
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C
45 °C	23.37 kW 3.11 COP	26.14 kW 3.46 COP	29.12 kW 3.85 COP	31.80 kW 4.20 COP	34.85 kW 4.60 COP	36.98 kW 4.88 COP	39.35 kW 5.18 COP	40.29 kW 5.31 COP
50 °C	21.55 kW 2.58 COP	25.39 kW 3.03 COP	28.47 kW 3.39 COP	31.02 kW 3.69 COP	33.92 kW 4.04 COP	35.96 kW 4.28 COP	38.15 kW 4.54 COP	39.07 kW 4.65 COP
55 °C	20.34 kW 2.23 COP	24.03 kW 2.63 COP	27.95 kW 3.06 COP	30.39 kW 3.33 COP	33.16 kW 3.63 COP	35.09 kW 3.84 COP	37.19 kW 4.07 COP	38.06 kW 4.17 COP
60 °C	N/A	23.33 kW 2.35 COP	27.25 kW 2.74 COP	29.85 kW 3.00 COP	32.48 kW 3.27 COP	34.31 kW 3.45 COP	36.33 kW 3.65 COP	37.15 kW 3.73 COP



<b>UNIT CLEARANCES</b>	
Direction	Description
1	Evaporator Coil
2	Water Connections
3	Plain Back
4	Compressor Access
5	Top - Fan Discharge
	Minimum Clearance Required
	1000mm
	500mm
	Nil
	850mm
	3500mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C

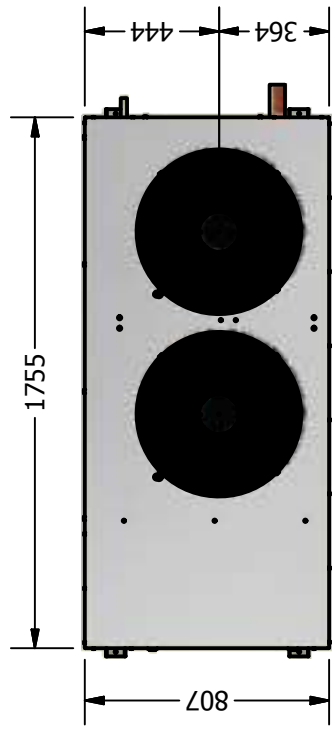
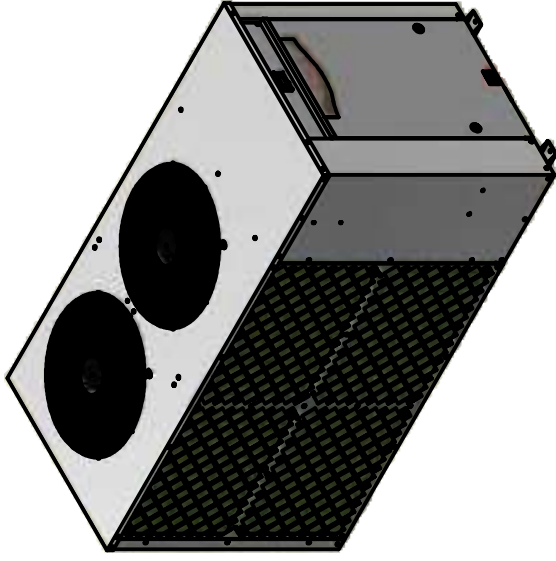


**Rheem**  
 THERMAL SYSTEMS GROUP

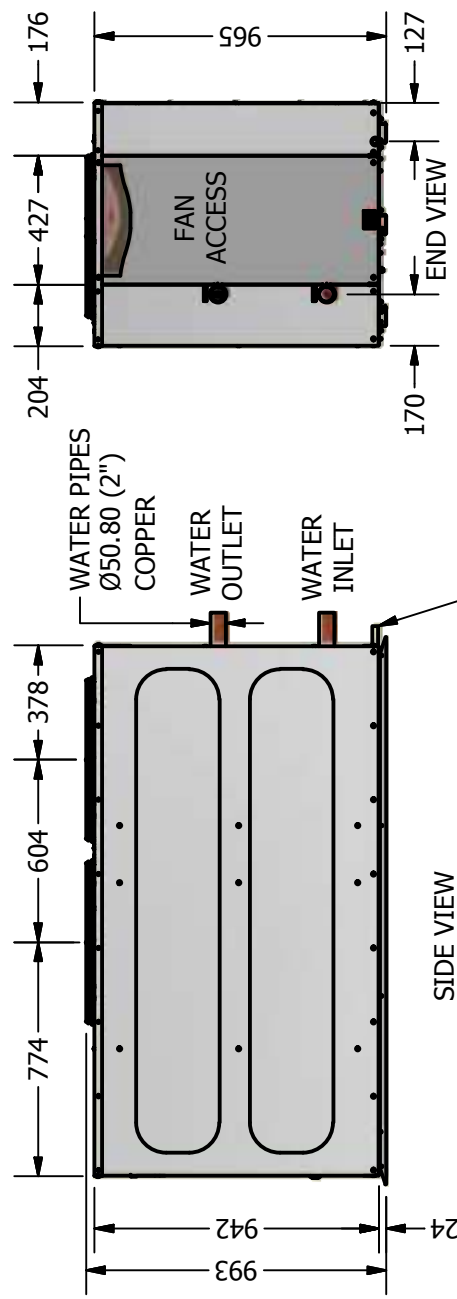
SHEET 1 OF 3

<b>Description:</b>		RHEEM THERMAL A2W RTHW	
<b>Part No:</b>	RTHW040KS-DEV-1	<b>Rev.</b>	
<b>Material:</b>		<b>Date:</b>	22/05/2018
<b>Drawn By:</b>	JPB	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions ± 2, Angle ± 2°		
			<b>Scale:</b> N.T.S

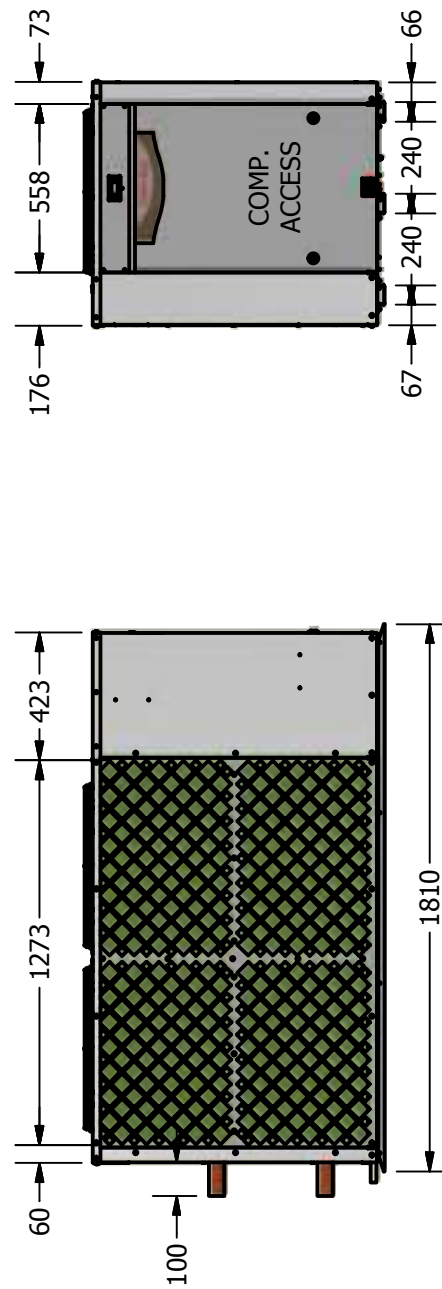
REV	ECN	DESCRIPTION	DATE



TOP VIEW




SIDE VIEW



SIDE VIEW

END VIEW

REV	ECN	DESCRIPTION	DATE
01	0383	ADDED MINI IQ	21/02/20



**Rheem**  
THERMAL SYSTEMS GROUP

**Description:** RHEEM THERMAL A2W RTHW

**Part No:** RTHW040KS-DQV-1

**Material:**

**Drawn By:** JPB

**Checked By:**

**General Tolerance:** Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm  
Tubes - Dimensions ± 2, Angle ± 2°

**Rev:** 1

**Date:** 15/06/2018

**Scale:** N.T.S

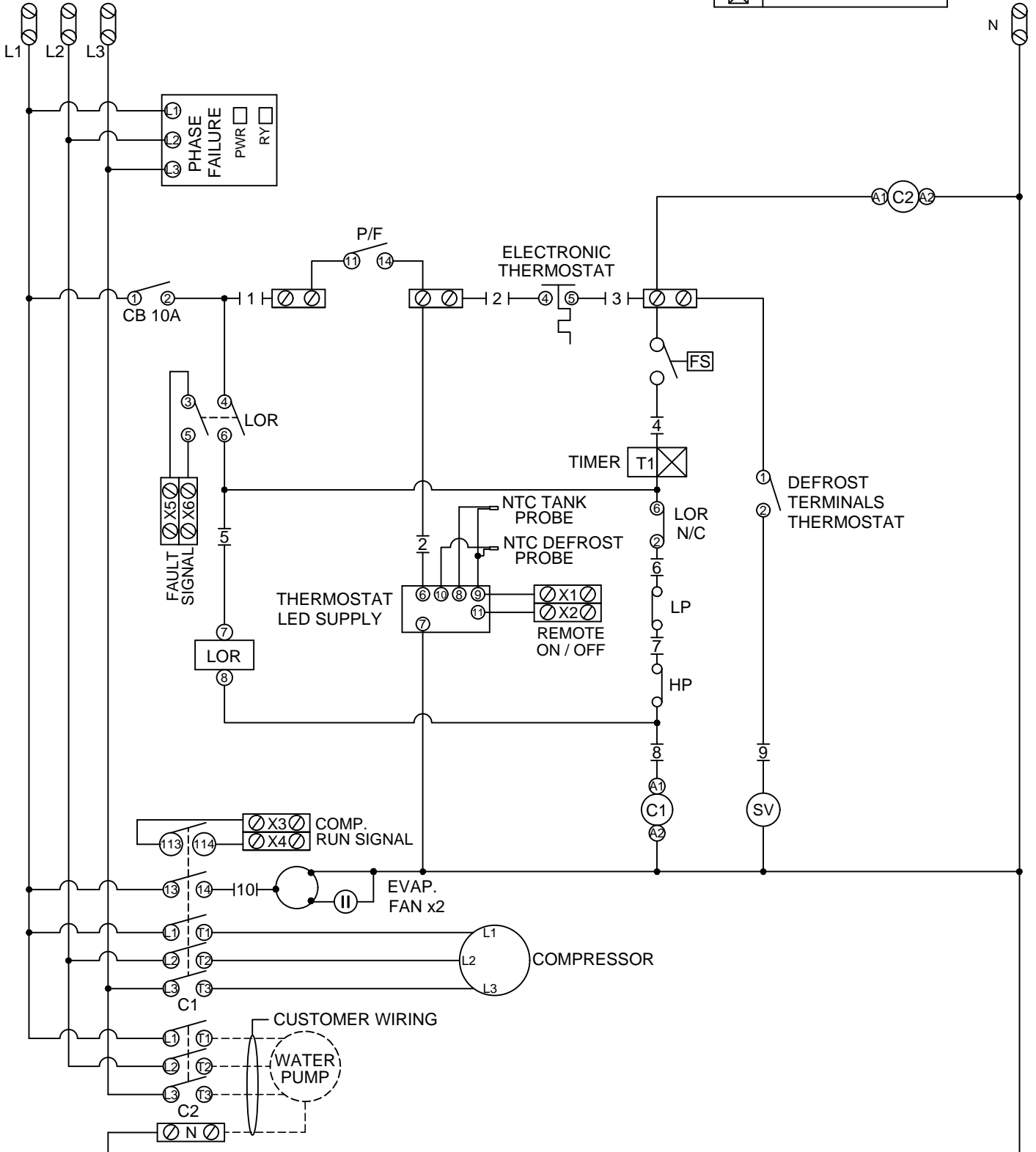
SHEET 1 OF 3

# WIRING DIAGRAM FOR 3Ø WITH WATER PUMP.

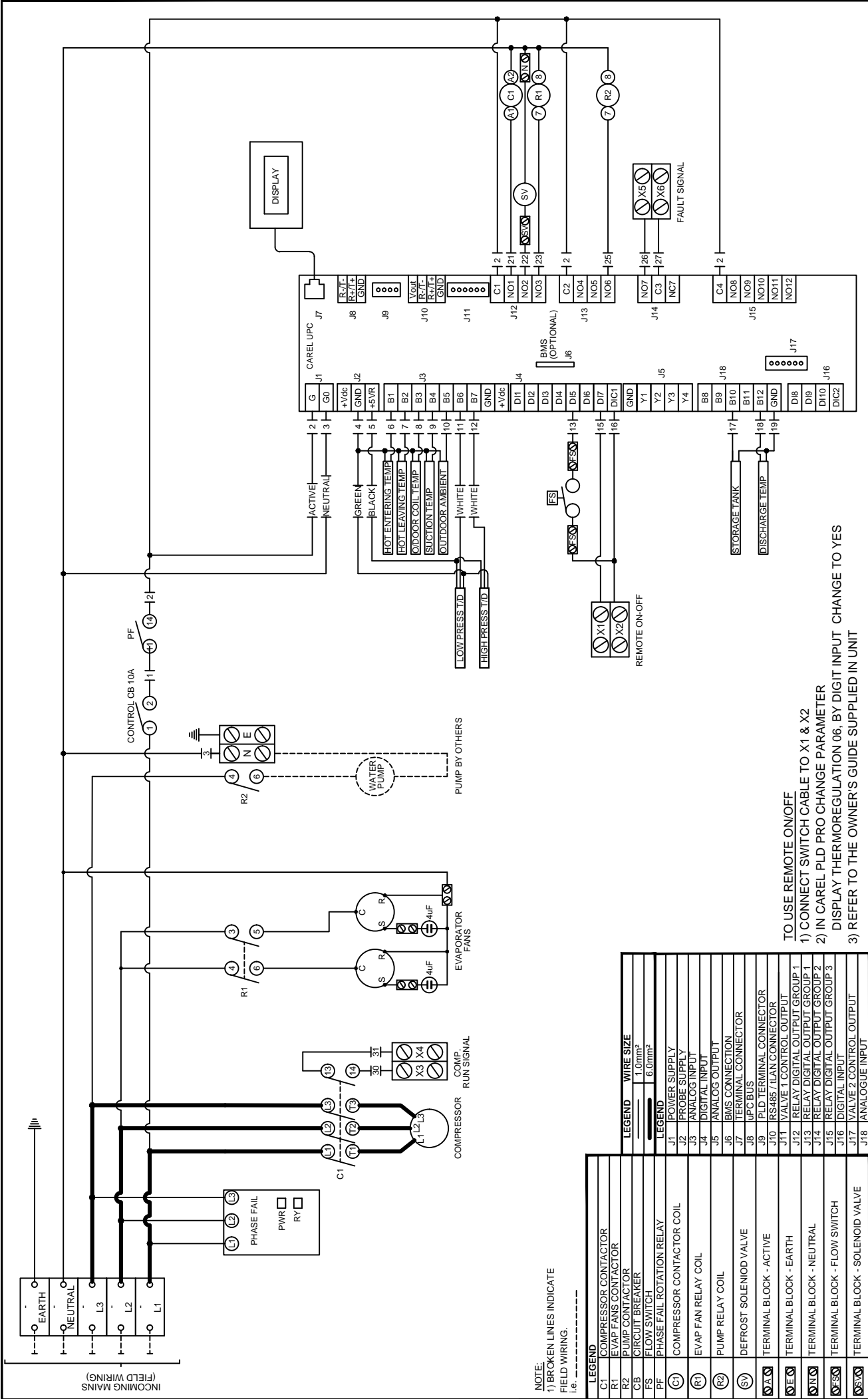
**TO USE REMOTE ON/OFF**

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	PUMP CONTACTOR
CB	CIRCUIT BREAKER
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	WATER PUMP CONTACTOR COIL
	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE	Rheem THERMAL SYSTEMS GROUP		43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		RTHW040 on R407C	
01	0383	Description updated	18/02/20	Drawn By:	B.Fleming	Date:	8/8/2019	Part No:	47110E
								Rev:	01



NOTE:  
1) BROKEN LINES INDICATE FIELD WIRING.  
i.e. -----

LEGEND	DESCRIPTION	WIRE SIZE
C1	COMPRESSOR CONTACTOR	1.0mm <sup>2</sup>
R1	EVAP FANS CONTACTOR	6.0mm <sup>2</sup>
R2	PUMP CONTACTOR	
CB	CIRCUIT BREAKER	
FS	FLOW SWITCH	
PF	PHASE FAIL ROTATION RELAY	
(C)	COMPRESSOR CONTACTOR COIL	
(R)	EVAP FAN RELAY COIL	
(R)	PUMP RELAY COIL	
(S)	DEFROST SOLENOID VALVE	
(S)	TERMINAL BLOCK - ACTIVE	
(S)	TERMINAL BLOCK - EARTH	
(S)	TERMINAL BLOCK - NEUTRAL	
(S)	TERMINAL BLOCK - FLOW SWITCH	
(S)	TERMINAL BLOCK - SOLENOID VALVE	

TO USE REMOTE ON/OFF  
1) CONNECT SWITCH CABLE TO X1 & X2  
2) IN CAREL PLD PRO CHANGE PARAMETER DISPLAY THERMOREGULATION 06, BY DIGIT INPUT CHANGE TO YES  
3) REFER TO THE OWNER'S GUIDE SUPPLIED IN UNIT

REV	ECN	DESCRIPTION	DATE	Drawn By:	Date:
01	0383	Added unit wiring & unit description	18/02/20	B. Fleming	11/02/2020

**Rheem**  
THERMAL SYSTEMS GROUP

43 Marigold Street  
Revesby NSW 2212  
Phone: (02) 9684 3684  
Fax: (02) 9684 3698

RTHW025, 30, 40 on R407C  
RTHW030 on R134A

Part No: **47160E** Rev: **01**

<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger / thermostat control	<b>RTHW050KS-DEV-1</b>
Double wall heat exchanger / thermostat control	<b>RTHW050KV-DEV-1</b>
Single wall heat exchanger / Rheem IQ control	<b>RTHW050KS-DQV-1</b>
Double wall heat exchanger / Rheem IQ control	<b>RTHW050KV-DQV-1</b>

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	24.2 FLA / 118 LRA
Min. Circuit Size	40.0 Amps
Refrigerant	R407C
Nominal Heating capacity	52.64 kW
Power input	10.58 kW
COP	4.98 COP
Noise Level	69 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	19.01 Amps

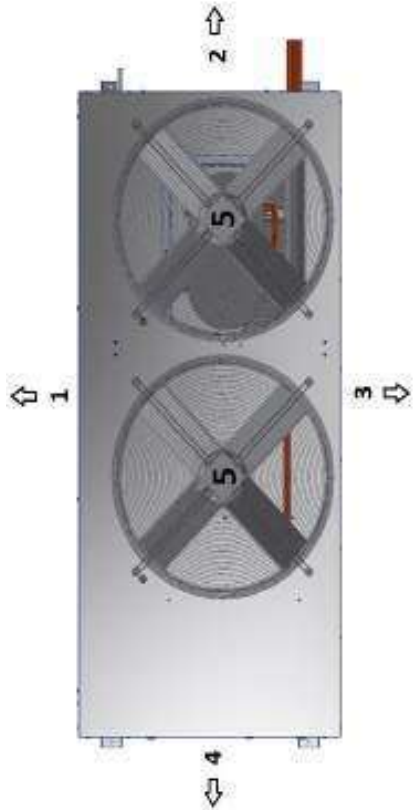
<b>TECHNICAL DATA</b>	
Make	<b>Compressor</b> Copeland
Type	Scroll 20018
Number Per Unit	1
FLA (Full Load Amps)	21.8 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900
Air Flow	N/A
	<b>Fan</b> EBM-Papst
	Axial
	2
	1.2 Amps (Each)
	380 - 415 / 3
	6/890
	4700 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	2.09 L/s
Max. Outlet Water Temp	61°C / 65°C*
Design Pressure Drop	60 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	50.8mm (2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	290 kg
Size L x W x H	1805mm x 807mm x 1355mm

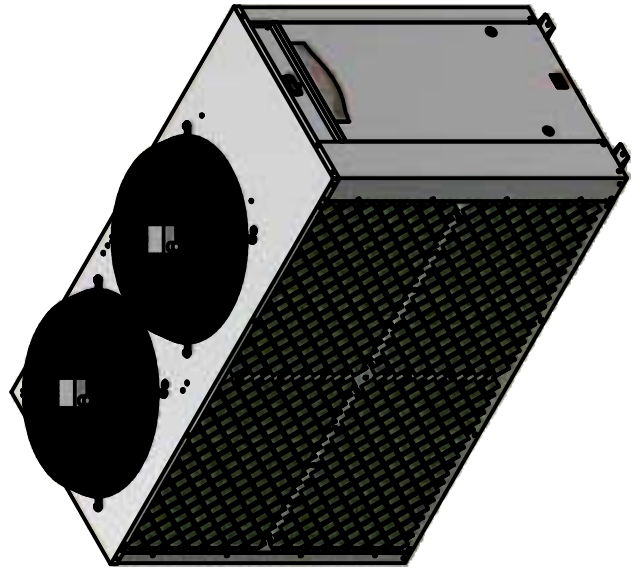
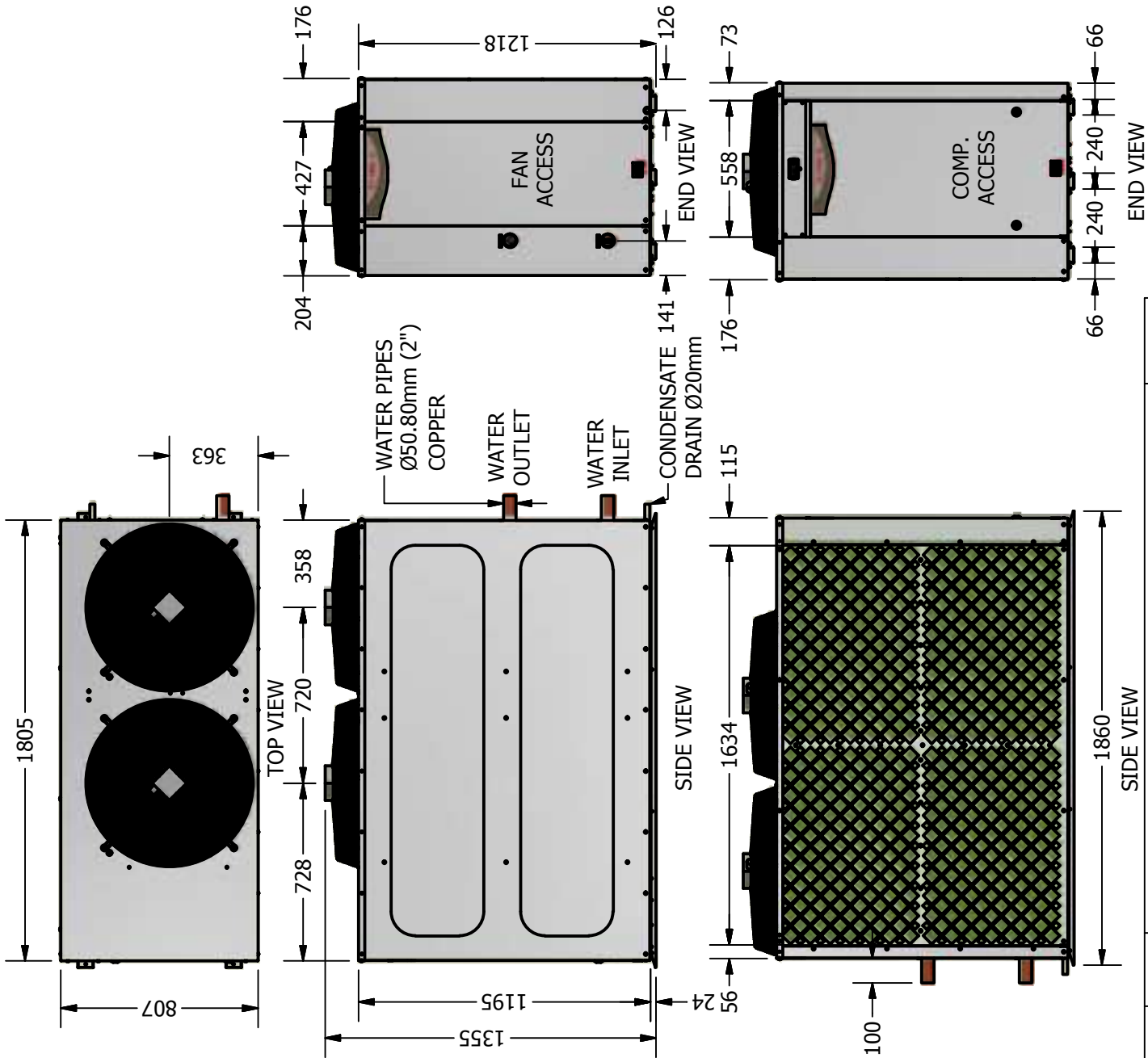
**COP TABLE**

Water Out °C	Ambient Temperature							
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C
45 °C	30.49 kW 2.92 COP	34.60 kW 3.30 COP	38.87 kW 3.69 COP	42.59 kW 4.04 COP	46.73 kW 4.42 COP	49.63 kW 4.69 COP	<b>52.64 kW</b> <b>4.98 COP</b>	53.99 kW 5.10 COP
50 °C	28.14 kW 2.41 COP	33.36 kW 2.86 COP	37.78 kW 3.22 COP	41.40 kW 3.53 COP	45.38 kW 3.86 COP	48.10 kW 4.09 COP	51.06 kW 4.34 COP	52.32 kW 4.44 COP
55 °C	26.45 kW 2.07 COP	31.56 kW 2.47 COP	36.92 kW 2.88 COP	40.40 kW 3.16 COP	44.23 kW 3.46 COP	46.90 kW 3.66 COP	49.70 kW 3.88 COP	50.94 kW 3.98 COP
60 °C	N/A	30.27 kW 2.16 COP	35.46 kW 2.53 COP	39.25 kW 2.80 COP	43.06 kW 3.08 COP	45.62 kW 3.26 COP	48.34 kW 3.45 COP	49.56 kW 3.54 COP



<b>UNIT CLEARANCES</b>	
Direction	Description
1	Evaporator Coil
2	Water Connections
3	Plain Back
4	Compressor Access
5	Top - Fan Discharge
	Minimum Clearance Required
	1000mm
	500mm
	Nil
	850mm
	3500mm

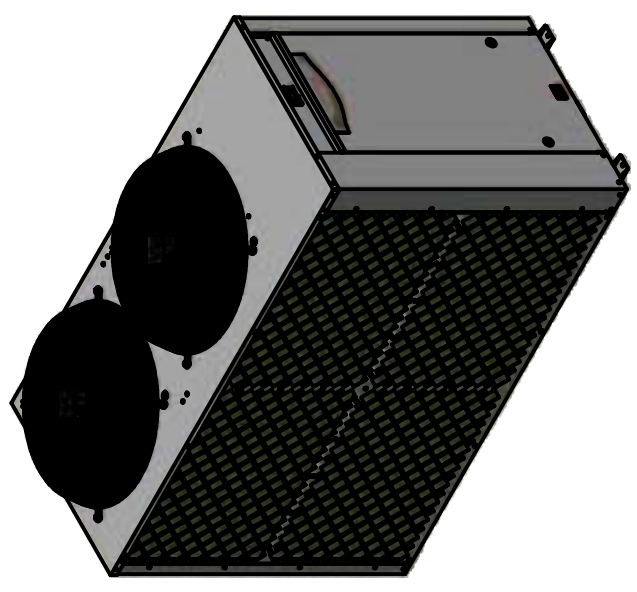
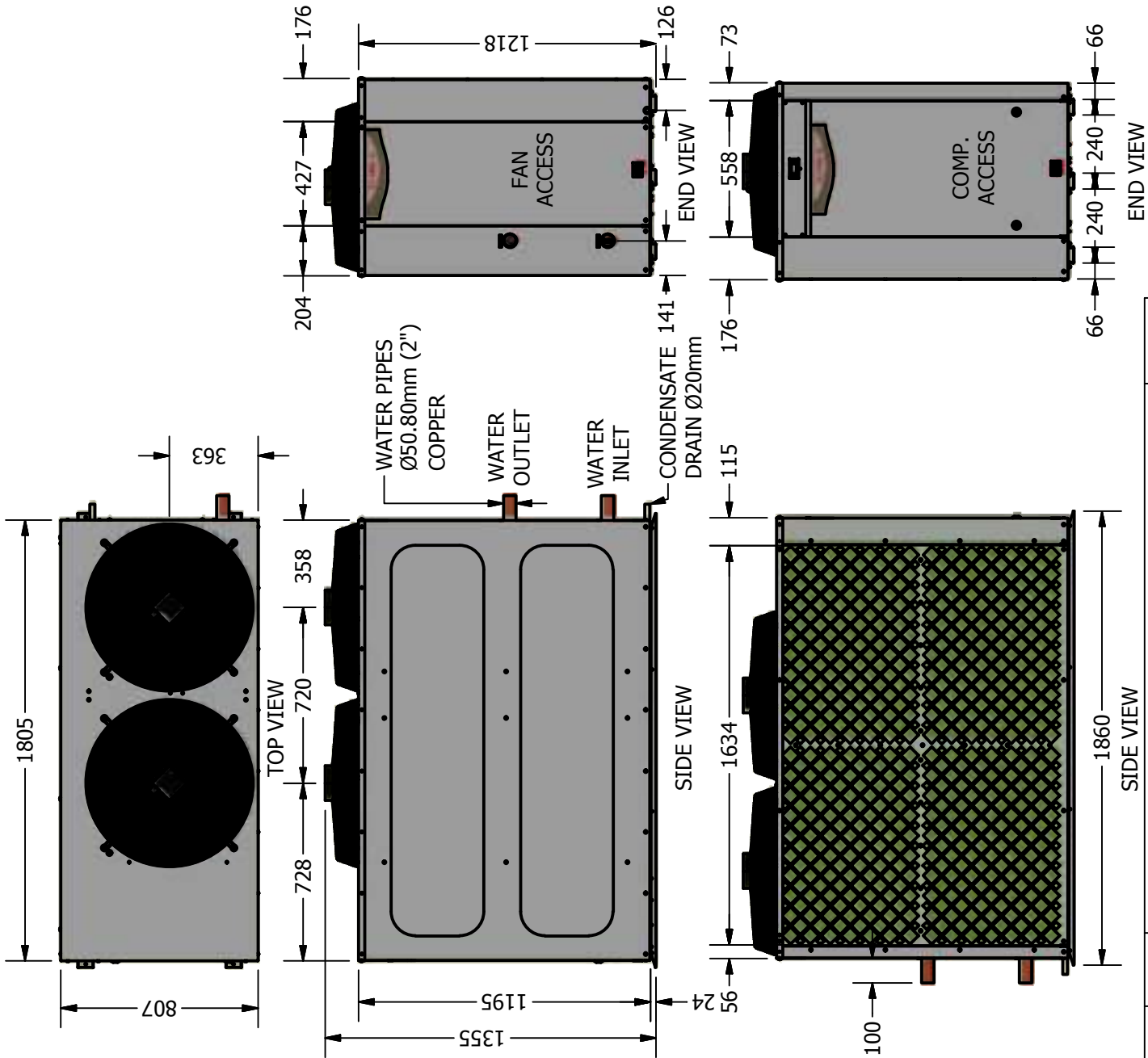
When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C



**Rheem**  
 THERMAL SYSTEMS GROUP

<b>Description:</b>		RHEEM THERMAL A2W RTHW		SHEET 1 OF 3	
<b>Part No:</b>	RTHW050KS-DEV-1	<b>Rev.</b>		<b>Date:</b>	22/05/2018
<b>Material:</b>		<b>Checked By:</b>	JPB	<b>Scale:</b>	N.T.S
<b>Drawn By:</b>		Sheetmetal - Cut Size - ±0.5mm, Angle - ±0.5°, Bend size - ±0.3mm			
<b>General Tolerance:</b>		Tubes - Dimensions +2, Angle ±2			

REV	ECN	DESCRIPTION	DATE



REV	ECN	DESCRIPTION	DATE
01	0383	ADDED MINI IQ	21/02/20

**Rheem**  
 THERMAL SYSTEMS GROUP

**Description:** RHEEM THERMAL A2W RTHW  
**Part No:** RTHW050KS-DQV-1  
**Material:**  
**Drawn By:** JPB  
**Checked By:**  
**General Tolerance:** Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm  
 Tubes - Dimensions ± 2, Angle ± 2

**Scale:** N.T.S

**Rev:** 1  
**Date:** 15/06/2018

**SHEET 1 OF 3**

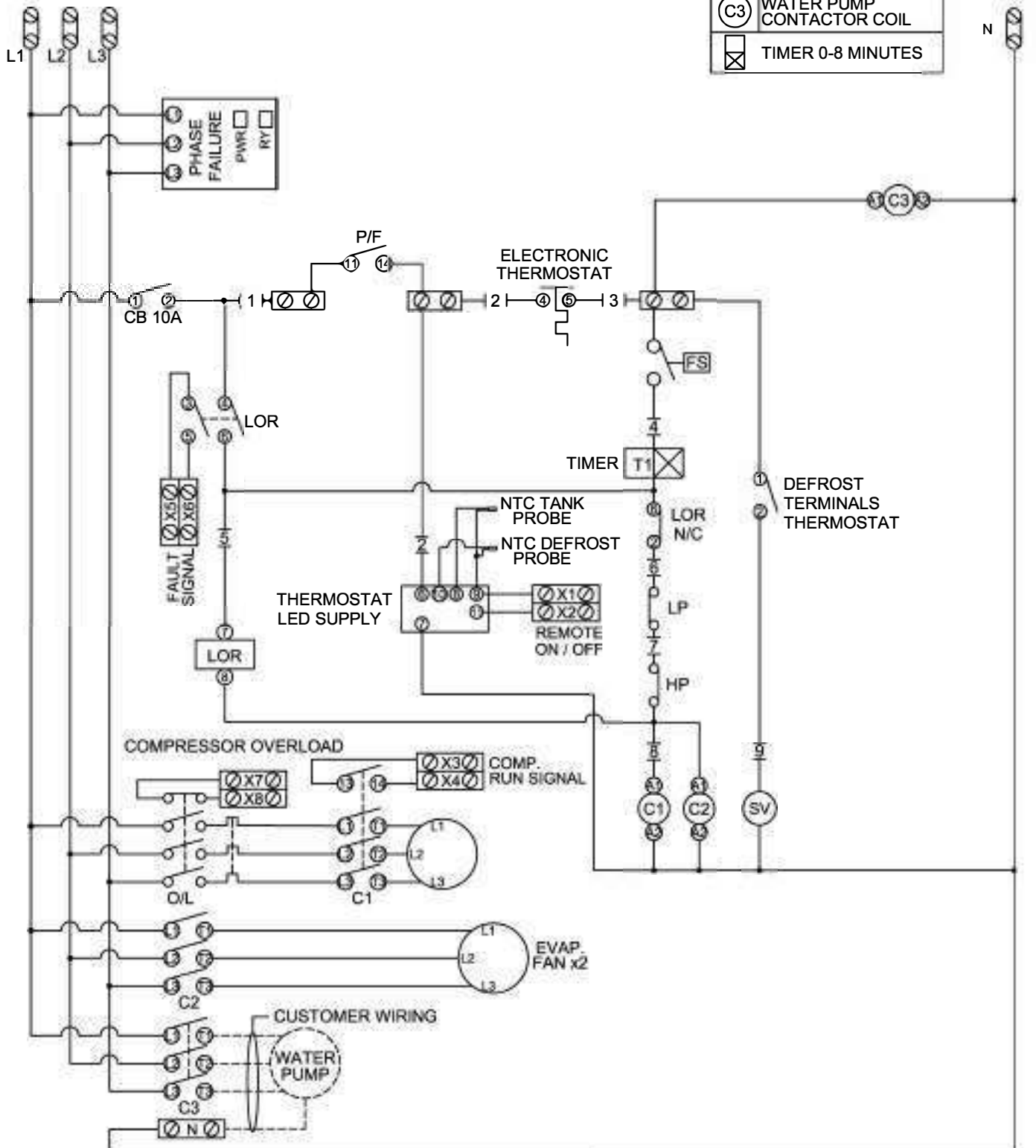


# WIRING DIAGRAM FOR 3Ø WITH WATER PUMP.

**TO USE REMOTE ON/OFF**

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	FAN CONTACTOR
C3	PUMP CONTACTOR
CB	CIRCUIT BREAKER
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	EVAP. FAN CONTACTOR COIL
(C3)	WATER PUMP CONTACTOR COIL
⊗	TIMER 0-8 MINUTES



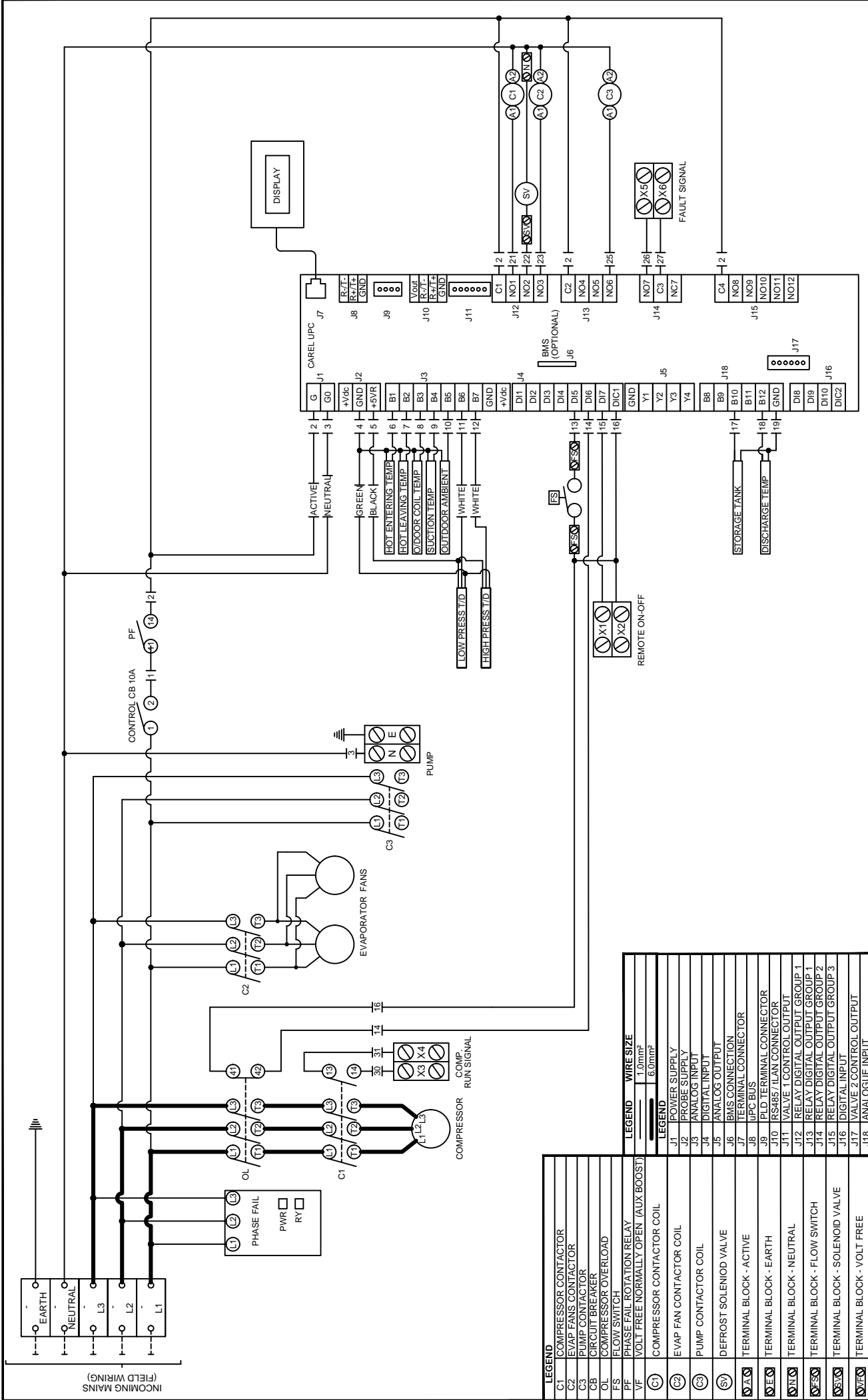
REV	ECN	DESCRIPTION	DATE
01	0373	COMPRESSOR OVERLOAD ADDED	10/10/2019
02	0377	ADDITIONAL MODELS ADDED	05/11/2019

**Rheem**  
 THERMAL SYSTEMS GROUP

43 Marigold Street  
 Revesby NSW 2212  
 Phone: (02) 9684 3684  
 Fax: (02) 9684 3698

Drawn By: B.Fleming    Date: 5/8/2019

RTHW048 / 050	Rev:
RTHW062 / 065	02
Part No:	47112E



REV	ECN	DESCRIPTION	DATE

		<b>Rheem</b> THERMAL SYSTEMS GROUP	
43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		<b>RTHW050 on R407C</b>	
Drawn By:	J. Bates	Date:	19/02/2020
Part No:	47188E	Rev:	00

<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger / thermostat control	<b>RTHW065KS-DEV-1</b>
Double wall heat exchanger / thermostat control	<b>RTHW065KV-DEV-1</b>
Single wall heat exchanger / Rheem IQ control	<b>RTHW065KS-DQV-1</b>
Double wall heat exchanger / Rheem IQ control	<b>RTHW065KV-DQV-1</b>

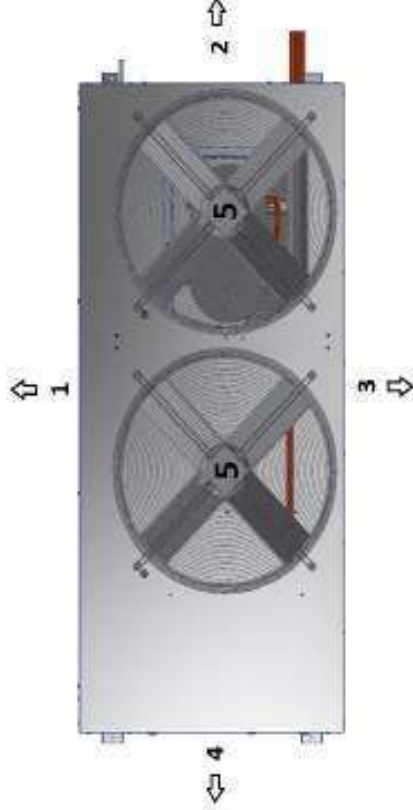
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	33.6 FLA / 174 LRA
Min. Circuit Size	50.0 Amps
Refrigerant	R407C
Nominal Heating capacity	68.01 kW
Power input	13.93 kW
COP	4.88
Noise Level	69 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	27.7 Amps

<b>TECHNICAL DATA</b>	
Make	<b>Compressor</b> Copeland
Type	Scroll 20056
Number Per Unit	1
FLA (Full Load Amps)	31.2 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900
Air Flow	N/A
	<b>Fan</b> EBM-Papst
	Axial
	2
	1.2 Amps (Each)
	380 - 415 / 3
	6/890
	4700 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	2.71 L/s
Max. Outlet Water Temp	61°C / 65°C*
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa
<b>GENERAL INFORMATION</b>	
Water Connections	50.8mm (2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	300 kg
Size L x W x H	1805mm x 807mm x 1355mm

**COP TABLE**

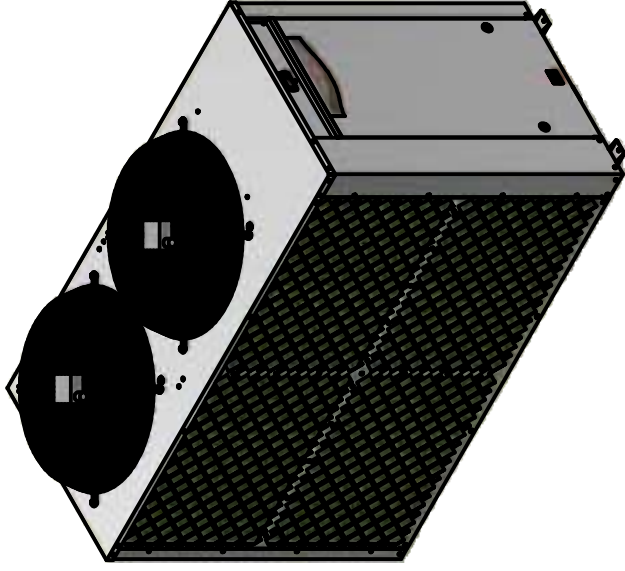
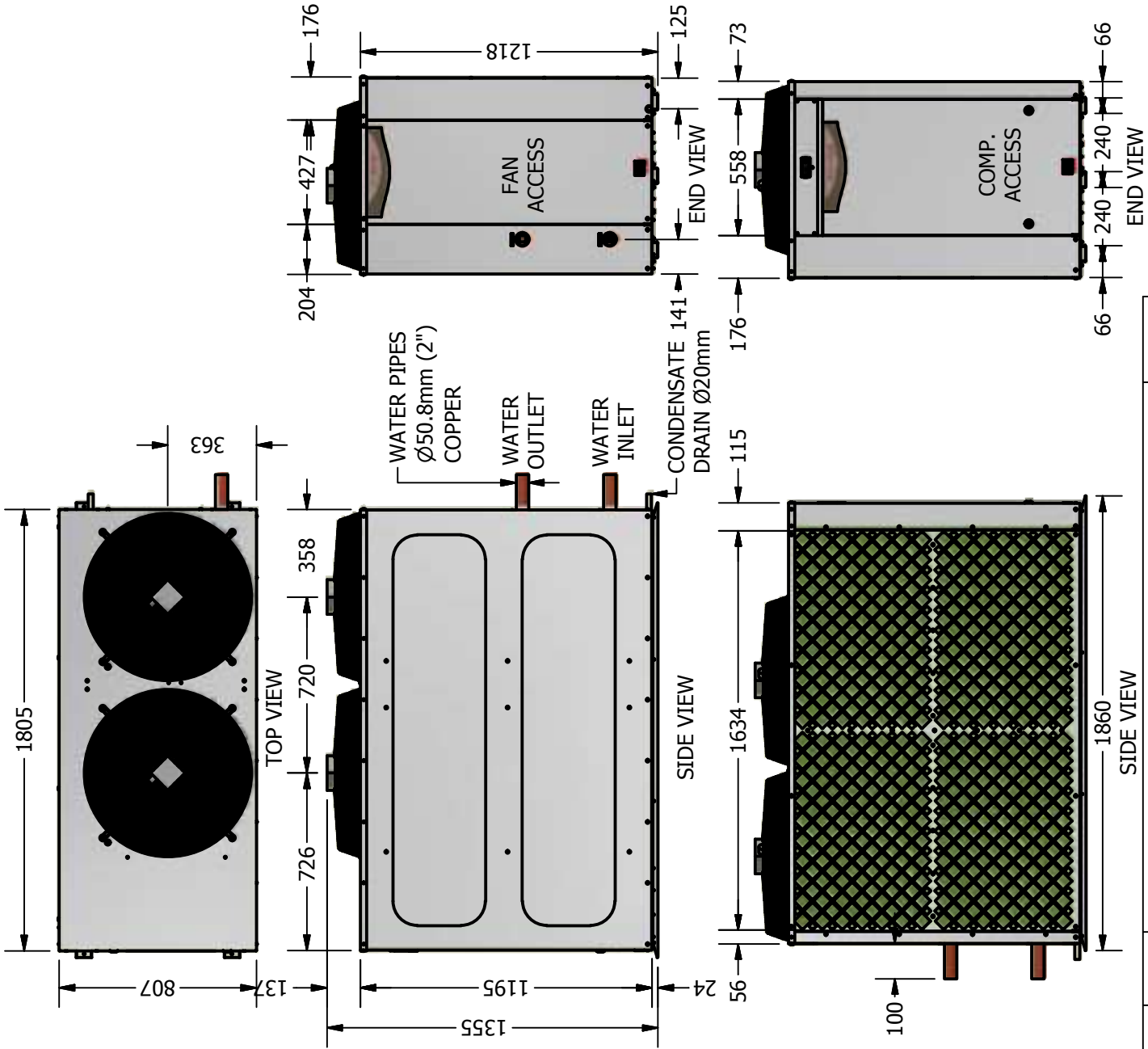
Water Out °C	Ambient Temperature						
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C
45 °C	39.62 kW	44.72 kW	50.11 kW	54.88 kW	60.27 kW	64.01 kW	68.01 kW
	2.89 COP	3.25 COP	3.63 COP	3.98 COP	4.35 COP	4.61 COP	4.88 COP
50 °C	36.33 kW	43.16 kW	48.68 kW	53.28 kW	58.45 kW	62.04 kW	65.82 kW
	2.38 COP	2.82 COP	3.18 COP	3.47 COP	3.81 COP	4.03 COP	4.28 COP
55 °C	34.01 kW	40.61 kW	47.59 kW	52.00 kW	57.00 kW	60.40 kW	64.10 kW
	2.04 COP	2.43 COP	2.85 COP	3.11 COP	3.41 COP	3.62 COP	3.84 COP
60 °C	N/A	38.97 kW	45.93 kW	50.68 kW	55.48 kW	58.80 kW	62.34 kW
		2.15 COP	2.53 COP	2.79 COP	3.05 COP	3.23 COP	3.42 COP
							3.50 COP



<b>UNIT CLEARANCES</b>	
Direction	Description
1	Evaporator Coil
2	Water Connections
3	Plain Back
4	Compressor Access
5	Top - Fan Discharge
	Minimum Clearance Required
	1000mm
	500mm
	Nil
	850mm
	3500mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C



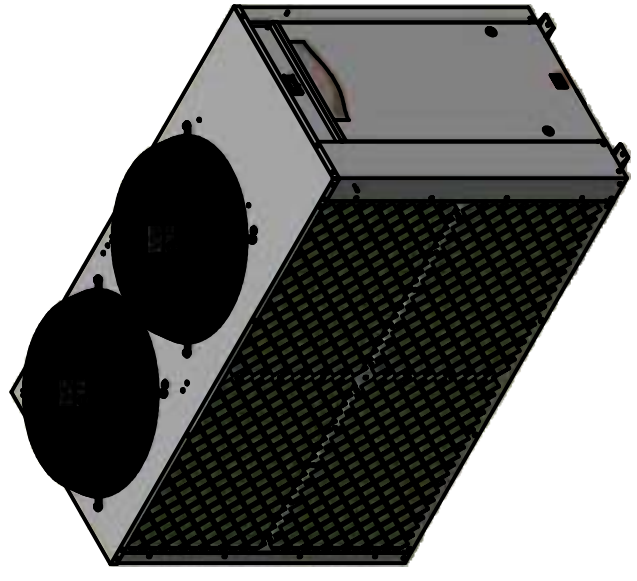
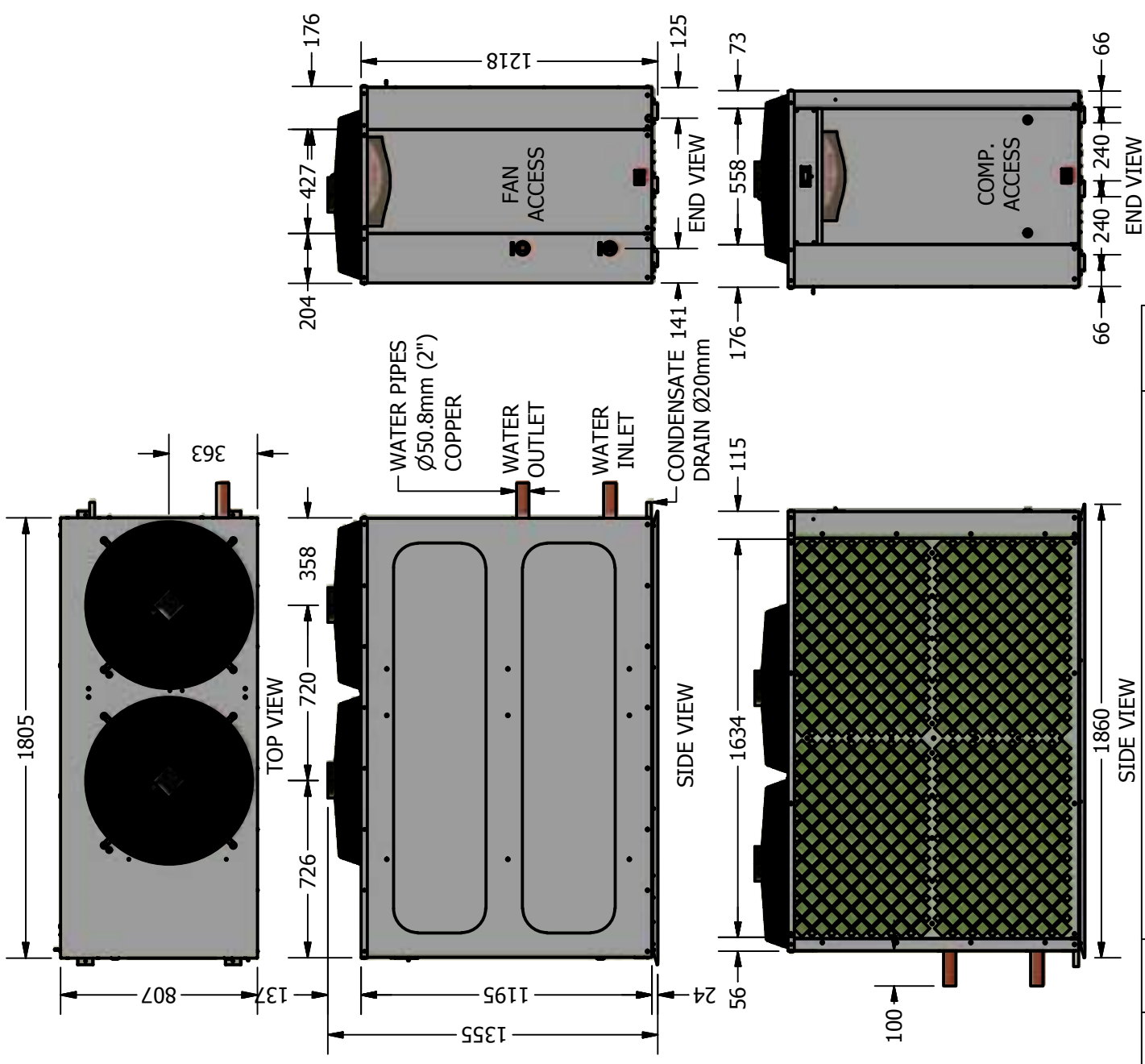


**Rheem**  
 THERMAL SYSTEMS GROUP

SHEET 1 OF 3

<b>Description:</b>	RHEEM THERMAL A2W RTHW	
<b>Part No:</b>	RTHW065KS-DEV-1	<b>Rev.</b>
<b>Material:</b>		<b>Date:</b> 22/05/2018
<b>Drawn By:</b>	JPB	<b>Checked By:</b>
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions ± 2, Angle ± 2	
		<b>Scale:</b> N.T.S

REV	ECN	DESCRIPTION	DATE



**Rheem**  
 THERMAL SYSTEMS GROUP

<b>Description:</b>		RHEEM THERMAL A2W RTHW	
<b>Part No:</b>	RTHW065KS-DQV-1	<b>Rev.</b>	1
<b>Material:</b>		<b>Date:</b>	15/06/2018
<b>Drawn By:</b>	JPB	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2		
		<b>Scale:</b>	N.T.S

SHEET 1 OF 3

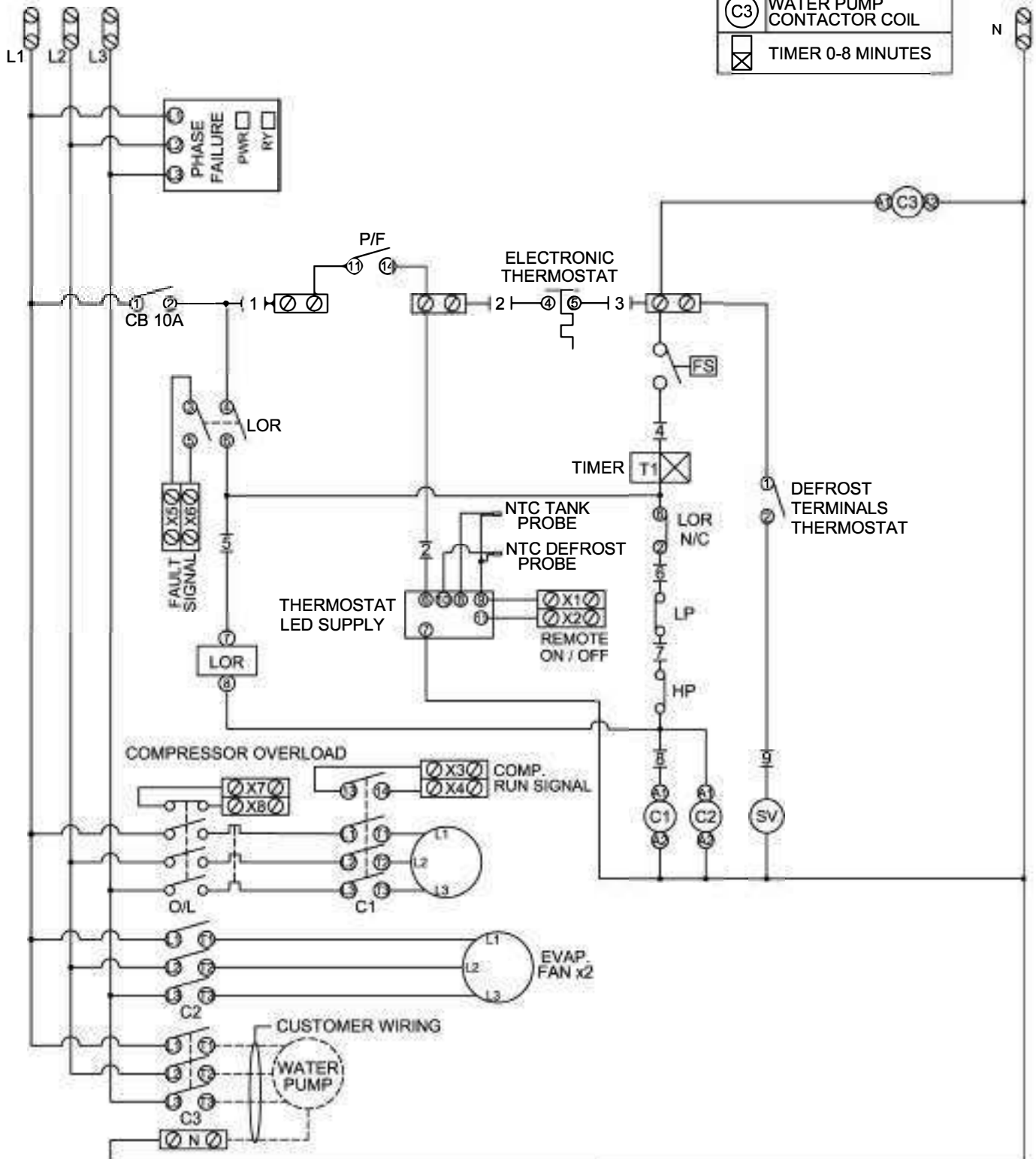
REV	ECN	DESCRIPTION	DATE
01	0383	ADDED MINI IQ	21/02/20

# WIRING DIAGRAM FOR 3Ø WITH WATER PUMP.

**TO USE REMOTE ON/OFF**

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	FAN CONTACTOR
C3	PUMP CONTACTOR
CB	CIRCUIT BREAKER
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	EVAP. FAN CONTACTOR COIL
(C3)	WATER PUMP CONTACTOR COIL
⊠	TIMER 0-8 MINUTES



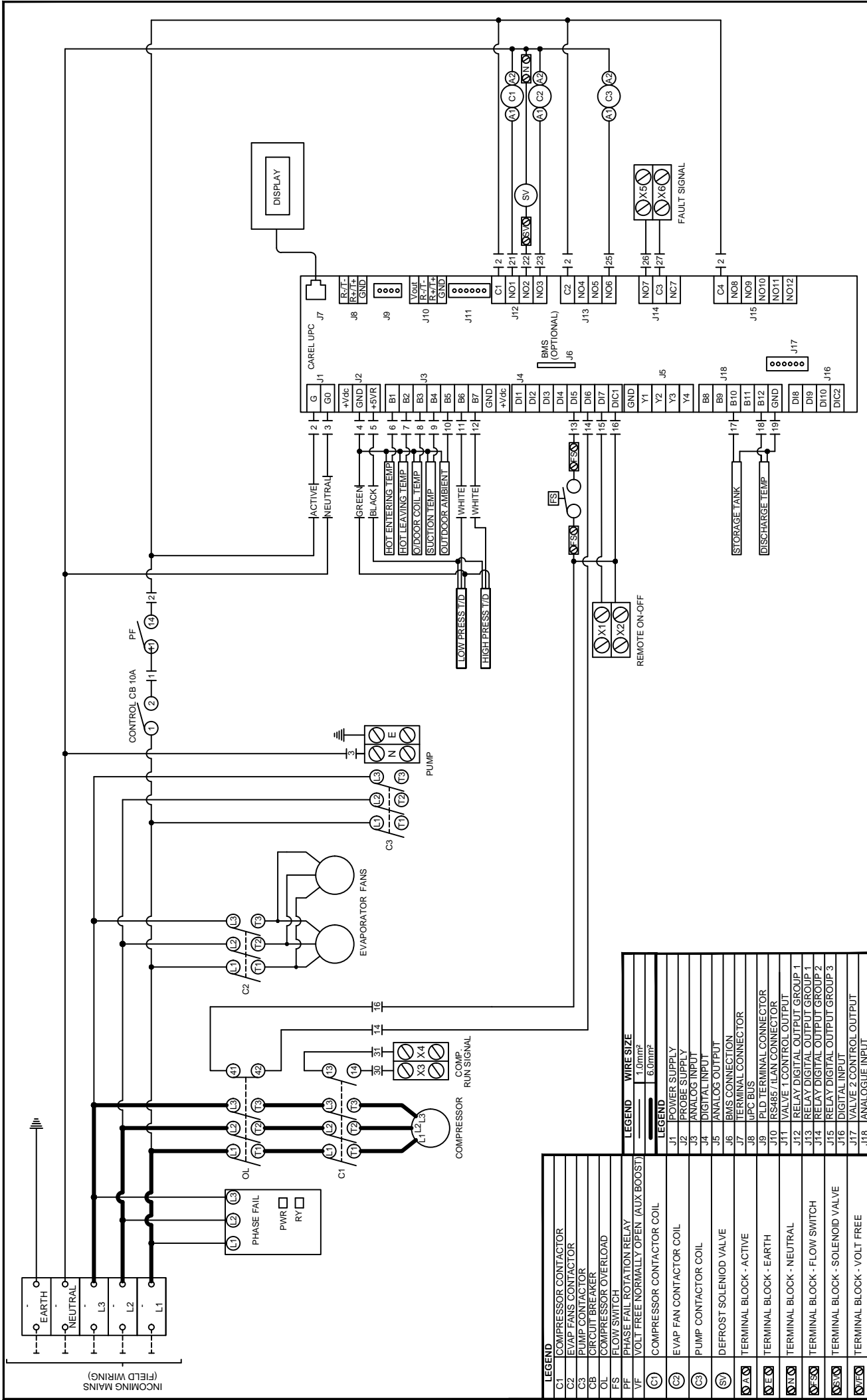
REV	ECN	DESCRIPTION	DATE
01	0373	COMPRESSOR OVERLOAD ADDED	10/10/2019
02	0377	ADDITIONAL MODELS ADDED	05/11/2019

**Rheem**  
THERMAL SYSTEMS GROUP

43 Marigold Street  
Revesby NSW 2212  
Phone: (02) 9684 3684  
Fax: (02) 9684 3698

Drawn By: B.Fleming Date: 5/8/2019

RTHW048 / 050	Rev:
RTHW062 / 065	02
Part No:	47112E



43 Marigold Street  
 Revesby NSW 2212  
 Phone: (02) 9684 3684  
 Fax: (02) 9684 3698

# RTHW065 on R407C

Part No: **47092E** Rev: **02**

Drawn By: **J. Bates** Date: **11/06/2019**

REV	ECN	DESCRIPTION	DATE
01	0349	Flow Switch ADDED FS	01/07/19
02	0383	Added compressor overload & unit description	17/02/20

**HOT WATER HEAT PUMP SPECIFICATIONS**

Single wall heat exchanger / thermostat control	<b>RTHW087KS-DEV-1</b>
Double wall heat exchanger / thermostat control	<b>RTHW087KV-DEV-1</b>
Single wall heat exchanger / Rheem IQ control	<b>RTHW087KS-DQV-1</b>
Double wall heat exchanger / Rheem IQ control	<b>RTHW087KV-DQV-1</b>

**ELECTRICAL INPUT**

Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	40.9 FLA / 225 LRA
Min. Circuit Size	50.0 Amps
Refrigerant	R407C
Nominal Heating capacity	91.41 kW
Power input	18.79 kW
COP	4.86 COP
Noise Level	69 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	31.9 Amps

**TECHNICAL DATA**

Make	<b>Compressor</b> Copeland	<b>Fan</b> EBM-Papst
Type	Scroll 20092	Axial
Number Per Unit	1	2
FLA (Full Load Amps)	37.5 Amps (Each)	1.7 Amps (Each)
Voltage / Phase	380 - 415 / 3	380 - 415 / 3
Pole/RPM	2/2,900	6/890
Air Flow	N/A	7334 L/s

**HEAT EXCHANGER (Water Side)**

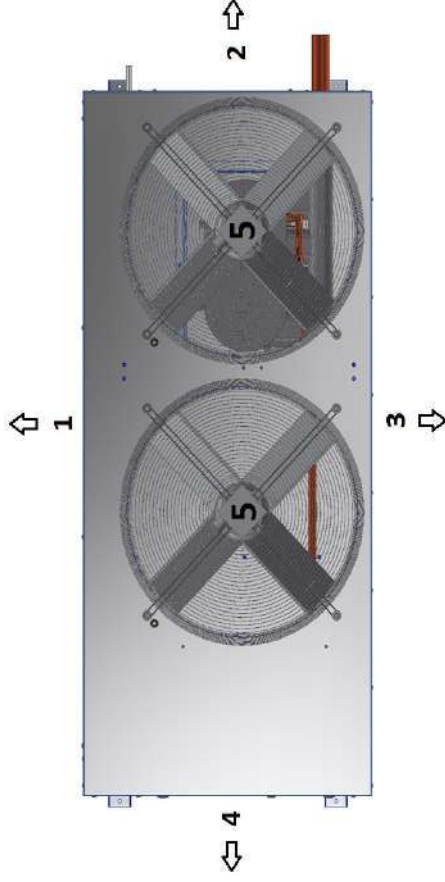
Type of Water Tube	Single Wall	Double Wall
Design	Shell and Tube	Co-axial Vented
Flow Rate Excl. By Pass	3.64 L/s	
Max. Outlet Water Temp	61°C / 65°C*	
Design Pressure Drop	50 kPa	
Max. Operating Pressure	2,450 kPa	

**GENERAL INFORMATION**

Water Connections	63.5mm (2 1/2") Copper
Drain	20mm Aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	500 kg
Size L x W x H	2200mm x 1130mm x 1180mm

**COP TABLE**

Water Out °C	Ambient Temperature							
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C
45 °C	54.07 kW 2.95 COP	59.73 kW 3.26 COP	66.58 kW 3.61 COP	72.81 kW 3.93 COP	79.91 kW 4.28 COP	84.81 kW 4.53 COP	91.41 kW 4.86 COP	93.26 kW 4.95 COP
50 °C	52.53 kW 2.63 COP	58.96 kW 2.95 COP	65.39 kW 3.27 COP	71.45 kW 3.55 COP	78.28 kW 3.87 COP	83.05 kW 4.09 COP	89.46 kW 4.38 COP	91.24 kW 4.46 COP
55 °C	48.90 kW 2.21 COP	56.50 kW 2.54 COP	64.10 kW 2.87 COP	69.80 kW 3.12 COP	76.37 kW 3.39 COP	80.90 kW 3.58 COP	87.10 kW 3.84 COP	88.79 kW 3.91 COP
60 °C	N/A	54.15 kW 2.24 COP	62.45 kW 2.56 COP	68.68 kW 2.81 COP	75.01 kW 3.05 COP	79.38 kW 3.22 COP	85.34 kW 3.45 COP	86.97 kW 3.51 COP



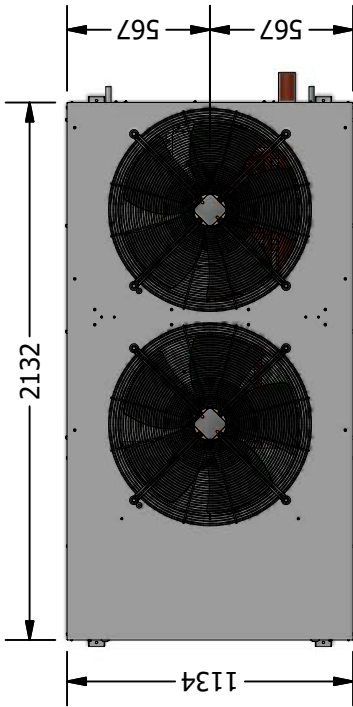
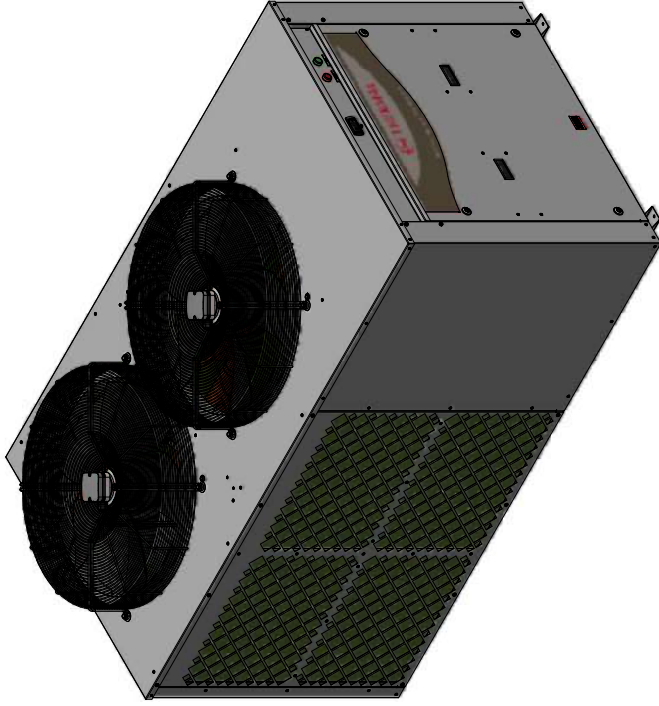
**UNIT CLEARANCES**

Direction	Description	Minimum Clearance Required
1	Evaporator Coil	1000 mm
2	Water Connections	850 mm
3	Evaporator Coil	1000 mm
4	Compressor Access	850 mm
5	Top - Fan Discharge	3500 mm

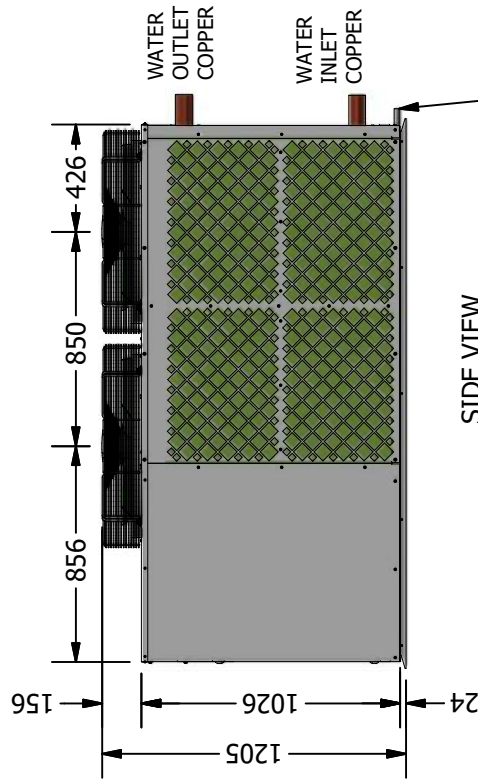
When units placed side by side allow 2000mm between evaporator coils.  
Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out

\* Max outlet temperature when ambient is above 20°C

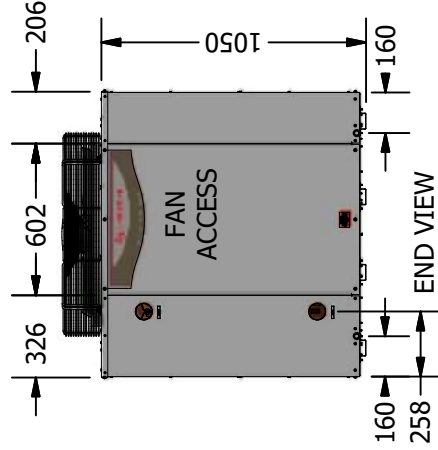




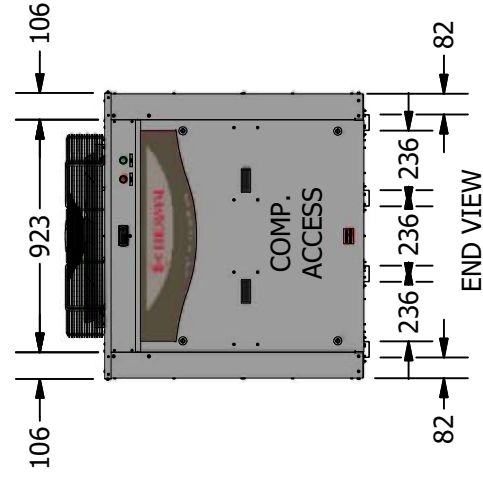
TOP VIEW



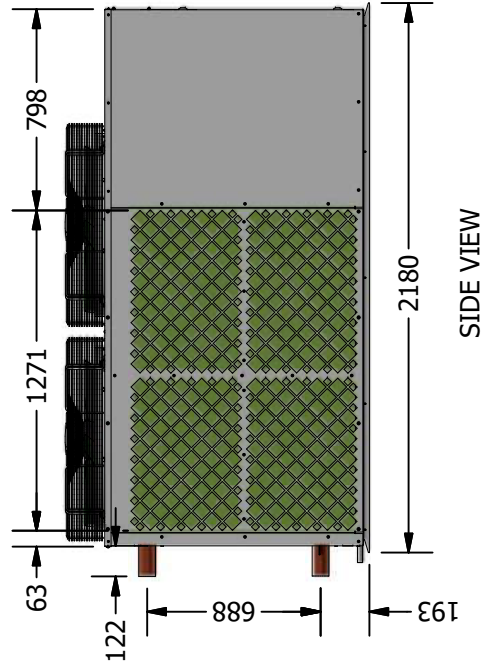
SIDE VIEW



END VIEW



END VIEW

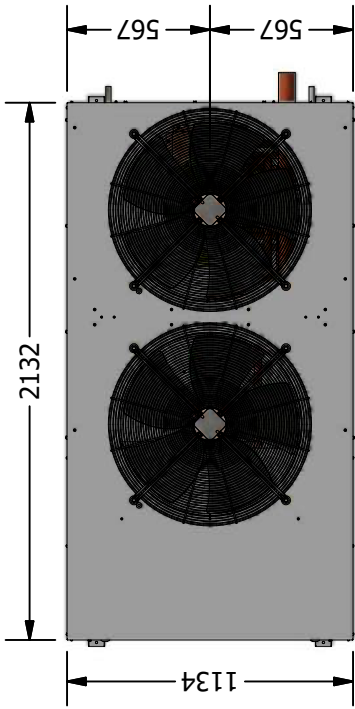


SIDE VIEW

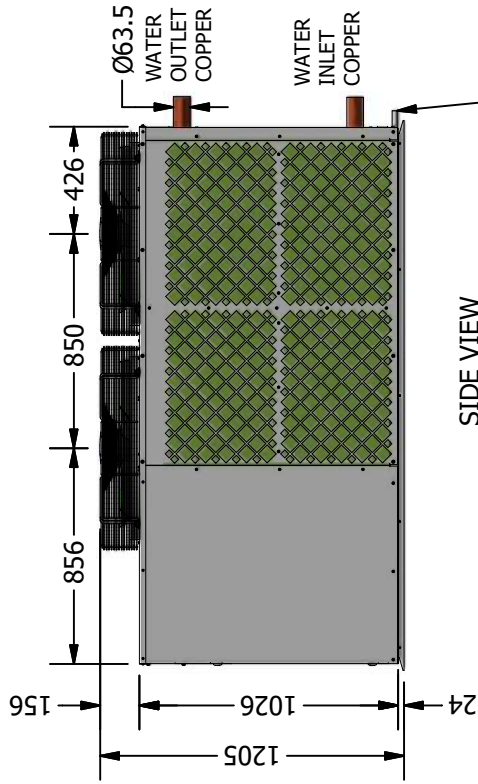


**Rheem**  
THERMAL SYSTEMS GROUP

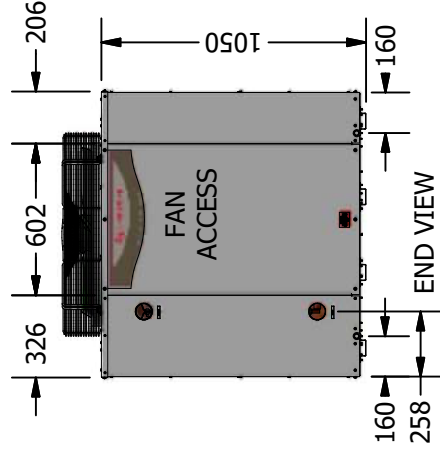
<b>Description:</b>	RHEEM THERMAL A2W HWHP 87kW R407C		
<b>Part No:</b>	RTHW087KS-DEV-1	<b>Rev.</b>	
<b>Material:</b>		<b>Date:</b>	30/04/2020
<b>Drawn By:</b>	ST	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions ± 2, Angle ± 2°		
		<b>Scale:</b>	N.T.S



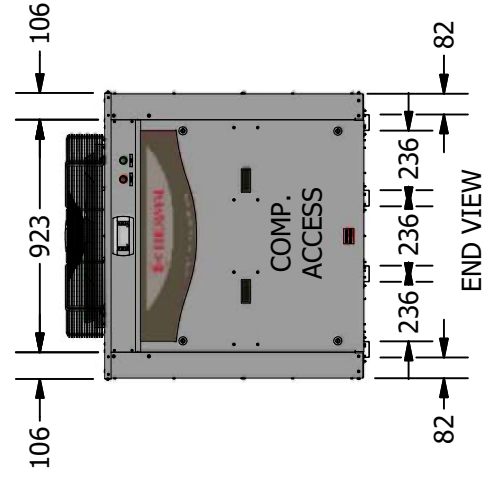
TOP VIEW



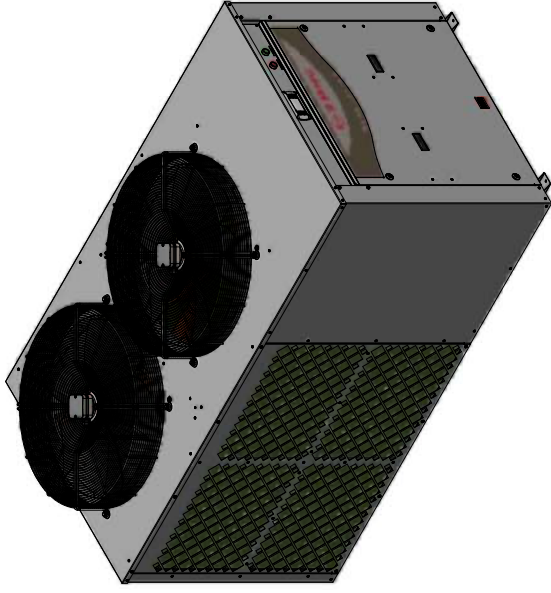
SIDE VIEW



END VIEW



SIDE VIEW



**Rheem**  
THERMAL SYSTEMS GROUP

SHEET 1 OF 3

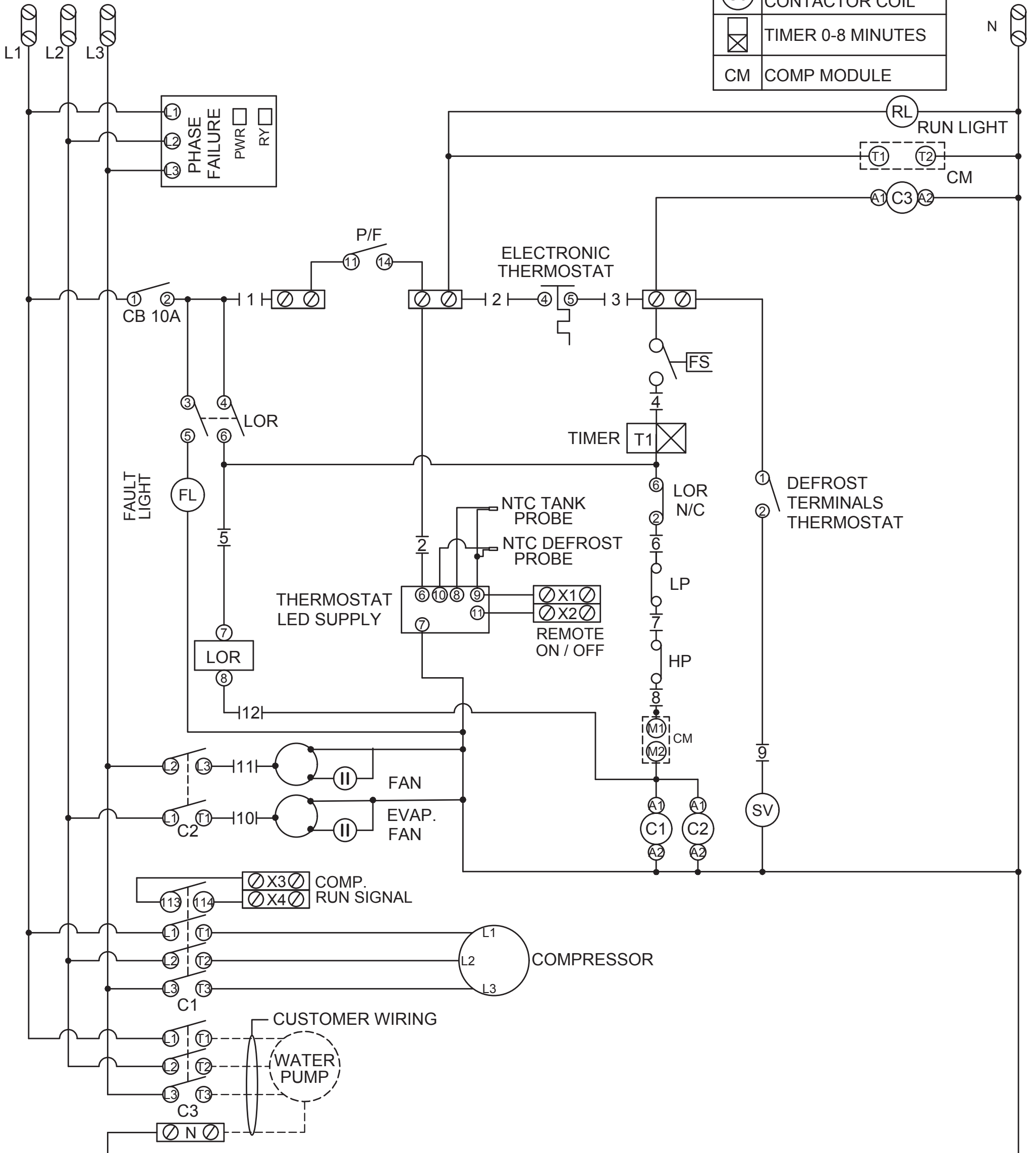
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<b>Part No:</b>	RTHW087KS-DQV-1	<b>Rev.</b>	
<b>Material:</b>			
<b>Drawn By:</b>	ST	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions ± 2, Angle ± 2°		<b>Date:</b> 14/12/2018
			<b>Scale:</b> N.T.S

# WIRING DIAGRAM FOR 3Ø WITH WATER PUMP.

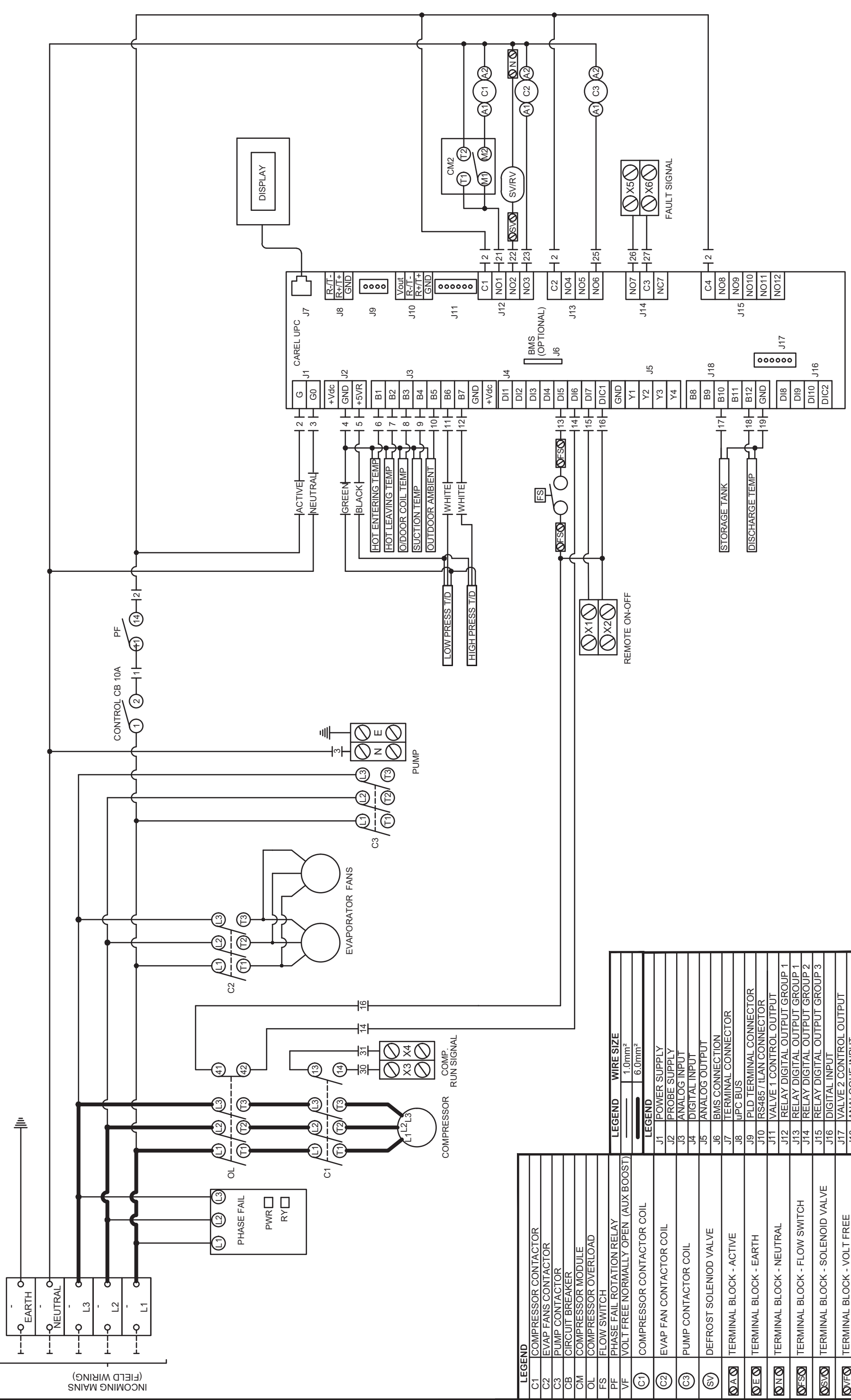
TO USE REMOTE ON/OFF

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	FAN CONTACTOR
C3	PUMP CONTACTOR
CB	CIRCUIT BREAKER
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	EVAP. FAN CONTACTOR COIL
(C3)	WATER PUMP CONTACTOR COIL
(X)	TIMER 0-8 MINUTES
CM	COMP MODULE



REV	ECN	DESCRIPTION	DATE	Rheem THERMAL SYSTEMS GROUP		43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		RTHW087KS-DEV-1	
01	0403	WIRE No 12 CHANGE	22/09/20	Drawn By:	B.Fleming	Date:	21/09/2020	Part No:	47237E
								Rev:	01



REV	ECN	DESCRIPTION
01	0414	ADDED SV/RV

LEGEND	WIRE SIZE
—	1.0mm <sup>2</sup>
—	6.0mm <sup>2</sup>

LEGEND	DESCRIPTION
J1	POWER SUPPLY
J2	PROBE SUPPLY
J3	ANALOG INPUT
J4	DIGITAL INPUT
J5	ANALOG OUTPUT
J6	BMS CONNECTION
J7	TERMINAL CONNECTOR
J8	uPC BUS
J9	PLD TERMINAL CONNECTOR
J10	RS485/ILAN CONNECTOR
J11	VALVE 1 CONTROL OUTPUT
J12	RELAY DIGITAL OUTPUT GROUP 1
J13	RELAY DIGITAL OUTPUT GROUP 2
J14	RELAY DIGITAL OUTPUT GROUP 3
J15	RELAY DIGITAL OUTPUT GROUP 3
J16	DIGITAL INPUT
J17	VALVE 2 CONTROL OUTPUT
J18	ANALOGUE INPUT



43 Marigold Street  
Revesby NSW 2212  
Phone: (02) 9684 3684  
Fax: (02) 9684 3698

# RTHW087 on R407C

Part No:

Rev: 00

Drawn By: J.Bates

Date: 20/02/2020

REV	ECN	DESCRIPTION	DATE
01	0414	ADDED SV/RV	04/02/21

<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger / thermostat control	<b>RTHW105KS-DEV-1</b>
Double wall heat exchanger / thermostat control	<b>RTHW105KV-DEV-1</b>
Single wall heat exchanger / Rheem IQ control	<b>RTHW105KS-DQV-1</b>
Double wall heat exchanger / Rheem IQ control	<b>RTHW105KV-DQV-1</b>

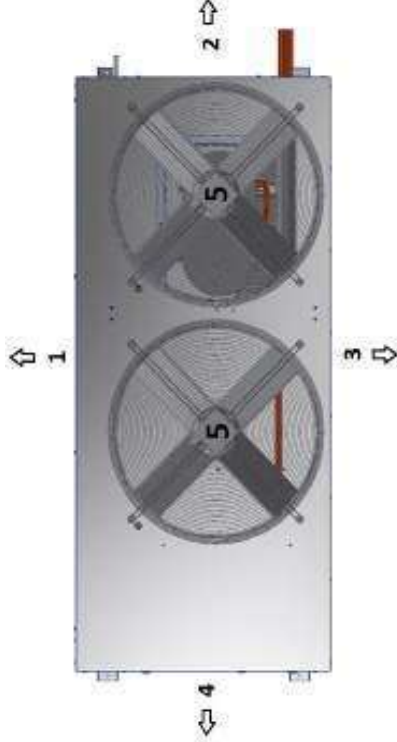
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	47.0 FLA / 118 LRA
Min. Circuit Size	63.0 Amps
Refrigerant	R407C
Nominal Heating capacity	105.28 kW
Power input	20.64 kW
COP	5.10 COP
Noise Level	69 dBA @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	36.6 Amps

<b>TECHNICAL DATA</b>	
Make	<b>Compressor</b> Copeland
Type	Scroll 20018
Number Per Unit	2
FLA (Full Load Amps)	21.8 Amps (Each)
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900
Air Flow	N/A
	<b>Fan</b> EBM-Papst
	Axial
	2
	1.7 Amps (Each)
	380 - 415 / 3
	6/890
	7334 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	4.19 L/s
Max. Outlet Water Temp	61°C / 65°C*
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa
<b>GENERAL INFORMATION</b>	
Water Connections	65mm (2 1/2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	600 kg
Size L x W x H	2130mm x 1135mm x 1375mm

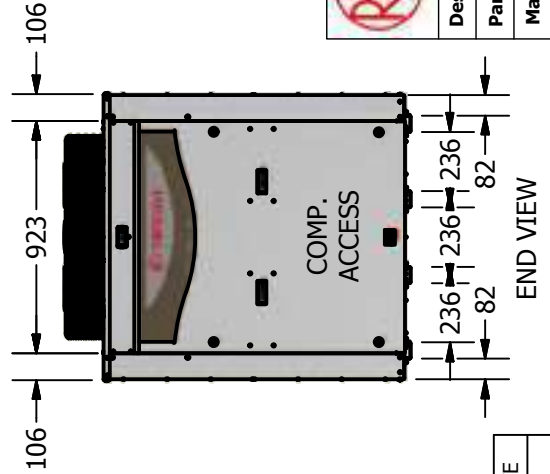
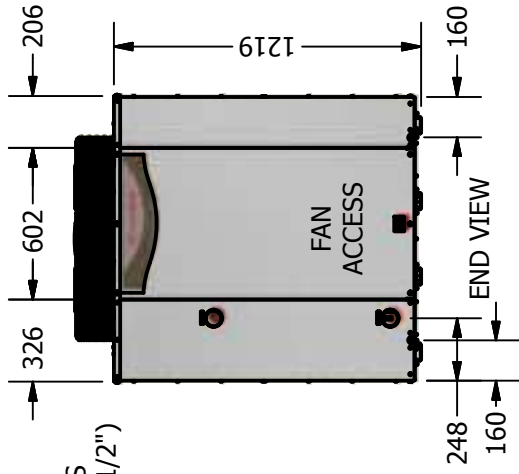
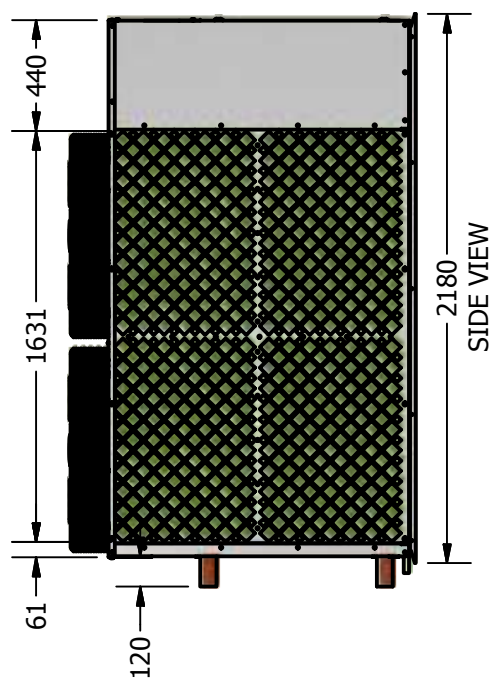
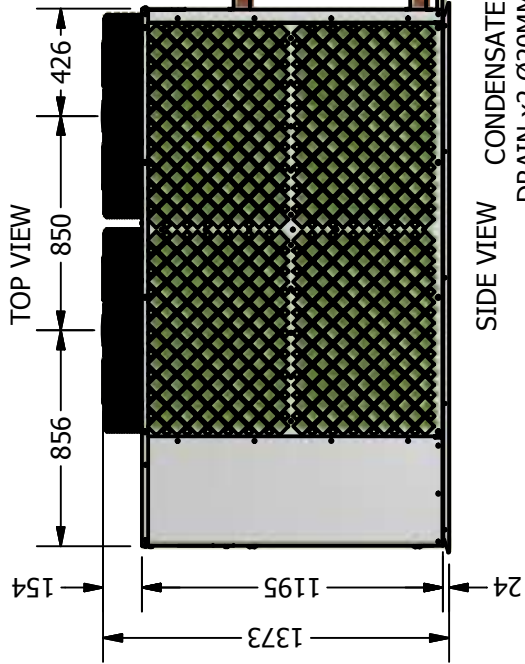
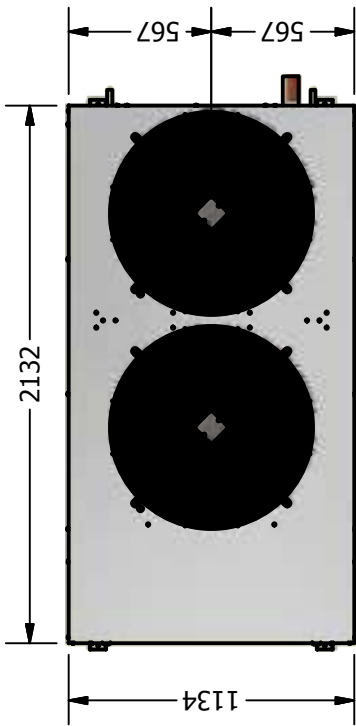
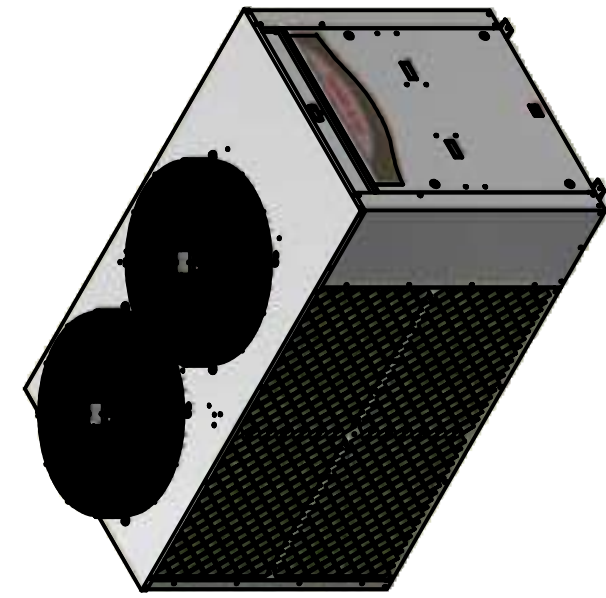
**COP TABLE**

Water Out °C	Ambient Temperature						
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C
45 °C	61.41 kW 3.02 COP	69.19 kW 3.38 COP	77.74 kW 3.78 COP	85.17 kW 4.14 COP	93.47 kW 4.53 COP	99.26 kW 4.81 COP	105.28 kW 5.10 COP
50 °C	59.26 kW 2.67 COP	67.62 kW 3.04 COP	75.98 kW 3.39 COP	83.30 kW 3.72 COP	91.33 kW 4.06 COP	96.80 kW 4.31 COP	102.80 kW 4.57 COP
55 °C	55.28 kW 2.20 COP	64.56 kW 2.57 COP	73.84 kW 2.94 COP	80.80 kW 3.22 COP	88.47 kW 3.53 COP	93.80 kW 3.74 COP	99.40 kW 3.96 COP
60 °C	N/A	61.07 kW 2.22 COP	71.03 kW 2.58 COP	78.51 kW 2.86 COP	86.12 kW 3.13 COP	91.24 kW 3.32 COP	96.68 kW 3.52 COP



<b>UNIT CLEARANCES</b>	
Direction	Description
1	Evaporator Coil
2	Water Connections
3	Evaporator Coil
4	Compressor Access
5	Top - Fan Discharge
	Minimum Clearance Required
	1000mm
	500mm
	1000mm
	850mm
	3500mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C



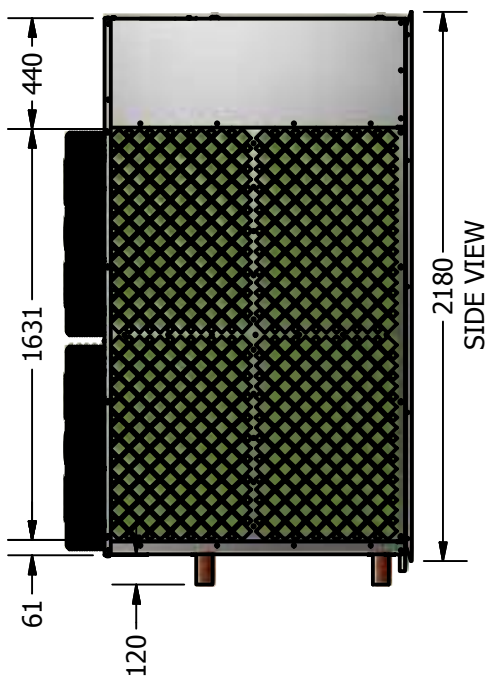
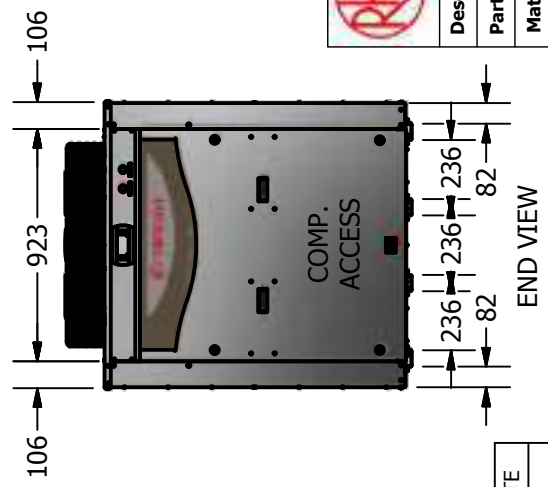
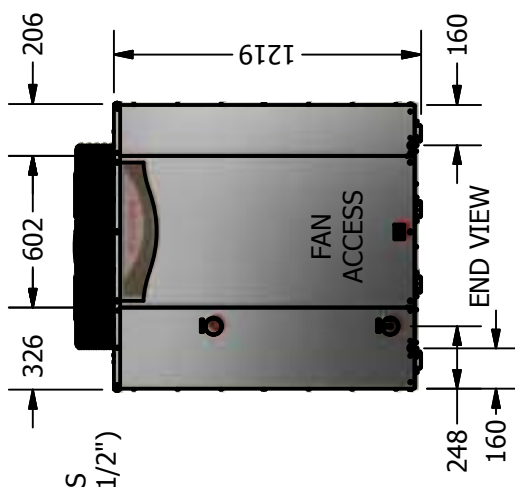
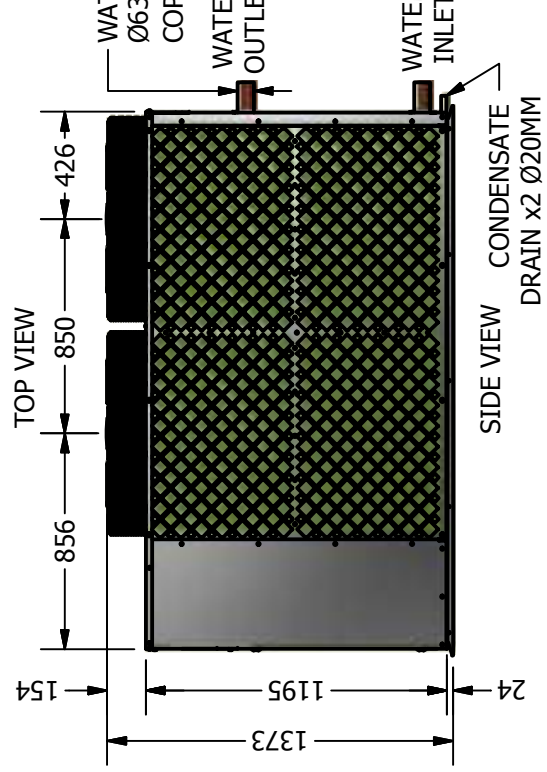
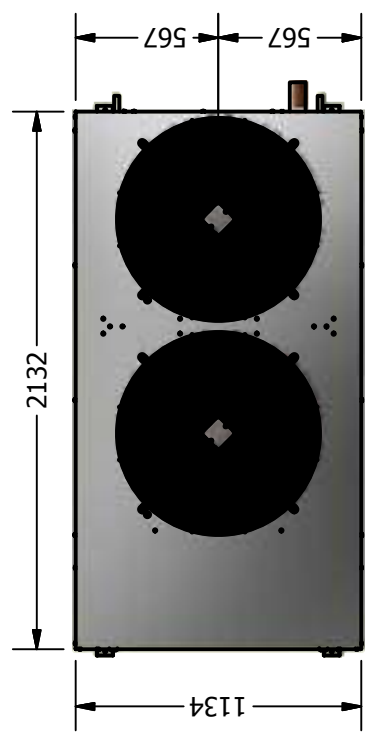
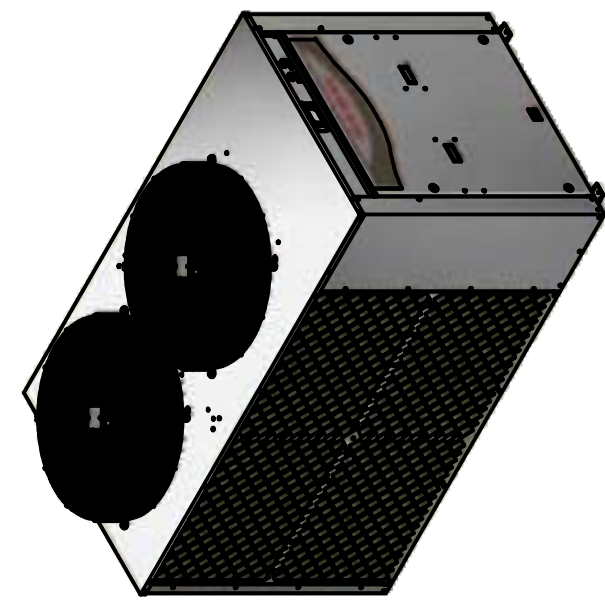
REV	ECN	DESCRIPTION	DATE



THERMAL SYSTEMS GROUP

SHEET 1 OF 4

<b>Description:</b>	RHEEM THERMAL A2W RTHW		
<b>Part No:</b>	RTHW105KS-DEV-1	<b>Rev.</b>	
<b>Material:</b>		<b>Date:</b>	22/05/2018
<b>Drawn By:</b>	j.bates	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2		
<b>Scale:</b>	N.T.S		

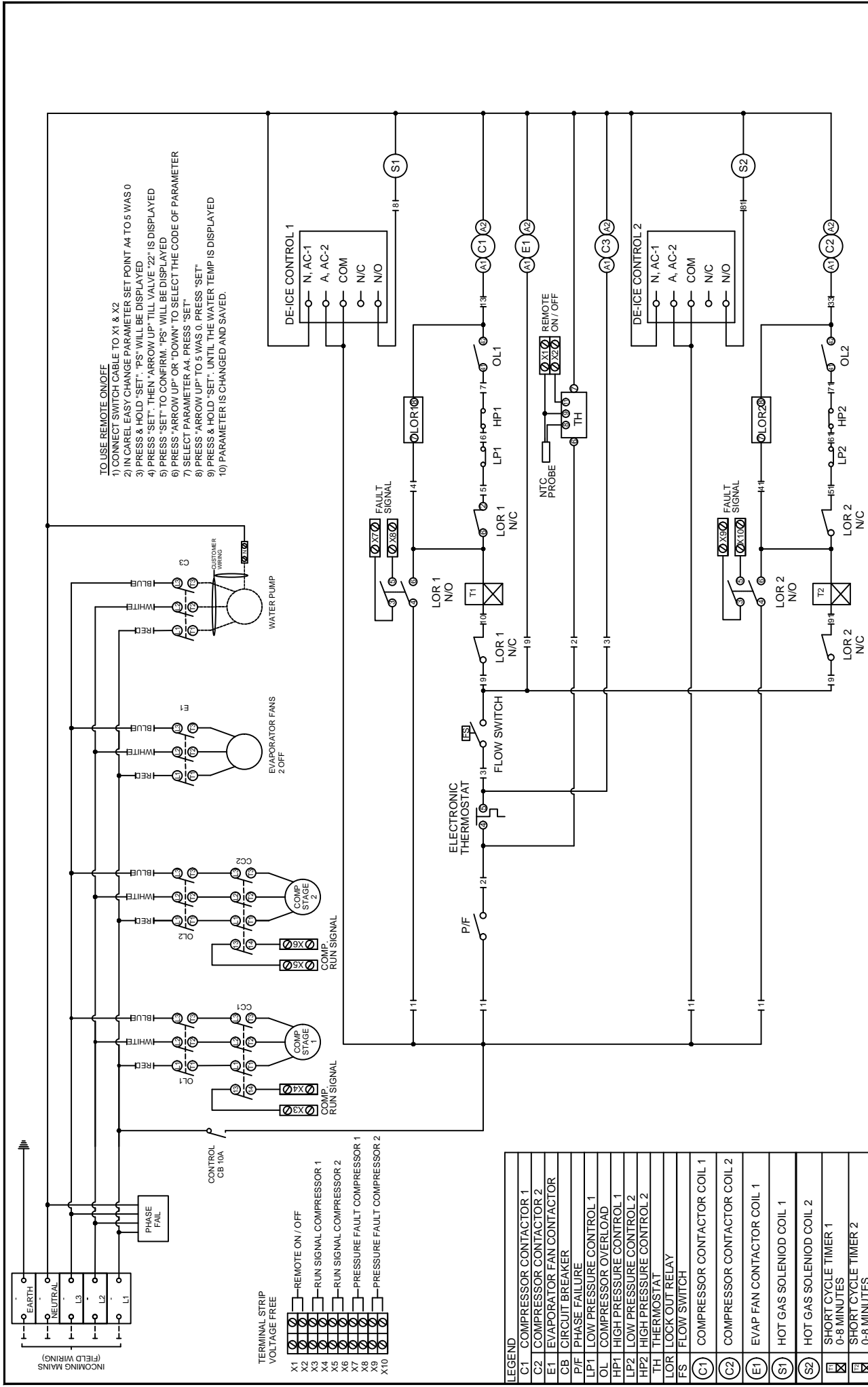


**Rheem**  
THERMAL SYSTEMS GROUP

SHEET 1 OF 4

<b>Description:</b>	RHEEM THERMAL A2W RTHW	
<b>Part No:</b>	RTHW105KS-DQV-1	<b>Rev.</b>
<b>Material:</b>		<b>Date:</b> 15/06/2018
<b>Drawn By:</b>	j.bates	<b>Checked By:</b>
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions ± 2, Angle ± 2°	
		<b>Scale:</b> N.T.S

REV	ECN	DESCRIPTION	DATE



- TO USE REMOTE ON/OFF
- 1) CONNECT SWITCH CABLE TO X1 & X2
  - 2) IN CARE EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
  - 3) PRESS & HOLD "SET", "PS" WILL BE DISPLAYED
  - 4) PRESS "SET", THEN "ARROW UP" TILL "VALVE "22" IS DISPLAYED
  - 5) PRESS "SET" TO CONFIRM, "PS" WILL BE DISPLAYED
  - 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
  - 7) SELECT PARAMETER A4, PRESS "SET"
  - 8) PRESS "ARROW UP" TO 5 WAS 0, PRESS "SET"
  - 9) PRESS & HOLD "SET", UNTIL THE WATER TEMP IS DISPLAYED
  - 10) PARAMETER IS CHANGED AND SAVED.

TERMINAL STRIP VOLTAGE FREE

X1	REMOTE ON / OFF
X2	REMOTE ON / OFF
X3	RUN SIGNAL COMPRESSOR 1
X4	RUN SIGNAL COMPRESSOR 2
X6	RUN SIGNAL COMPRESSOR 1
X7	RUN SIGNAL COMPRESSOR 2
X8	PRESSURE FAULT COMPRESSOR 1
X9	PRESSURE FAULT COMPRESSOR 2
X10	PRESSURE FAULT COMPRESSOR 2

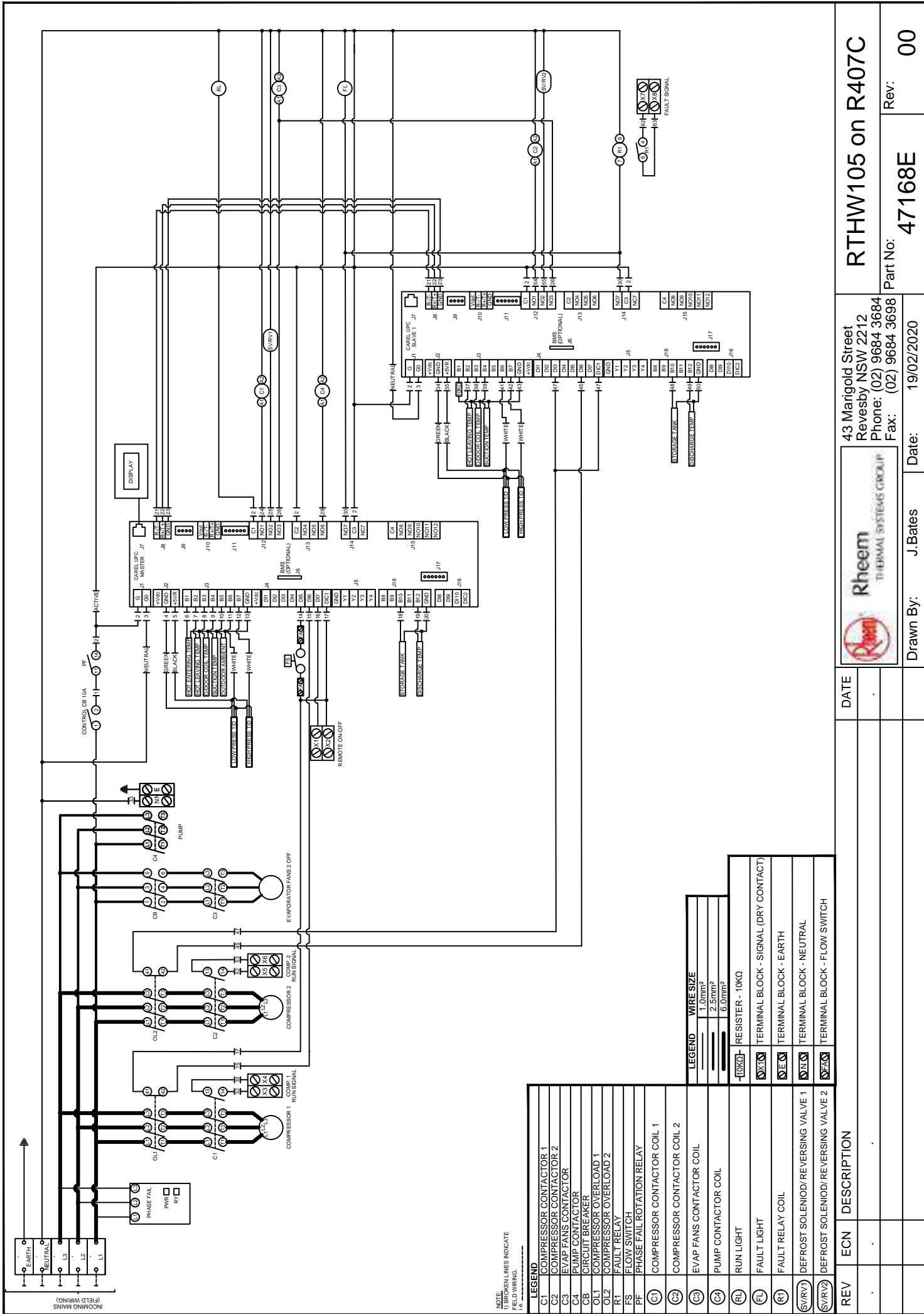
LEGEND

C1	COMPRESSOR CONTACTOR 1
C2	COMPRESSOR CONTACTOR 2
E1	EVAPORATOR FAN CONTACTOR
CB	CIRCUIT BREAKER
P/F	PHASE FAILURE
LP1	LOW PRESSURE CONTROL 1
OL	COMPRESSOR OVERLOAD
HP1	HIGH PRESSURE CONTROL 1
LP2	LOW PRESSURE CONTROL 2
HP2	HIGH PRESSURE CONTROL 2
TH	THERMOSTAT
LOR	LOCK OUT RELAY
FS	FLOW SWITCH
(C1)	COMPRESSOR CONTACTOR COIL 1
(C2)	COMPRESSOR CONTACTOR COIL 2
(E1)	EVAP FAN CONTACTOR COIL 1
(S1)	HOT GAS SOLENIOD COIL 1
(S2)	HOT GAS SOLENIOD COIL 2
(T1)	SHORT CYCLE TIMER 1
(T2)	0-8 MINUTES
(FS)	SHORT CYCLE TIMER 2
(S2)	0-8 MINUTES

		43 Marigold Street Revesby NSW 2212 Australia Phone: +61 2 9684 3684 Fax: +61 2 9684 3698	
REV	ECN	DESCRIPTION	DATE
01	0383	ADDED COMPRESSOR OVERLOAD 1 & 2	18/02/20
Part No: <b>47114E</b>		Drawn By: <b>B.Fleming</b>	Date: <b>24/9/2019</b>
Rev: <b>01</b>		<b>RTHW105 on R407C</b>	

Unit specifications are subject to change without notice.





NOTE:  
 1) BROKEN LINES INDICATE  
 FIELD WIRING.  
 I.E. WIRING NOT SHOWN ON THIS SHEET

LEGEND	DESCRIPTION
C1	COMPRESSOR CONTACTOR 1
C2	COMPRESSOR CONTACTOR 2
C3	EVAP FANS CONTACTOR 2
C4	PUMP CONTACTOR
CB	CIRCUIT BREAKER
OL1	COMPRESSOR OVERLOAD 1
OL2	COMPRESSOR OVERLOAD 2
R1	FAULT RELAY
FS	FLOW SWITCH
PF	PHASE FAIL ROTATION RELAY
C1	COMPRESSOR CONTACTOR COIL 1
C2	COMPRESSOR CONTACTOR COIL 2
C3	EVAP FANS CONTACTOR COIL
C4	PUMP CONTACTOR COIL
RL	RUN LIGHT
FL	FAULT LIGHT
R1	FAULT RELAY COIL
SVR(V1)	DEFROST SOLENOID/REVERSING VALVE 1
SVR(V2)	DEFROST SOLENOID/REVERSING VALVE 2

LEGEND	WIRE SIZE
—	1.0mm <sup>2</sup>
—	2.5mm <sup>2</sup>
—	6.0mm <sup>2</sup>
-10KΩ	RESISTOR - 10KΩ
⊗/⊙	TERMINAL BLOCK - SIGNAL (DRY CONTACT)
⊗/⊙	TERMINAL BLOCK - EARTH
⊗/⊙	TERMINAL BLOCK - NEUTRAL
⊗/⊙	TERMINAL BLOCK - FLOW SWITCH

REV	ECN	DESCRIPTION



43 Marigold Street  
 Revesby NSW 2212  
 Phone: (02) 9684 3684  
 Fax: (02) 9684 3698

RTHW105 on R407C

Part No: 47168E  
 Rev: 00

Drawn By: J.Bates  
 Date: 19/02/2020

DATE	

<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger / thermostat control	<b>RTHW135KS-DEV-1</b>
Double wall heat exchanger / thermostat control	<b>RTHW135KV-DEV-1</b>
Single wall heat exchanger / Rheem IQ control	<b>RTHW135KS-DQV-1</b>
Double wall heat exchanger / Rheem IQ control	<b>RTHW135KV-DQV-1</b>

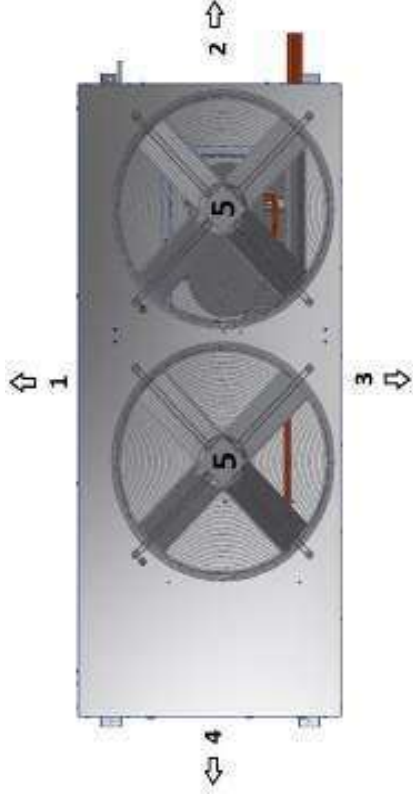
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	65.8 FLA / 174 LRA
Min. Circuit Size	80.0 Amps
Refrigerant	R407C
Nominal Heating capacity	136.02 kW
Power input	27.34 kW
COP	4.98 COP
Noise Level	69 dBA @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	54.0 Amps

<b>TECHNICAL DATA</b>	
<b>Make</b>	<b>Compressor</b>
Copeland	EBM-Papst
Type	Scroll 20056
Number Per Unit	2
FLA (Full Load Amps)	31.2 Amps (Each)
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900
Air Flow	N/A
<b>Make</b>	<b>Fan</b>
EBM-Papst	EBM-Papst
Type	Axial
Number Per Unit	2
FLA (Full Load Amps)	1.7 Amps (Each)
Voltage / Phase	380 - 415 / 3
Pole/RPM	6/890
Air Flow	7334 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	5.41 L/s
Max. Outlet Water Temp	61°C / 65°C*
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa
<b>GENERAL INFORMATION</b>	
Water Connections	65mm (2 1/2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	650 kg
Size L x W x H	2130mm x 1135mm x 1375mm

**COP TABLE**

Water Out °C	Ambient Temperature							
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C
45 °C	79.24 kW 2.95 COP	89.44 kW 3.31 COP	100.22 kW 3.70 COP	109.76 kW 4.05 COP	120.54 kW 4.43 COP	128.02 kW 4.70 COP	<b>136.02 kW</b> <b>4.98 COP</b>	139.46 kW 5.09 COP
50 °C	72.66 kW 2.42 COP	86.32 kW 2.87 COP	97.36 kW 3.23 COP	106.56 kW 3.53 COP	116.91 kW 3.87 COP	124.08 kW 4.10 COP	131.64 kW 4.35 COP	134.98 kW 4.46 COP
55 °C	68.01 kW 2.07 COP	81.21 kW 2.47 COP	95.18 kW 2.90 COP	104.00 kW 3.16 COP	114.00 kW 3.47 COP	120.80 kW 3.67 COP	128.20 kW 3.90 COP	131.35 kW 3.99 COP
60 °C	N/A	77.93 kW 2.18 COP	91.87 kW 2.57 COP	101.36 kW 2.83 COP	110.96 kW 3.09 COP	117.60 kW 3.27 COP	124.68 kW 3.47 COP	127.75 kW 3.55 COP

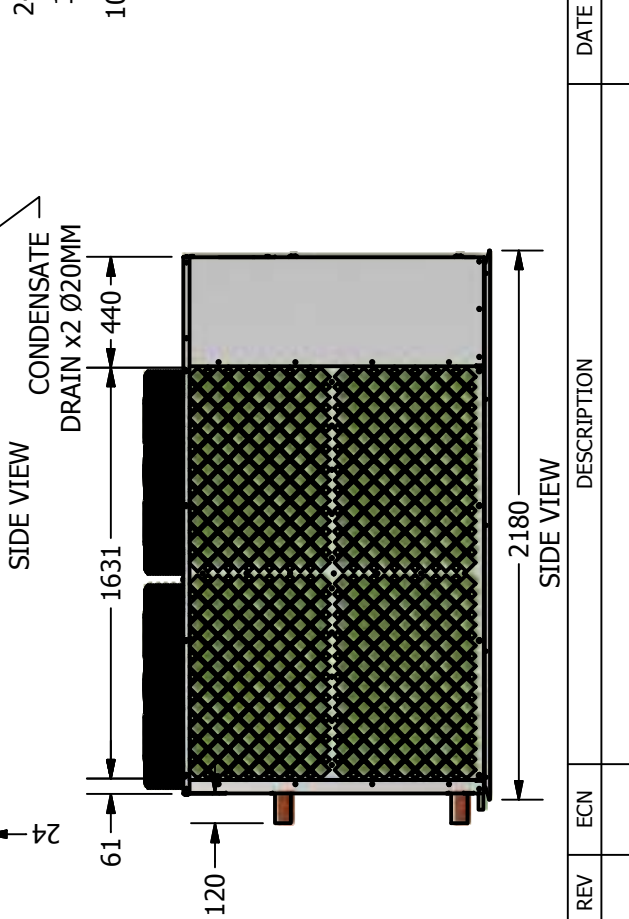
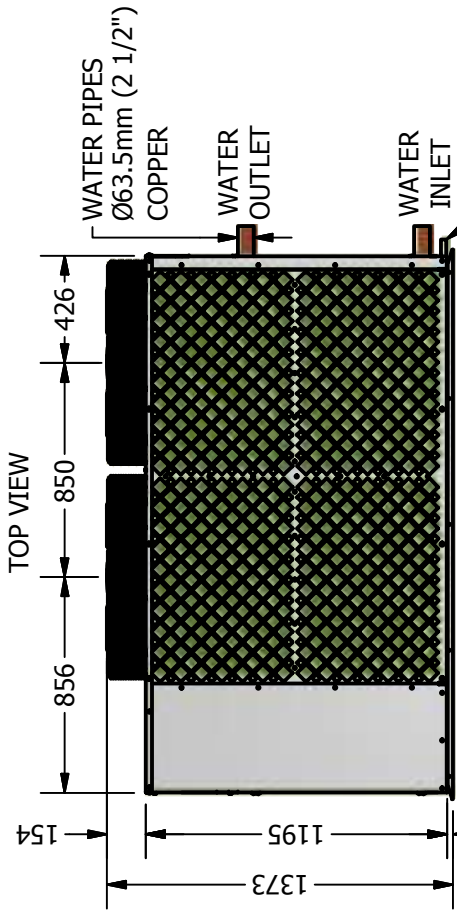
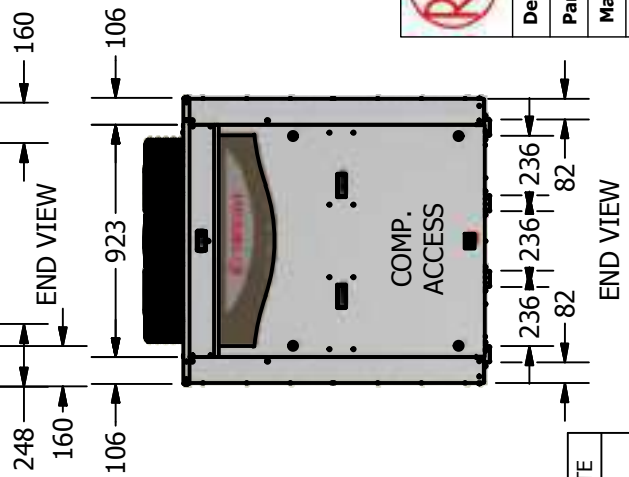
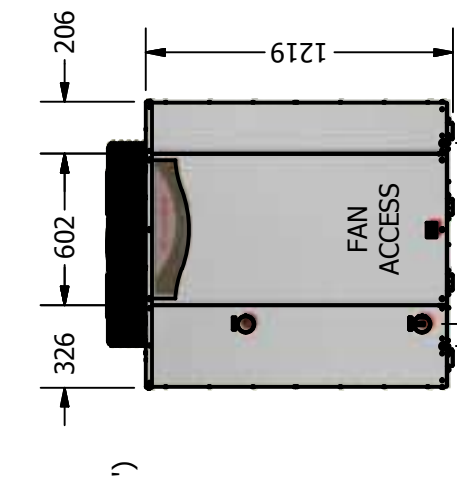
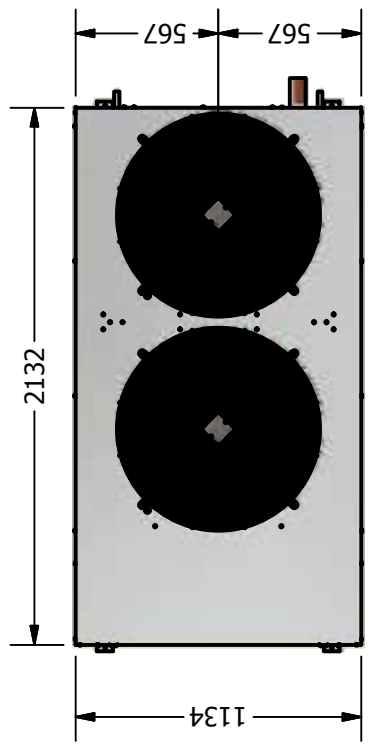
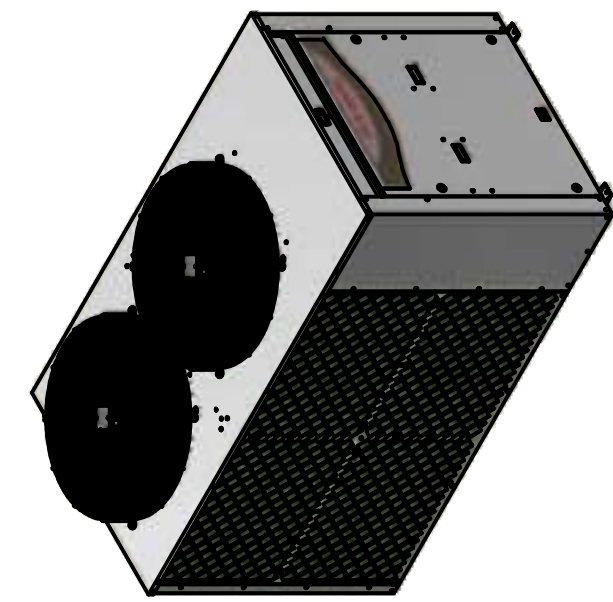


<b>UNIT CLEARANCES</b>	
Direction	Description
1	Evaporator Coil
2	Water Connections
3	Evaporator Coil
4	Compressor Access
5	Top – Fan Discharge
	Minimum Clearance Required
	1000 mm
	500 mm
	1000 mm
	850 mm
	3500 mm

When units placed side by side allow 2000mm between evaporator coils.

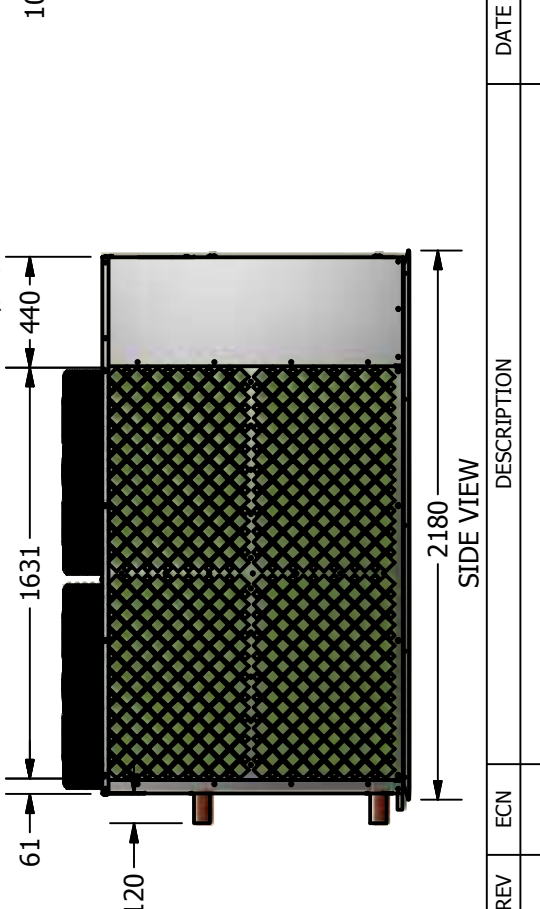
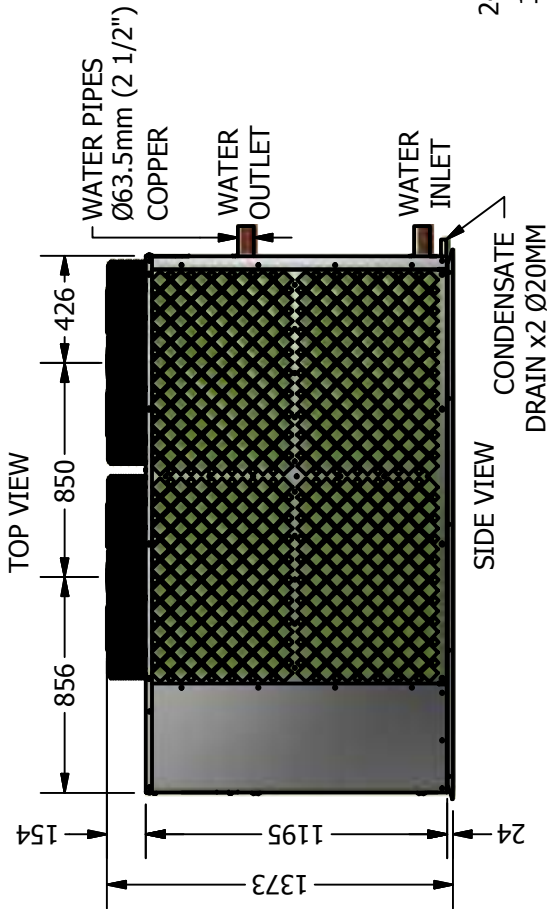
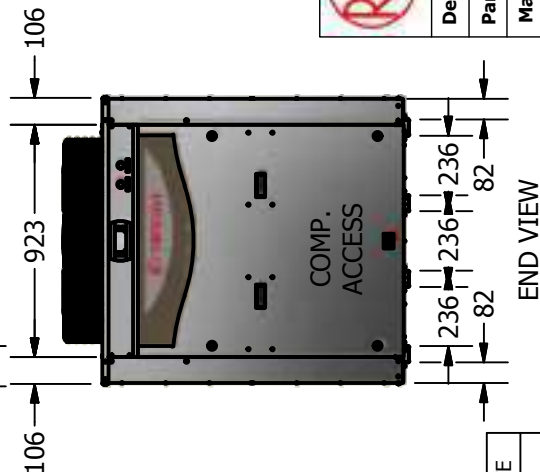
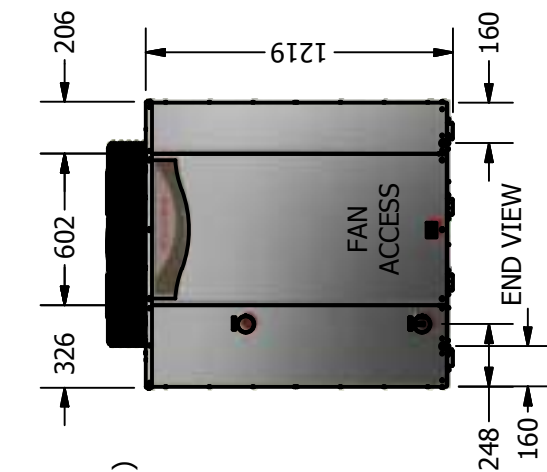
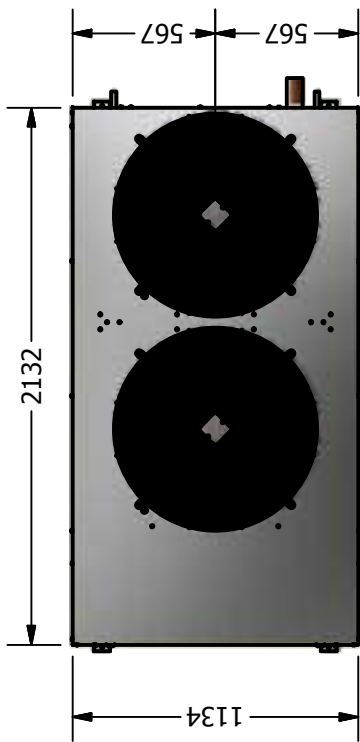
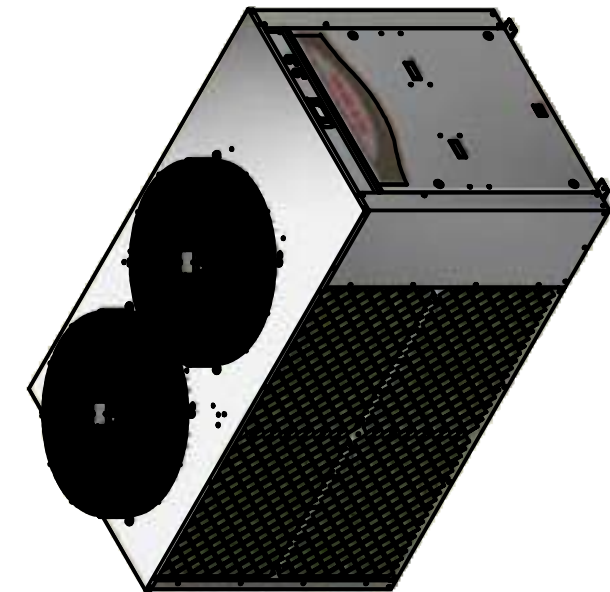
Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out

\* Max outlet temperature when ambient is above 20°C



		SHEET 1 OF 4	
		RHEEM THERMAL A2W RTHW	
<b>Description:</b>	RHEEM THERMAL A2W RTHW	<b>Rev.</b>	
<b>Part No:</b>	RTHW135KS-DEV-1	<b>Date:</b>	22/05/2018
<b>Material:</b>		<b>Checked By:</b>	j.bates
<b>Drawn By:</b>		<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2
<b>Scale:</b>	N.T.S		

REV	ECN	DESCRIPTION	DATE

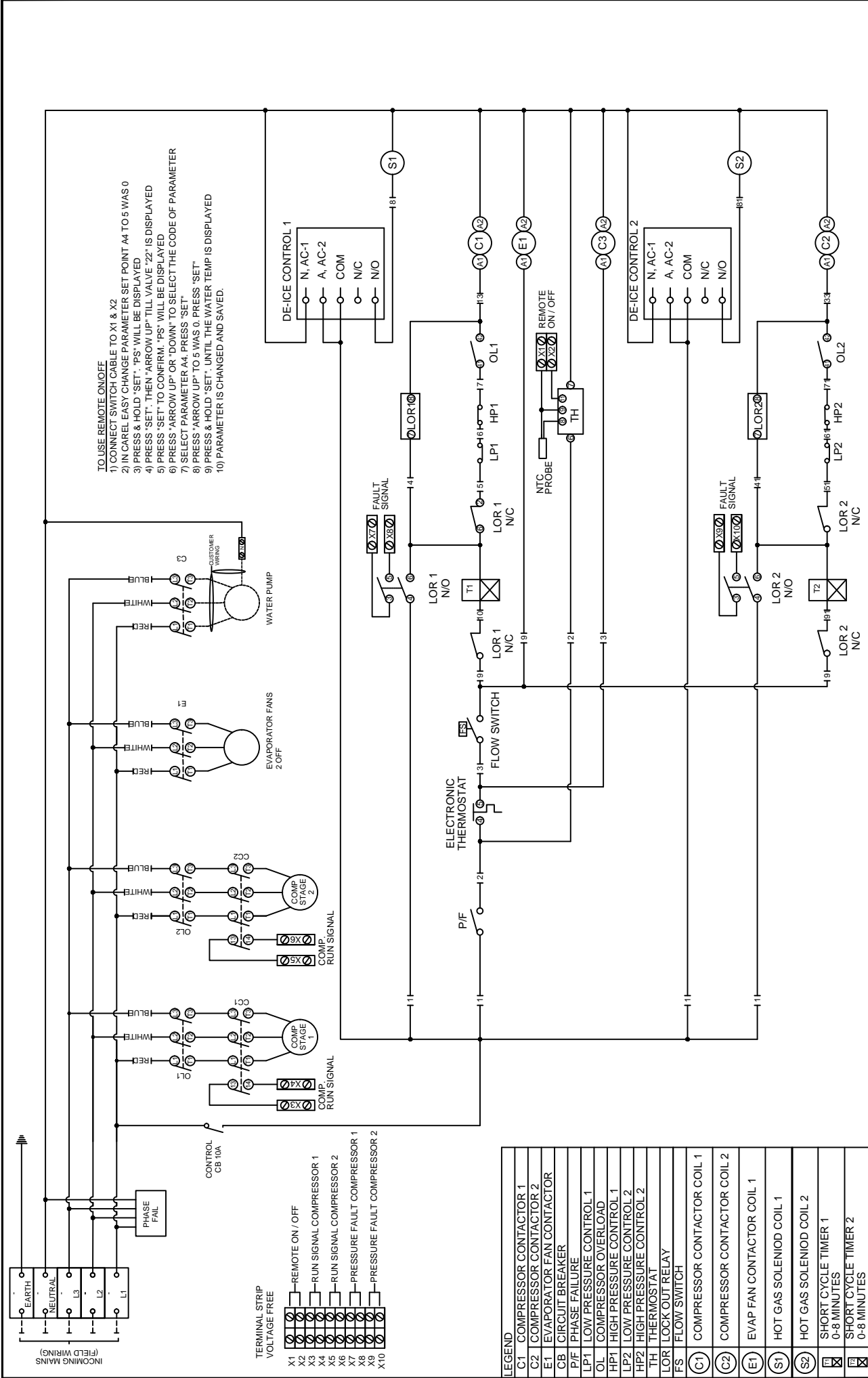


REV	ECN	DESCRIPTION	DATE

**Rheem**  
THERMAL SYSTEMS GROUP

SHEET 1 OF 4

<b>Description:</b>	RHEEM THERMAL A2W RTHW
<b>Part No:</b>	RTHW135KS-DQV-1
<b>Material:</b>	
<b>Drawn By:</b>	j.bates
<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2
<b>Rev:</b>	
<b>Date:</b>	15/06/2018
<b>Scale:</b>	N.T.S

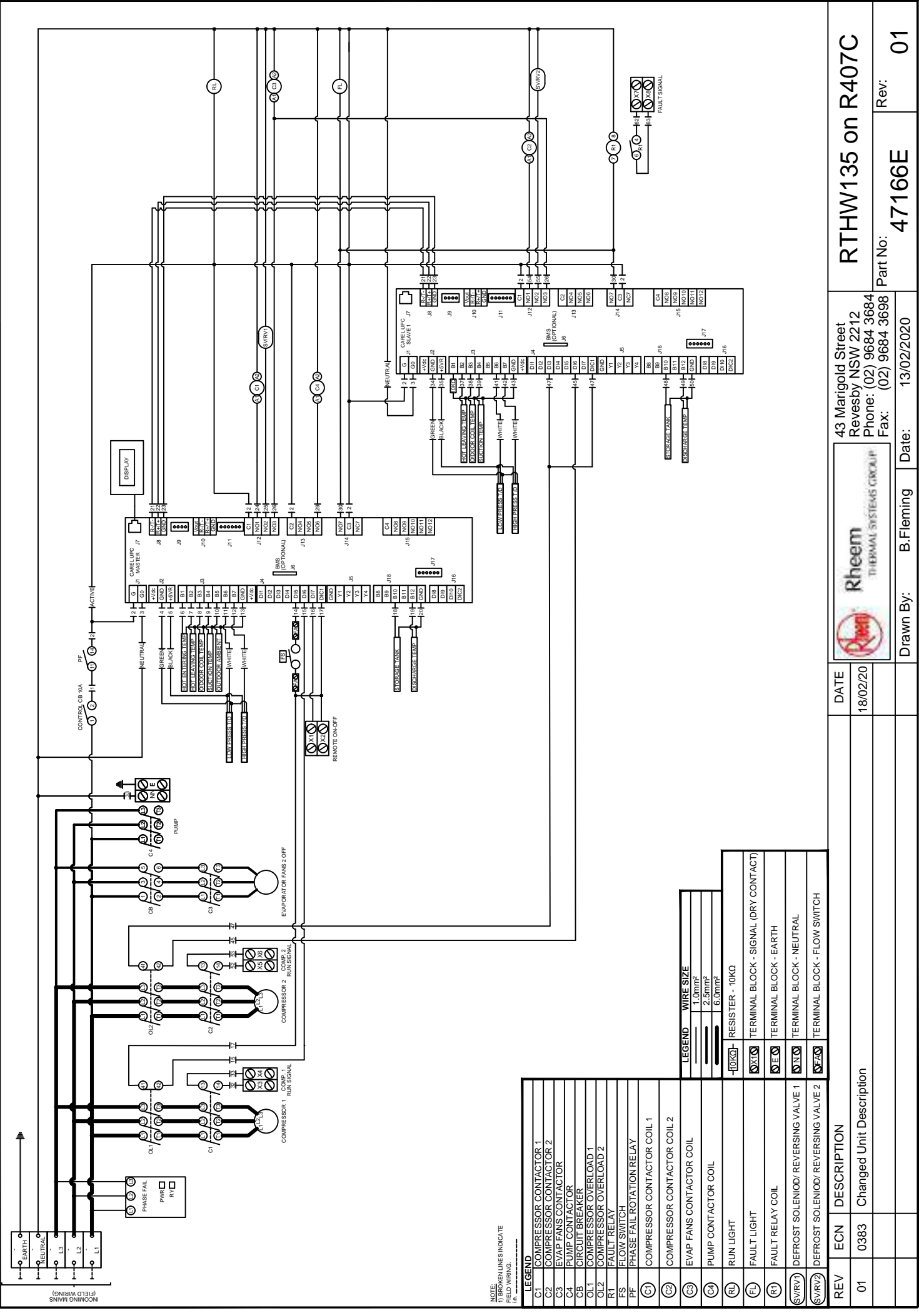


REV	ECN	DESCRIPTION	DATE
01	0383	ADDED COMPRESSOR OVERLOAD 1 & 2	18/02/20

		43 Marigold Street Revesby NSW 2212 Australia Phone: +61 2 9684 3684 Fax: +61 2 9684 3698	
Part No:	47115E	Rev:	01
Drawn By:	B. Fleming	Date:	24/9/2019

Unit specifications are subject to change without notice.



LEGEND	DESCRIPTION
C1	COMPRESSOR CONTACTOR 1
C2	COMPRESSOR CONTACTOR 2
C3	EVAP FANS CONTACTOR
C4	PUMP CONTACTOR
CB	CIRCUIT BREAKER
OL1	COMPRESSOR OVERLOAD 1
OL2	COMPRESSOR OVERLOAD 2
R1	FAULT RELAY
FS	FLOW SWITCH
PF	PHASE FAIL ROTATION RELAY
(C1)	COMPRESSOR CONTACTOR COIL 1
(C2)	COMPRESSOR CONTACTOR COIL 2
(C3)	EVAP FANS CONTACTOR COIL
(C4)	PUMP CONTACTOR COIL
(RL)	RUN LIGHT
(FL)	FAULT LIGHT
(R)	FAULT RELAY COIL
(S/V1)	DEFROST SOLENIOD/REVERSING VALVE 1
(S/V2)	DEFROST SOLENIOD/REVERSING VALVE 2

LEGEND	WIRE SIZE
(C1)	1.0mm <sup>2</sup>
(C2)	2.5mm <sup>2</sup>
(C3)	6.0mm <sup>2</sup>
(RL)	RESISTOR - 10KΩ
(FL)	TERMINAL BLOCK - SIGNAL (DRY CONTACT)
(R)	TERMINAL BLOCK - EARTH
(S/V1)	TERMINAL BLOCK - NEUTRAL
(S/V2)	TERMINAL BLOCK - FLOW SWITCH

DATE  
18/02/20



43 Marigold Street  
Revesby NSW 2212  
Phone: (02) 9684 3684  
Fax: (02) 9684 3698

RTHW135 on R407C

Part No: 47166E  
Rev: 01

Drawn By: B.Fleming Date: 13/02/2020

REV	ECN	DESCRIPTION
01	0383	Changed Unit Description

## 2.2

**AIR TO WATER HEAT PUMP (60Hz),**

***RTHW###K#-7#V-1***



<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger / thermostat control	<b>RTHW030KS-7EV-1</b>
Double wall heat exchanger / thermostat control	<b>RTHW030KV-7EV-1</b>
Single wall heat exchanger / Rheem IQ control	<b>RTHW030KS-7QV-1</b>
Double wall heat exchanger / Rheem IQ control	<b>RTHW030KV-7QV-1</b>

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 Volts / 3 Phase / 60 Hz
Full Load / Locked Rotor (Amps Per Phase)	14.6 FLA / 70.0 LRA
Min. Circuit Size	20.0 Amps
Refrigerant	R407C
Nominal Heating capacity	30.59 kW
Power input	6.06 kW
COP	5.05 COP
Noise Level	59 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	12.0 Amps

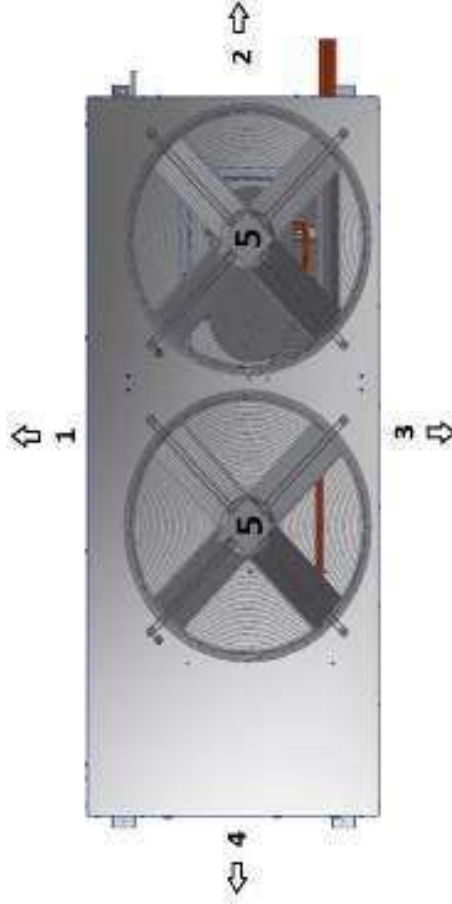
<b>TECHNICAL DATA</b>	
Make	<b>Compressor</b> Copeland
Type	Scroll 20106
Number Per Unit	1
FLA (Full Load Amps)	12.9 Amps (Each)
Voltage / Phase	380 / 3
Pole/RPM	2/3,460
Air Flow	N/A
	<b>Fan</b> EBM-Papst
	Axial
	1
	1.7 Amps (Each)
	240 / 1
	6/1,015
	1285 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	1.22 L/s
Max. Outlet Water Temp	61°C / 65°C*
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	32mm (1 1/4") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	120 kg
Size L x W x H	1155mm x 615mm x 985mm

**COP TABLE**

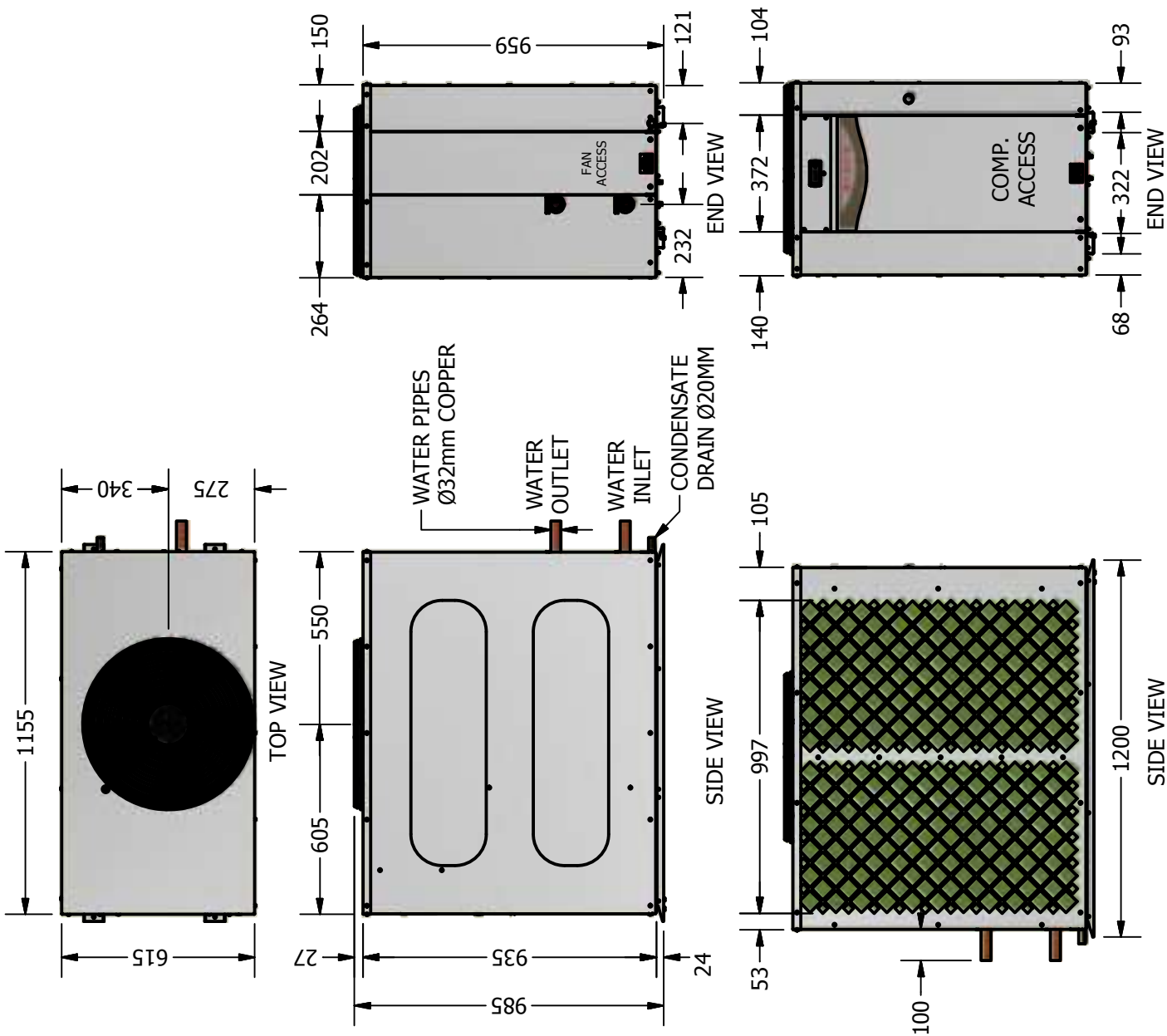
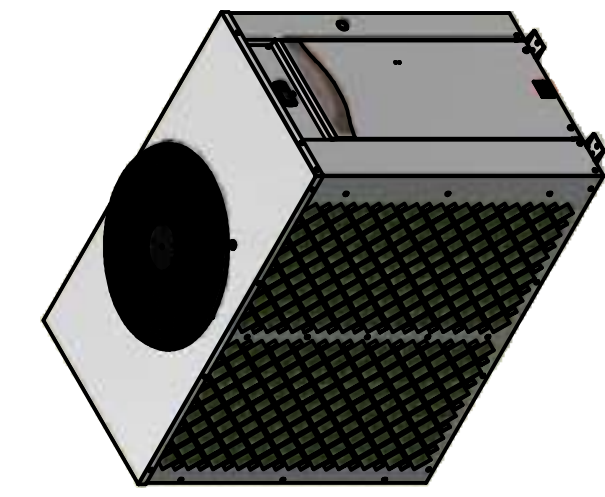
Water Out °C	Ambient Temperature						
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C
45 °C	17.04 kW	19.87 kW	22.04 kW	24.81 kW	27.22 kW	28.89 kW	30.59 kW
	2.91 COP	3.37 COP	3.70 COP	4.15 COP	4.52 COP	4.78 COP	5.05 COP
50 °C	16.71 kW	19.47 kW	21.67 kW	24.30 kW	26.61 kW	28.21 kW	29.83 kW
	2.59 COP	2.99 COP	3.29 COP	3.67 COP	4.00 COP	4.22 COP	4.45 COP
55 °C	16.07 kW	18.93 kW	21.36 kW	23.93 kW	26.12 kW	27.65 kW	29.27 kW
	2.29 COP	2.68 COP	2.99 COP	3.34 COP	3.62 COP	3.82 COP	4.03 COP
60 °C	N/A	18.11 kW	21.02 kW	23.35 kW	25.63 kW	27.11 kW	28.61 kW
		2.36 COP	2.71 COP	3.00 COP	3.27 COP	3.45 COP	3.63 COP



<b>UNIT CLEARANCES</b>	
Direction	Description
1	Evaporator Coil
2	Water Connections
3	Plain Back
4	Compressor Access
5	Top – Fan Discharge
	Minimum Clearance Required
	1000mm
	500mm
	Nil
	850mm
	3500mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C

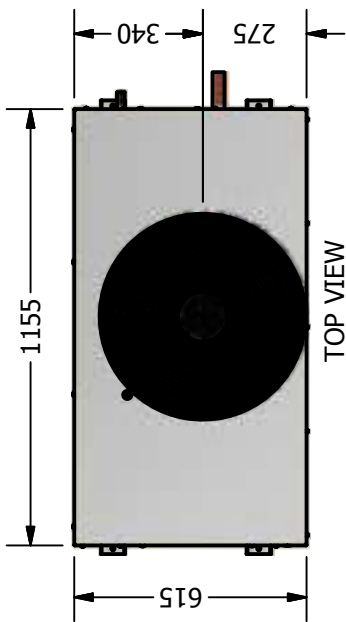




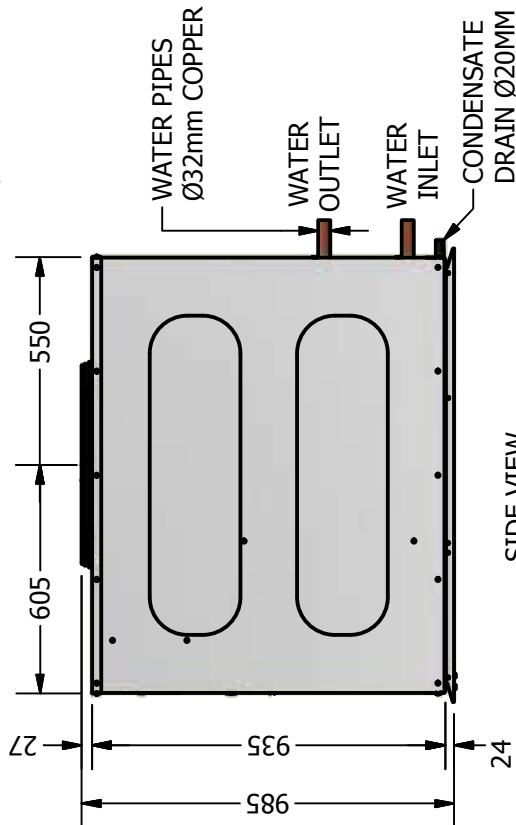
		THERMAL SYSTEMS GROUP	
<b>Description:</b>		RHEEM THERMAL A2W RTHW	
<b>Part No:</b>	RTHW030KS-7EV-1	<b>Rev.</b>	
<b>Material:</b>		<b>Date:</b>	25/06/2018
<b>Drawn By:</b>	j.bates	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2		
			<b>Scale:</b> N.T.S

SHEET 1 OF 3

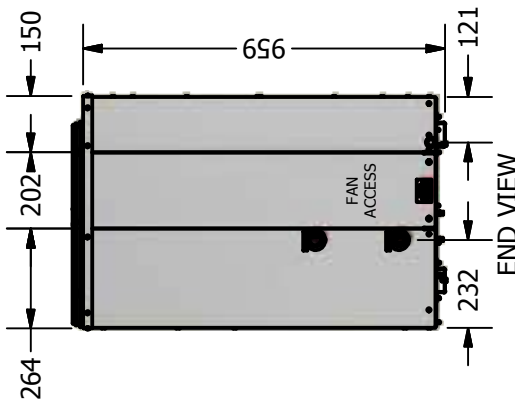
REV	ECN	DESCRIPTION	DATE



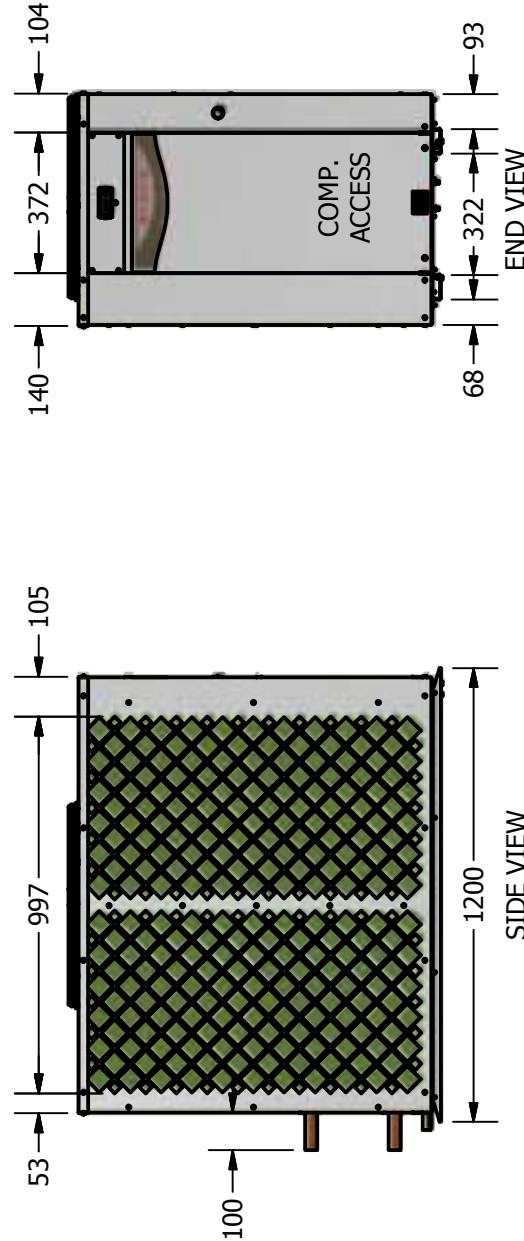
TOP VIEW



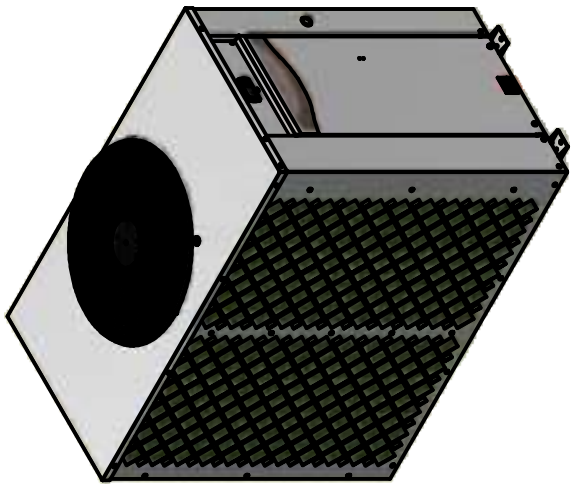
SIDE VIEW



END VIEW



SIDE VIEW



REV	ECN	DESCRIPTION	DATE
01	0383	ADDED MINI IQ	21/02/20

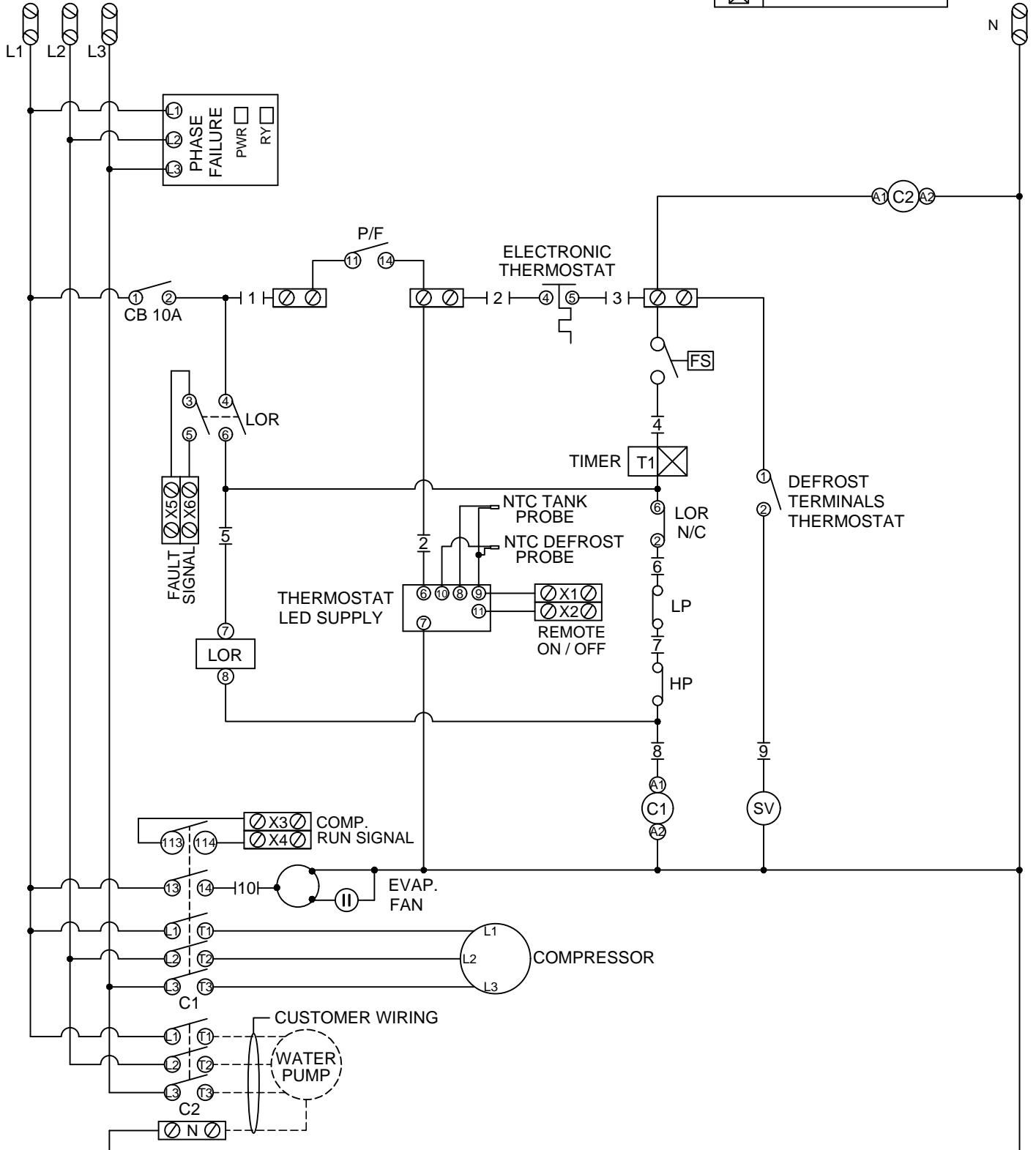
		SHEET 1 OF 3	
		RHEEM THERMAL A2W RTHW	
<b>Description:</b>	RTHW030KS-7QV-1	<b>Rev.</b>	1
<b>Part No:</b>		<b>Date:</b>	25/06/2018
<b>Material:</b>		<b>Checked By:</b>	j.bates
<b>Drawn By:</b>		Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm	
<b>General Tolerance:</b>		Tubes - Dimensions ± 2, Angle ± 2	
			<b>Scale:</b> N.T.S

# WIRING DIAGRAM FOR 3Ø HOT WATER HEAT PUMP.

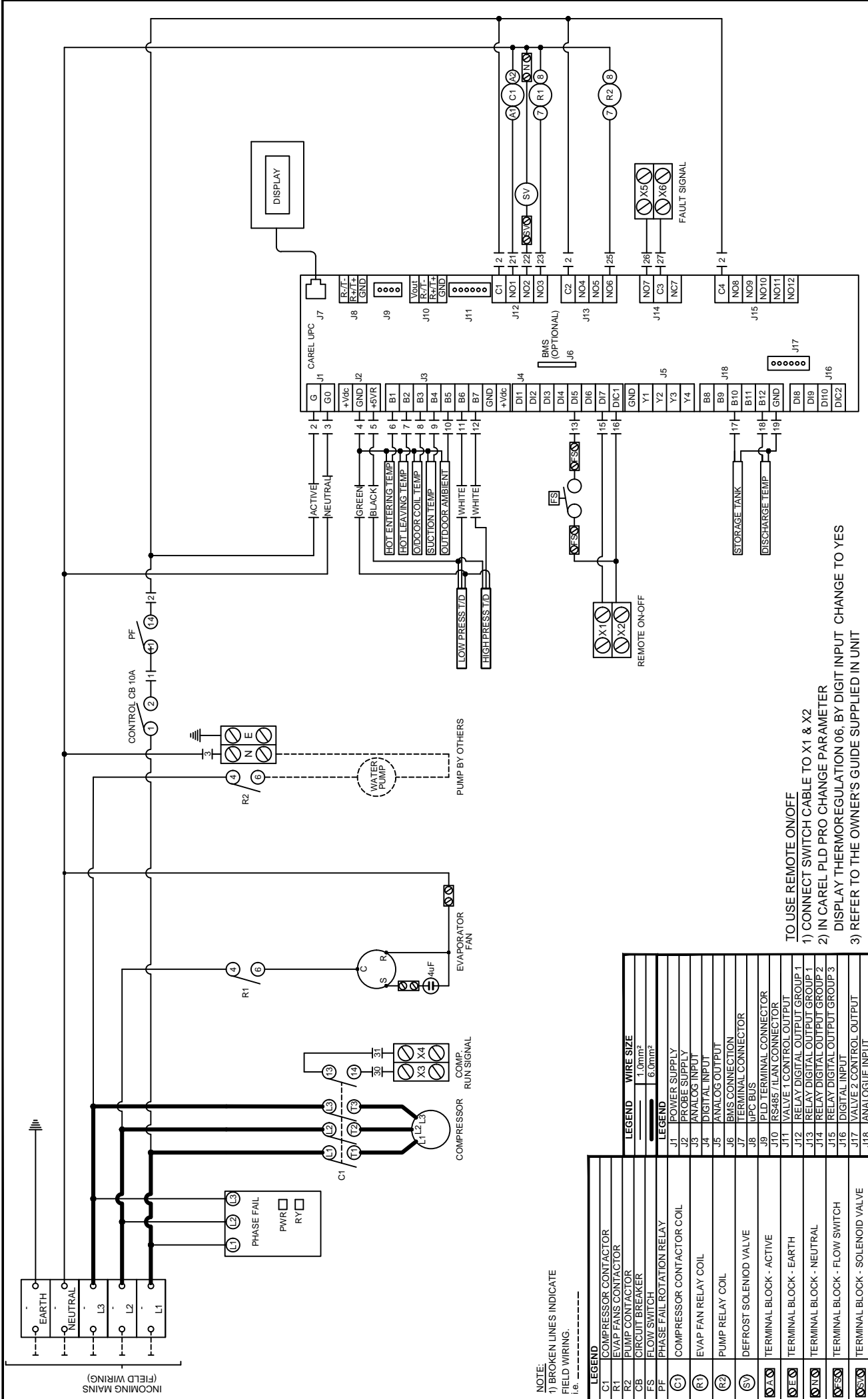
**TO USE REMOTE ON/OFF**

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	PUMP CONTACTOR
CB	CIRCUIT BREAKER
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	WATER PUMP CONTACTOR COIL
	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE			43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		RTHW030 R407C 60Hz	
				Drawn By: J.Bates	Date: 19/02/2020	Part No: 47169E	Rev: 00		



**LEGEND**

C1	COMPRESSOR CONTACTOR
R1	COMPRESSOR FANS CONTACTOR
R2	EVAP FANS CONTACTOR
CB	CIRCUIT BREAKER
FS	FLOW SWITCH
PF	PHASE FAIL ROTATION RELAY
C	COMPRESSOR CONTACTOR COIL
R	EVAP FAN RELAY COIL
R2	PUMP RELAY COIL
S	DEFROST SOLENOID VALVE
A/A	TERMINAL BLOCK - ACTIVE
E/E	TERMINAL BLOCK - EARTH
N/N	TERMINAL BLOCK - NEUTRAL
F/F	TERMINAL BLOCK - FLOW SWITCH
S/S	TERMINAL BLOCK - SOLENOID VALVE

**LEGEND**

1.0mm <sup>2</sup>	LEGEND
6.0mm <sup>2</sup>	WIRE SIZE
J1	POWER SUPPLY
J2	PROBE SUPPLY
J3	ANALOG INPUT
J4	DIGITAL INPUT
J5	ANALOG OUTPUT
J6	BMS CONNECTION
J7	TERMINAL CONNECTOR
J8	UFC BUS
J9	PLD TERMINAL CONNECTOR
J10	RS485 / I/LAN CONNECTOR
J11	VALVE 1 CONTROL OUTPUT
J12	RELAY DIGITAL OUTPUT GROUP 1
J13	RELAY DIGITAL OUTPUT GROUP 1
J14	RELAY DIGITAL OUTPUT GROUP 2
J15	RELAY DIGITAL OUTPUT GROUP 3
J16	DIGITAL INPUT
J17	VALVE 2 CONTROL OUTPUT
J18	ANALOGUE INPUT

**NOTE:**  
 1) BROKEN LINES INDICATE FIELD WIRING.  
 i.e. -----

**TO USE REMOTE ON/OFF**  
 1) CONNECT SWITCH CABLE TO X1 & X2  
 2) IN CAREL PLD PRO CHANGE PARAMETER DISPLAY THERMOREGULATION 06, BY DIGIT INPUT CHANGE TO YES  
 3) REFER TO THE OWNER'S GUIDE SUPPLIED IN UNIT

REV	ECN	DESCRIPTION	DATE	Drawn By:	Date:
				J. Bates	19/02/2020

**Rheem**  
THERMAL SYSTEMS GROUP

43 Marigold Street  
 Revesby NSW 2212  
 Phone: (02) 9684 3684  
 Fax: (02) 9684 3698

**RTHW030 on R407C 60Hz**

Part No: **47170E** Rev: **00**

<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger / thermostat control	RTHW035KS-7EV-1
Double wall heat exchanger / thermostat control	RTHW035KV-7EV-1
Single wall heat exchanger / Rheem IQ control	RTHW035KS-7QV-1
Double wall heat exchanger / Rheem IQ control	RTHW035KV-7QV-1

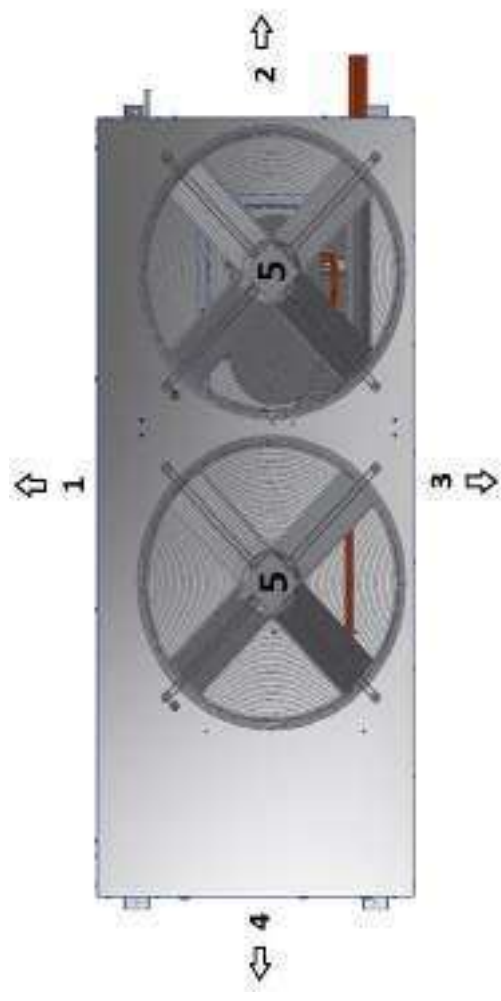
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 Volts / 3 Phase / 60 Hz
Full Load / Locked Rotor (Amps Per Phase)	19.5 FLA / 100 LRA
Min. Circuit Size	25.0 Amps
Refrigerant	R407C
Nominal Heating capacity	35.34 kW
Power input	7.34 kW
COP	4.81 COP
Noise Level	62 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	16.3 Amps

<b>TECHNICAL DATA</b>	
<b>Compressor</b>	<b>Fan</b>
Copeland	EBM(-)Papst
Scroll 20107	Axial
1	2
16.1 Amps (Each)	1.7 Amps (Each)
380 / 3	240 / 1
2/3460	6/1015
N/A	2570 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	1.41 L/s
Max. Outlet Water Temp	61°C / 65°C*
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	50.8mm (2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	220 kg
Size L x W x H	1755mm x 807mm x 994mm

<b>COP TABLE</b>									
Water Out °C	Ambient Temperature								
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C	
45 °C	19.83 kW	23.07 kW	25.65 kW	28.75 kW	31.47 kW	33.36 kW	35.34 kW	35.34 kW	
	2.78 COP	3.21 COP	3.51 COP	3.95 COP	4.30 COP	4.55 COP	4.81 COP	4.81 COP	
50 °C	19.42 kW	22.60 kW	25.11 kW	28.16 kW	30.71 kW	32.58 kW	34.50 kW	34.50 kW	
	2.47 COP	2.85 COP	3.13 COP	3.51 COP	3.80 COP	4.02 COP	4.25 COP	4.25 COP	
55 °C	18.97 kW	22.13 kW	24.67 kW	27.66 kW	30.12 kW	31.88 kW	33.80 kW	33.80 kW	
	2.23 COP	2.58 COP	2.85 COP	3.18 COP	3.45 COP	3.64 COP	3.85 COP	3.85 COP	
60 °C	N/A	20.80 kW	24.35 kW	27.00 kW	29.60 kW	31.25 kW	33.10 kW	33.10 kW	
		2.23 COP	2.59 COP	2.86 COP	3.13 COP	3.29 COP	3.48 COP	3.48 COP	

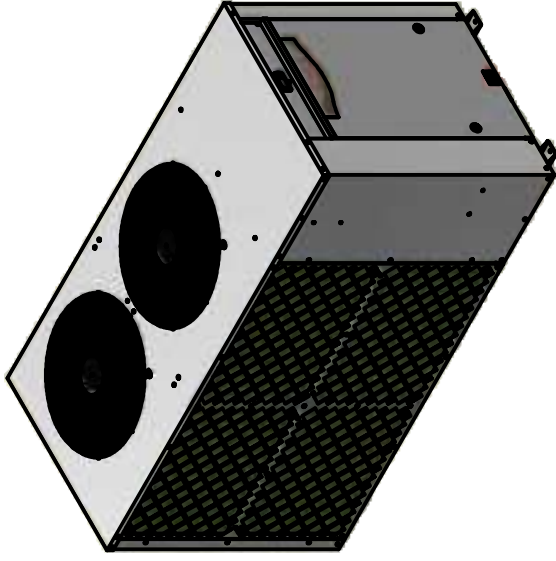
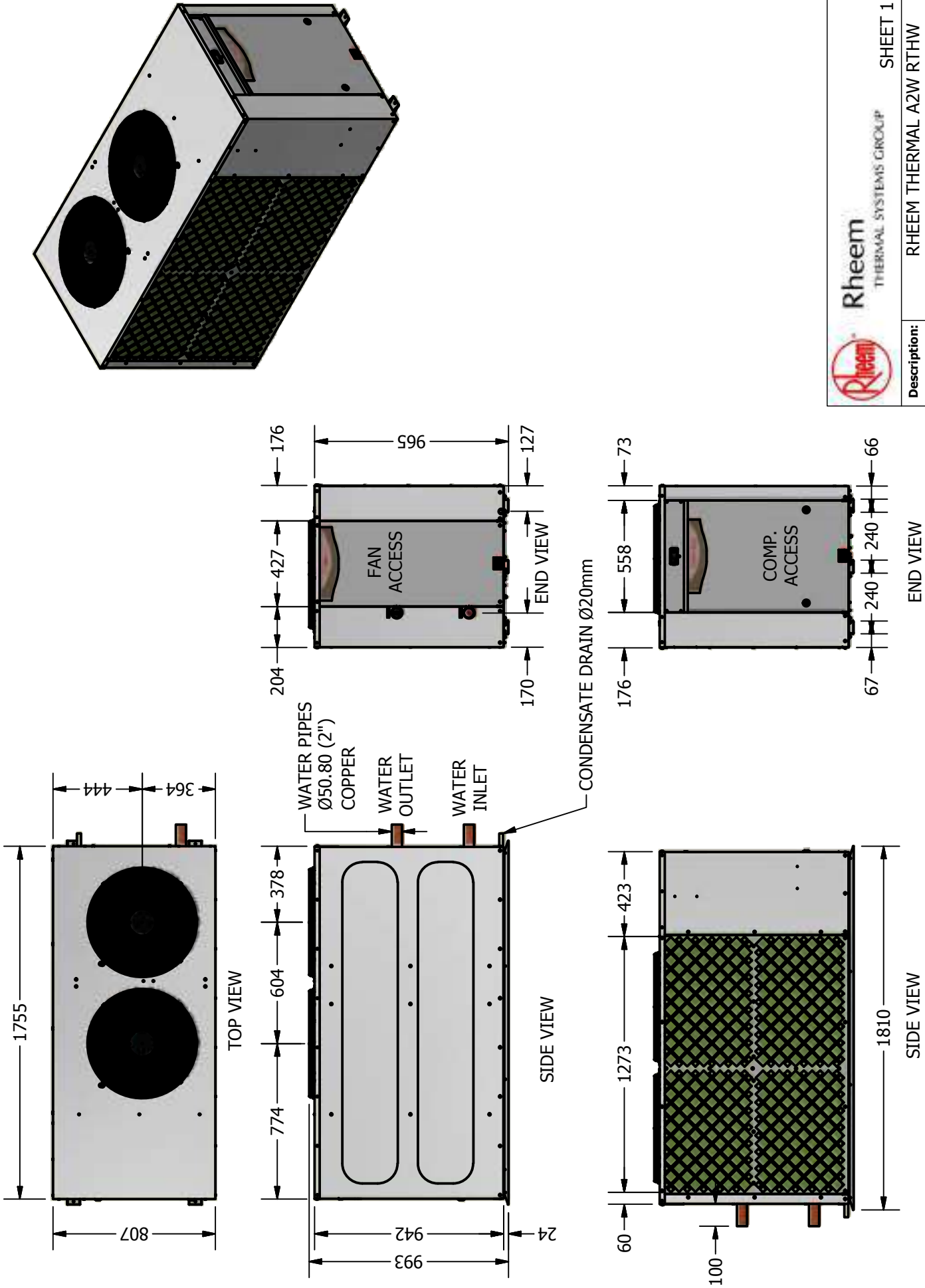


<b>UNIT CLEARANCES</b>	
Direction	Description
1	Evaporator Coil
2	Water Connections
3	Plain Back
4	Compressor Access
5	Top – Fan Discharge
	Minimum Clearance Required
	1000mm
	500mm
	Nil
	850mm
	3500mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C



**Manufactured In Australia by Rheem Thermal Systems Group**  
 Unit specifications subject to change without notice. ABN 28 062 383 224

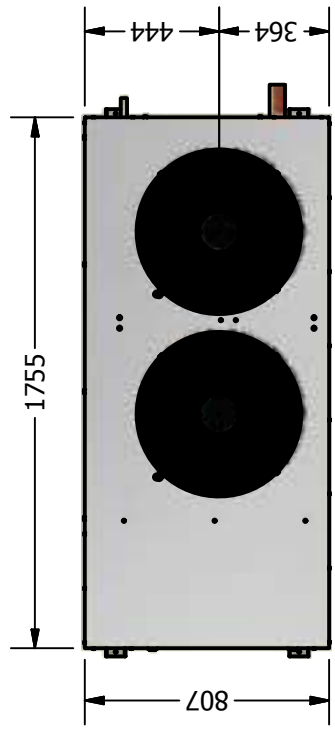
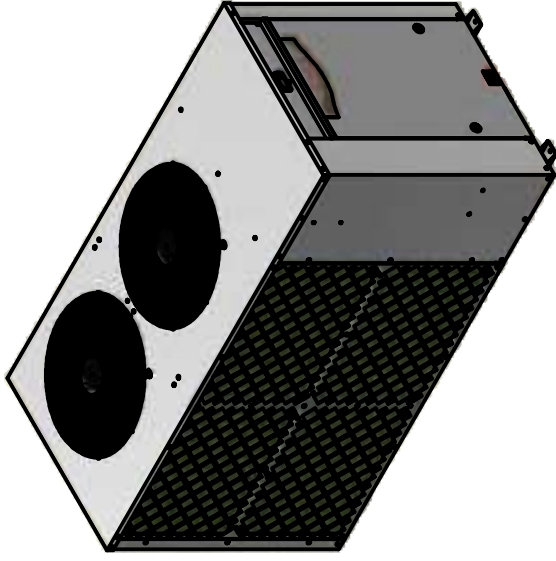


**Rheem**  
 THERMAL SYSTEMS GROUP

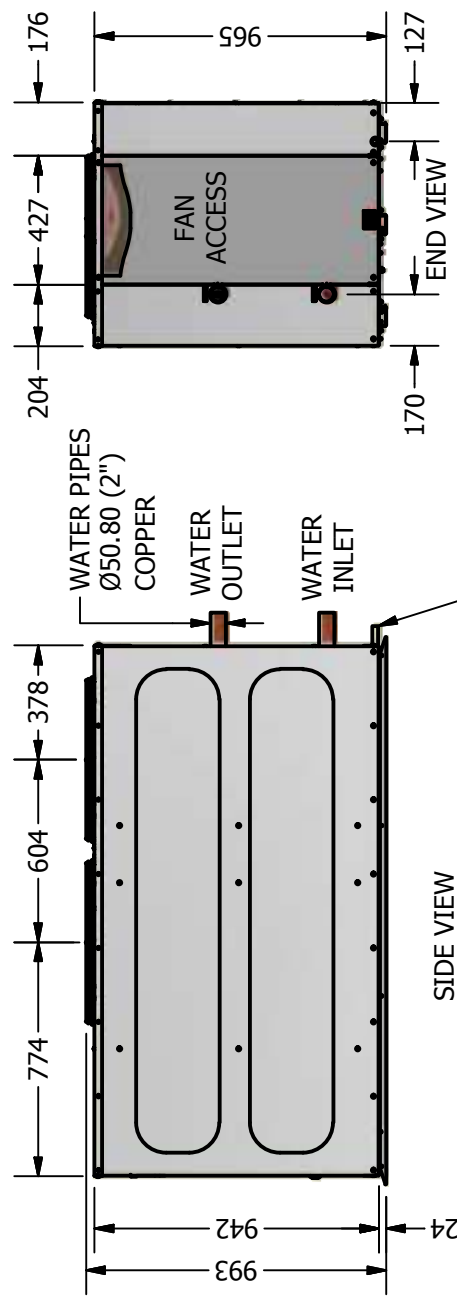
SHEET 1 OF 3

<b>Description:</b>	RHEEM THERMAL A2W RTHW	
<b>Part No:</b>	RTHW035KS-7EV-1	<b>Rev.</b>
<b>Material:</b>		<b>Date:</b> 25/06/2018
<b>Drawn By:</b>	JPB	<b>Checked By:</b>
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2	
		<b>Scale:</b> N.T.S

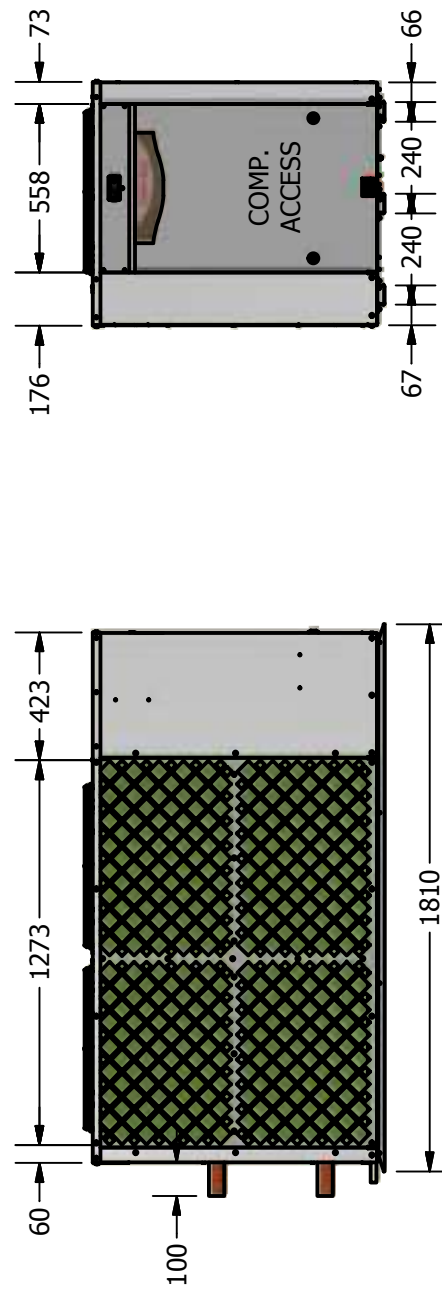
REV	ECN	DESCRIPTION	DATE



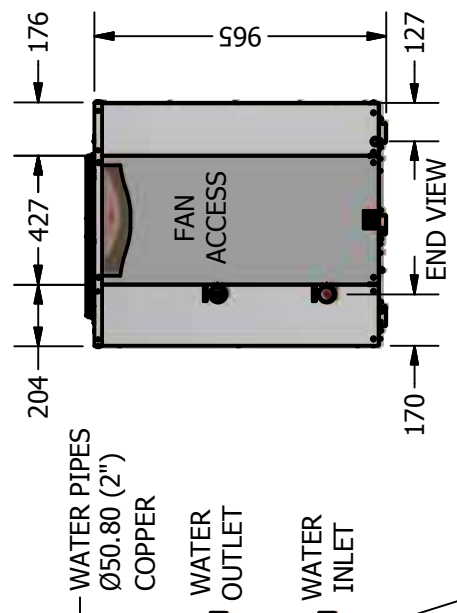
TOP VIEW



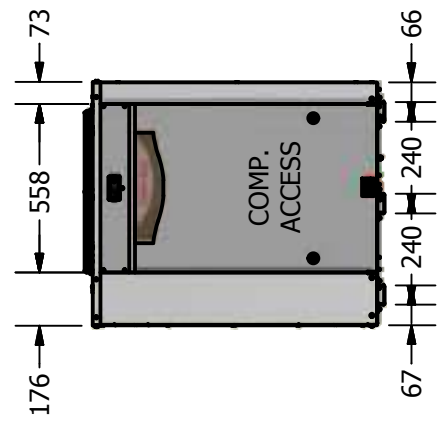
SIDE VIEW



SIDE VIEW



END VIEW



END VIEW



**Description:** RHEEM THERMAL A2W RTHW  
**Part No:** RTHW035KS-7QV-1  
**Material:**  
**Drawn By:** JPB  
**Checked By:**  
**General Tolerance:** Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm  
 Tubes - Dimensions +2, Angle ±2

**Scale:** N.T.S

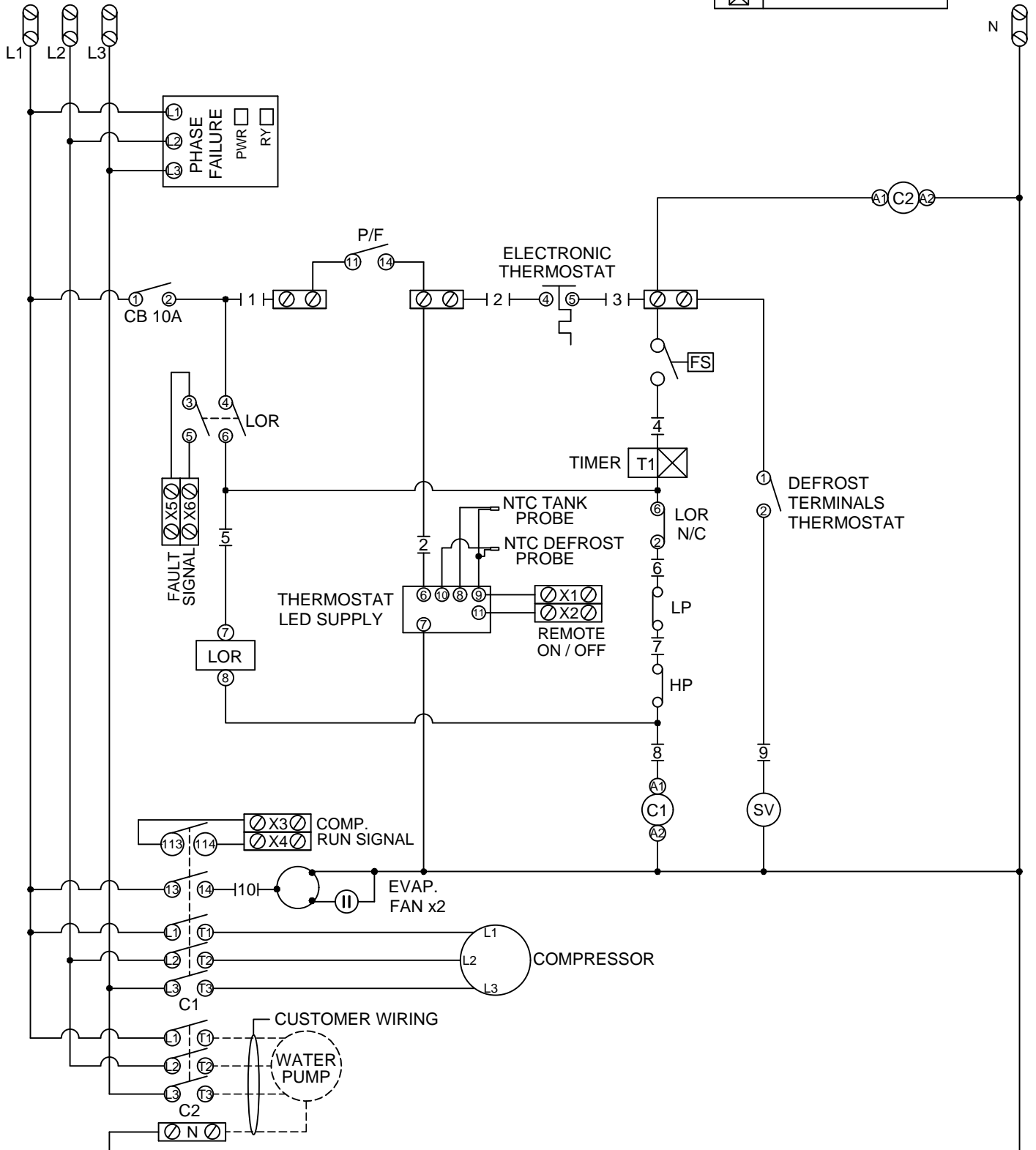
SHEET 1 OF 3	
<b>Rev.</b>	1
<b>Date:</b>	25/06/2018

REV	ECN	DESCRIPTION	DATE
01	0383	ADDED MINI IQ	24/2/20

TO USE REMOTE ON/OFF

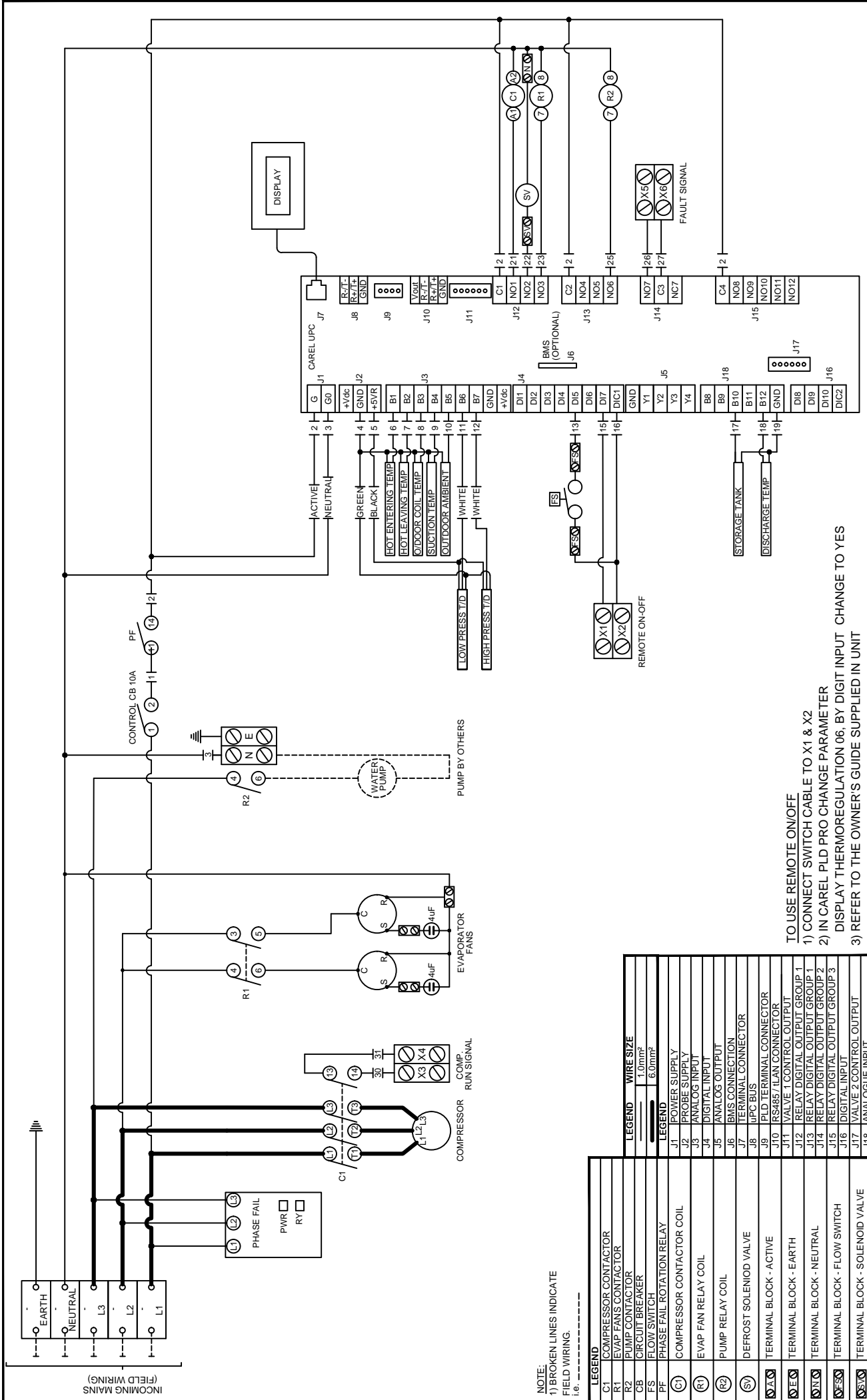
- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	PUMP CONTACTOR
CB	CIRCUIT BREAKER
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	WATER PUMP CONTACTOR COIL
	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE	Rheem THERMAL SYSTEMS GROUP		43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		RTHW035 R407C 60Hz
01	0383	Description updated	18/02/20	Drawn By:	B.Fleming	Date:	12/02/2020	Part No: <b>47162E</b>
								Rev: <b>01</b>





NOTE:  
 1) BROKEN LINES INDICATE FIELD WIRING.  
 i.e. -----

LEGEND	DESCRIPTION
C1	COMPRESSOR CONTACTOR
R1	EVAP FANS CONTACTOR
R2	PUMP CONTACTOR
CB	CIRCUIT BREAKER
FS	FLOW SWITCH
PF	PHASE FAIL ROTATION RELAY
(C)	COMPRESSOR CONTACTOR COIL
(R)	EVAP FAN RELAY COIL
(P)	PUMP RELAY COIL
(S)	DEFROST SOLENOID VALVE
(A)	TERMINAL BLOCK - ACTIVE
(E)	TERMINAL BLOCK - EARTH
(N)	TERMINAL BLOCK - NEUTRAL
(S)	TERMINAL BLOCK - FLOW SWITCH
(S)	TERMINAL BLOCK - SOLENOID VALVE


  

LEGEND	WIRE SIZE
---	1.0mm <sup>2</sup>
---	6.0mm <sup>2</sup>

LEGEND	DESCRIPTION
J1	POWER SUPPLY
J2	PROBE SUPPLY
J3	ANALOG INPUT
J4	DIGITAL INPUT
J5	ANALOG OUTPUT
J6	BMS CONNECTION
J7	UPC BUS
J8	PLD TERMINAL CONNECTOR
J9	PLD TERMINAL CONNECTOR
J10	RS485 / LAN CONNECTOR
J11	VALVE 1 CONTROL OUTPUT
J12	RELAY DIGITAL OUTPUT GROUP 1
J13	RELAY DIGITAL OUTPUT GROUP 1
J14	RELAY DIGITAL OUTPUT GROUP 2
J15	RELAY DIGITAL OUTPUT GROUP 3
J16	DIGITAL INPUT
J17	VALVE 2 CONTROL OUTPUT
J18	ANALOGUE INPUT

TO USE REMOTE ON/OFF  
 1) CONNECT SWITCH CABLE TO X1 & X2  
 2) IN CAREL PLD PRO CHANGE PARAMETER DISPLAY THERMOREGULATION 06, BY DIGIT INPUT CHANGE TO YES  
 3) REFER TO THE OWNER'S GUIDE SUPPLIED IN UNIT

	<b>RTHW035 on R407C 60Hz</b>		
	43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698	Part No: <b>47163E</b> Rev: <b>01</b>	Date: <b>12/02/2020</b> Drawn By: <b>B. Fleming</b>
DATE 18/02/20	DESCRIPTION Added unit wiring & unit description	ECN 0383	REV 01

### HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger / thermostat control	RTHW048KS-7EV-1
Double wall heat exchanger / thermostat control	RTHW048KV-7EV-1
Single wall heat exchanger / Rheem IQ control	RTHW048KS-7QV-1
Double wall heat exchanger / Rheem IQ control	RTHW048KV-7QV-1

### ELECTRICAL INPUT

Voltage/Phase	380 Volts / 3 Phase / 60 Hz
Full Load / Locked Rotor (Amps Per Phase)	22.3 FLA / 140 LRA
Min. Circuit Size	32.0 Amps
Refrigerant	R407C
Nominal Heating capacity	47.52 kW
Power input	9.78 kW
COP	4.86 COP
Noise Level	69 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	17.7 Amps

### TECHNICAL DATA

	Compressor	Fan
Make	Copeland	EBM(-)Papst
Type	Scroll 20108	Axial
Number Per Unit	1	2
FLA (Full Load Amps)	20.7 Amps (Each)	0.8 Amps (Each)
Voltage / Phase	380 / 3	380 / 3
Pole/RPM	2/3460	6/820
Air Flow	N/A	3700 L/s

### HEAT EXCHANGER (Water Side)

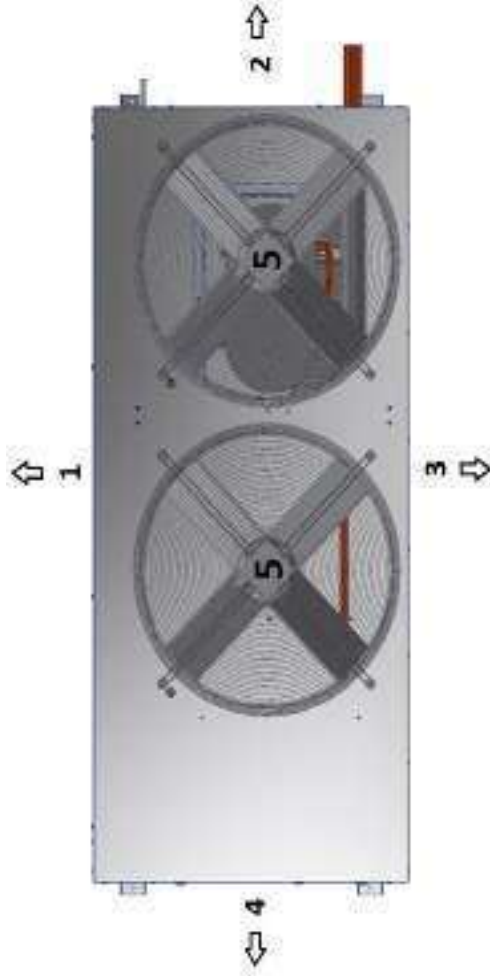
Type of Water Tube	Single Wall	Double Wall
Design	Shell and Tube	Co-axial Vented
Flow Rate Excl. By Pass	1.89 L/s	
Max. Outlet Water Temp	61°C / 65°C*	
Design Pressure Drop	80 kPa	50 kPa
Max. Operating Pressure	2,450 kPa	

### GENERAL INFORMATION

Water Connections	50.8mm (2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	290 kg
Size L x W x H	1805mm x 807mm x 1355mm

### COP TABLE

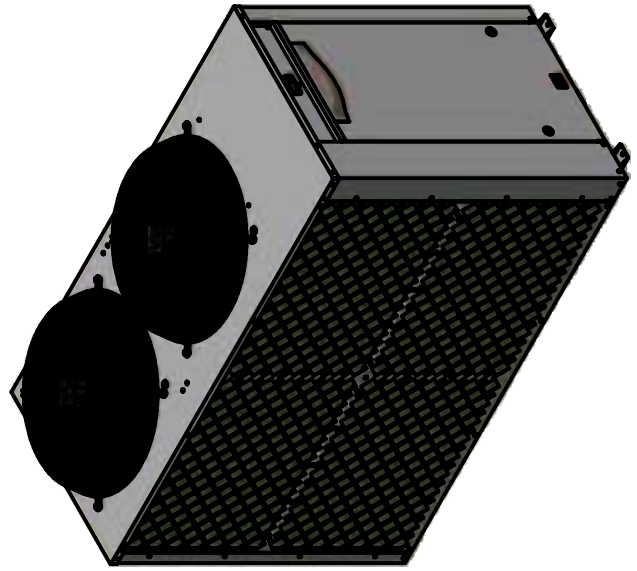
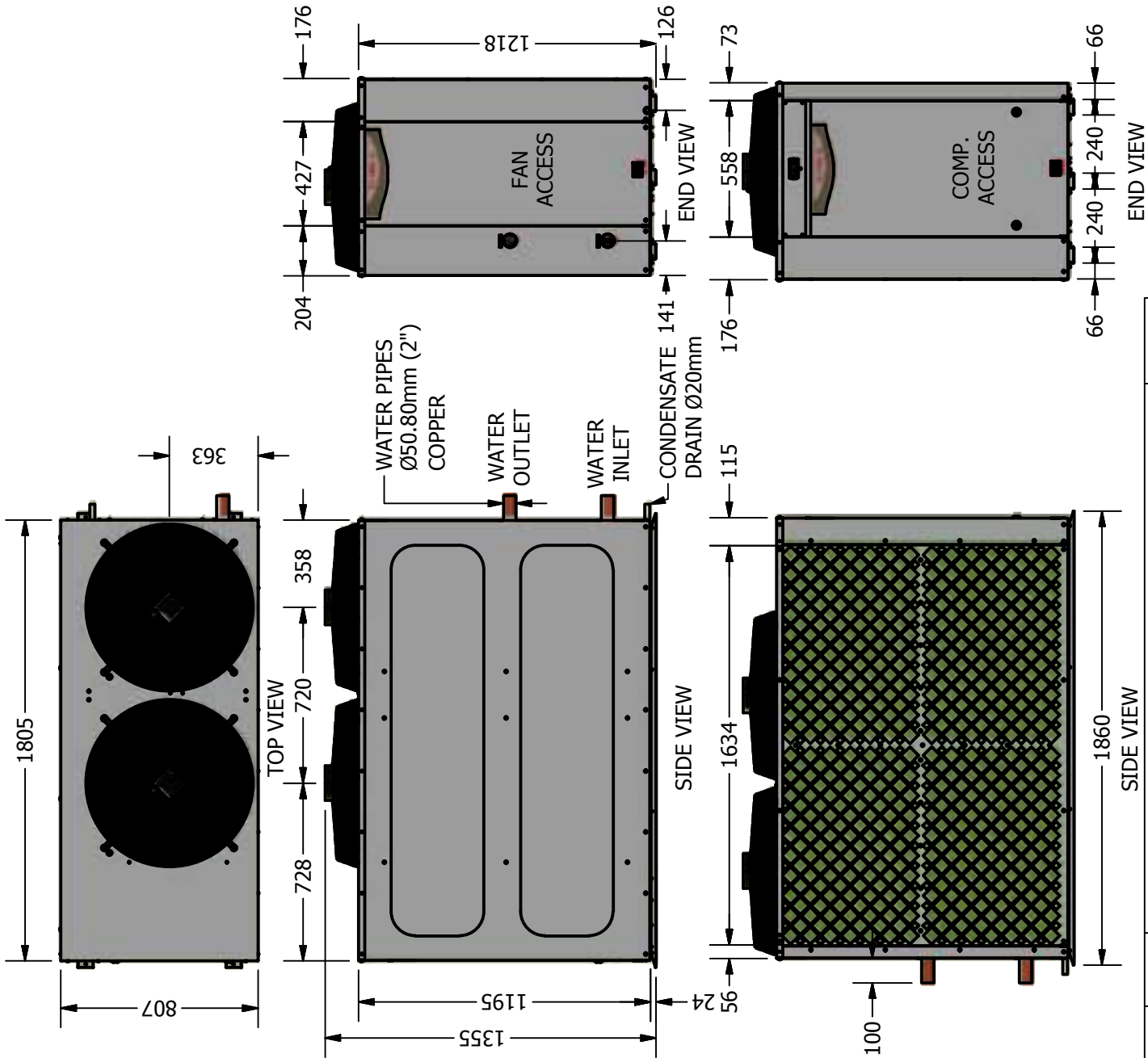
Water Out °C	Ambient Temperature							
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C
45 °C	27.07 kW	30.74 kW	34.87 kW	38.30 kW	42.03 kW	44.70 kW	47.52 kW	48.98 kW
	2.87 COP	3.22 COP	3.63 COP	3.96 COP	4.33 COP	4.59 COP	4.86 COP	5.00 COP
50 °C	26.71 kW	30.25 kW	34.24 kW	37.55 kW	41.16 kW	43.74 kW	46.46 kW	47.88 kW
	2.62 COP	2.94 COP	3.30 COP	3.61 COP	3.93 COP	4.17 COP	4.41 COP	4.54 COP
55 °C	26.31 kW	29.68 kW	33.48 kW	36.64 kW	40.08 kW	42.55 kW	45.15 kW	46.51 kW
	2.35 COP	2.62 COP	2.94 COP	3.20 COP	3.48 COP	3.68 COP	3.90 COP	4.01 COP
60 °C	N/A	29.26 kW	32.90 kW	35.93 kW	39.24 kW	41.61 kW	44.12 kW	45.43 kW
		2.40 COP	2.67 COP	2.90 COP	3.16 COP	3.34 COP	3.53 COP	3.63 COP



### UNIT CLEARANCES

Direction	Description	Minimum Clearance Required
1	Evaporator Coil	1000mm
2	Water Connections	500mm
3	Plain Back	Nil
4	Compressor Access	850mm
5	Top - Fan Discharge	3500mm

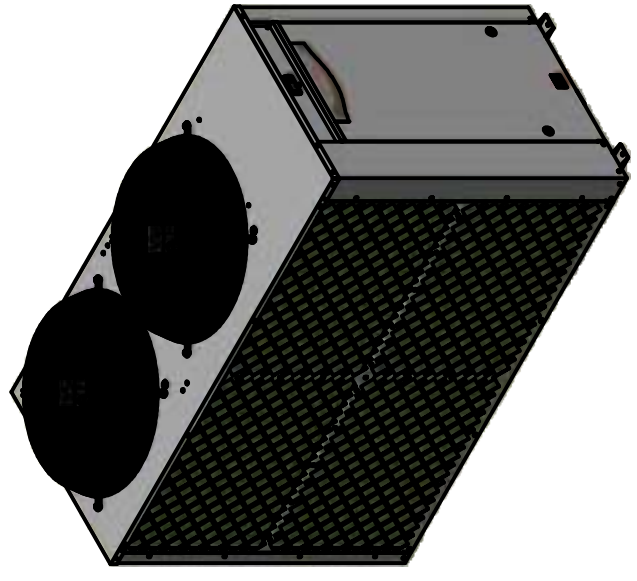
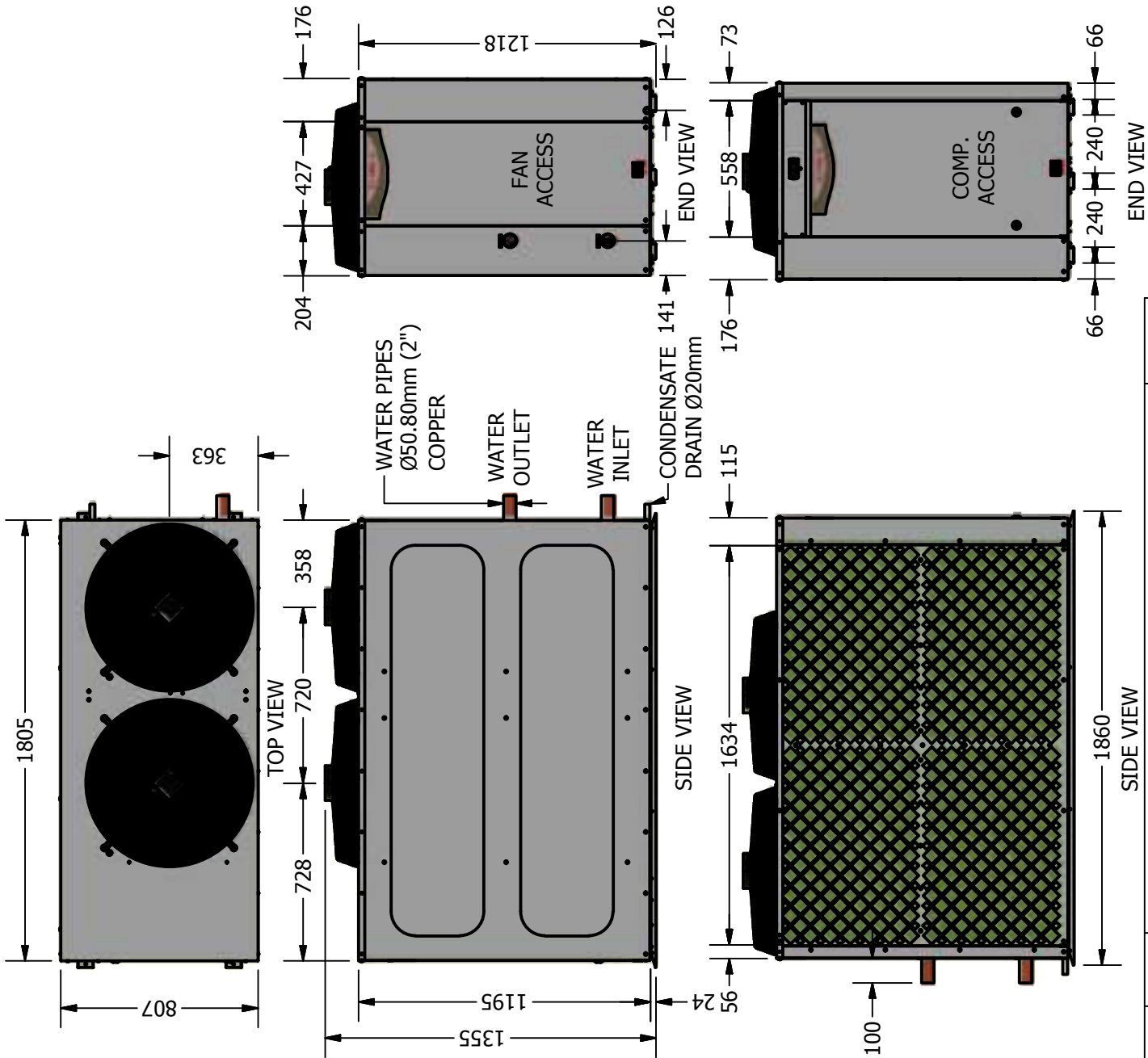
When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C



**Rheem**  
 THERMAL SYSTEMS GROUP

<b>Description:</b>		RHEEM THERMAL A2W RTHW		SHEET 1 OF 3	
<b>Part No:</b>	RTHW048KS-7EV-1	<b>Rev.</b>		<b>Date:</b>	25/06/2018
<b>Material:</b>		<b>Checked By:</b>	JPB	<b>Scale:</b>	N.T.S
<b>Drawn By:</b>		Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm			
<b>General Tolerance:</b>		Tubes - Dimensions +2, Angle ±2			

REV	ECN	DESCRIPTION	DATE



REV	ECN	DESCRIPTION	DATE
01	0383	ADDED RHEEM IQ	24/02/20

**Rheem**  
 THERMAL SYSTEMS GROUP

**Description:** RHEEM THERMAL A2W RTHW  
**Part No:** RTHW048KS-7QV-1  
**Material:** RTHW048KS-7QV-1  
**Rev:** 1  
**Checked By:** JPB  
**Date:** 25/06/2018  
**General Tolerance:** Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm  
 Tubes - Dimensions +2, Angle ±2  
**Scale:** N.T.S

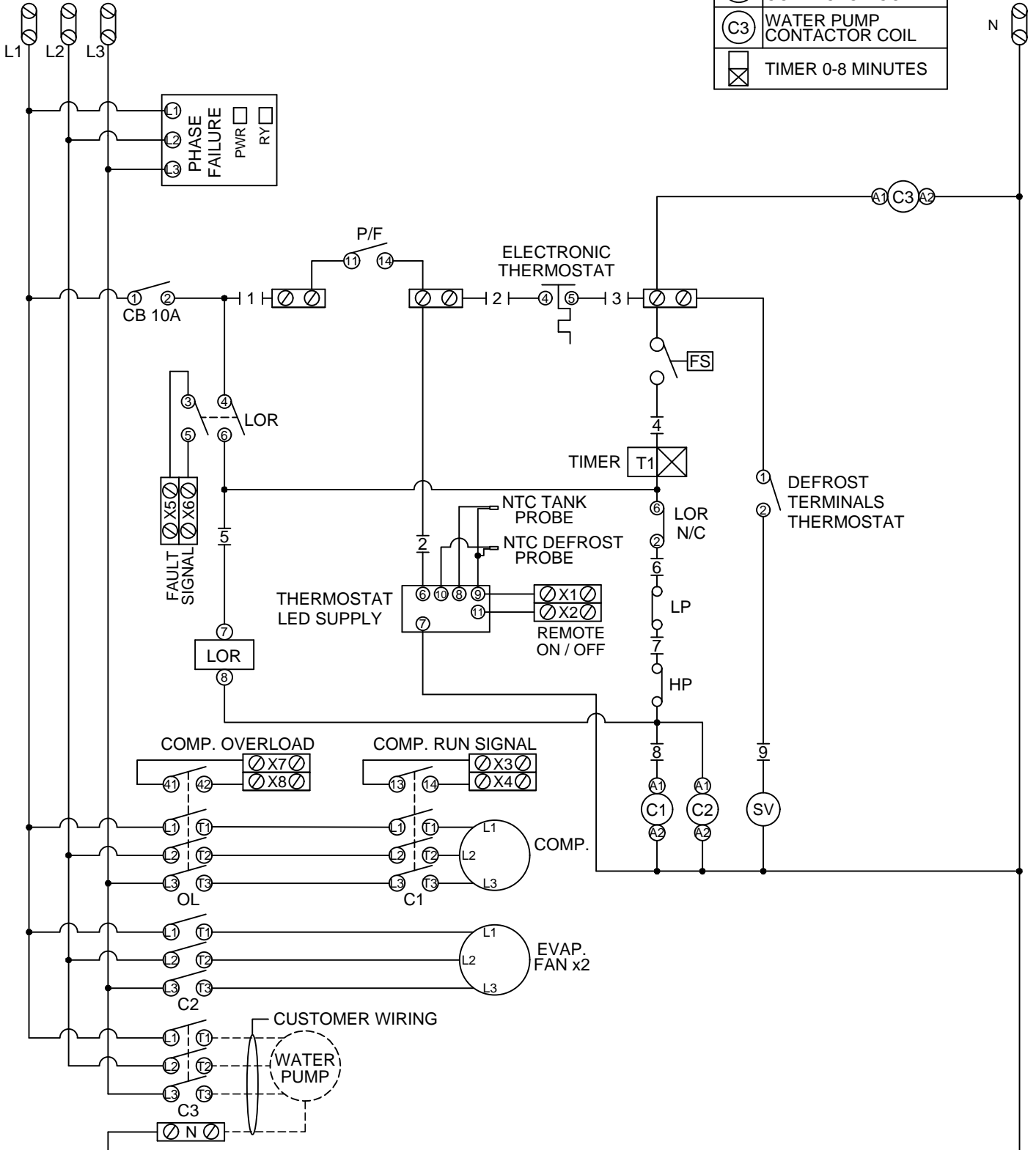
SHEET 1 OF 3

# WIRING DIAGRAM FOR 3Ø WITH WATER PUMP.

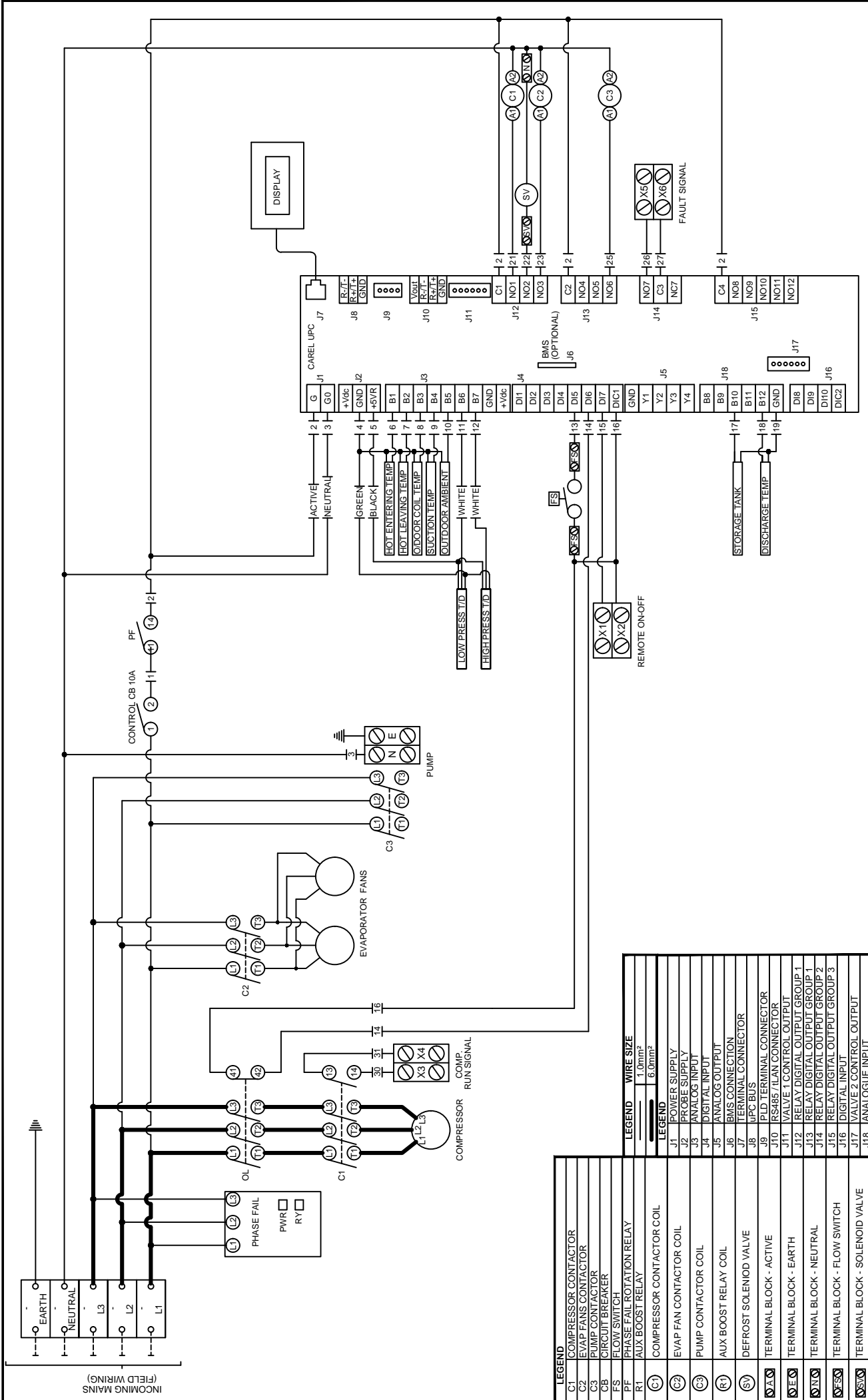
### TO USE REMOTE ON/OFF

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	FAN CONTACTOR
C3	PUMP CONTACTOR
CB	CIRCUIT BREAKER
OL	COMP. OVERLOAD
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	EVAP. FAN CONTACTOR COIL
(C3)	WATER PUMP CONTACTOR COIL
[X]	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE	Rheem THERMAL SYSTEMS GROUP		43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		RTHW048 R407C 60Hz
01	0383	Description & O/L updated	18/02/20	Drawn By:	B.Fleming	Date:	13/02/2020	Part No: <b>47165E</b>
								Rev: <b>01</b>



REV	ECN	DESCRIPTION	DATE
01	0383	Added compressor overload & unit description	18/02/20

		43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698
RTHW048 on R407C 60Hz	Part No: 47164E	Rev: 01
Drawn By: B.Fleming	Date: 13/02/2020	

<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger / thermostat control	RTHW064KS-7EV-1
Double wall heat exchanger / thermostat control	RTHW064KV-7EV-1
Single wall heat exchanger / Rheem IQ control	RTHW064KS-7QV-1
Double wall heat exchanger / Rheem IQ control	RTHW064KV-7QV-1

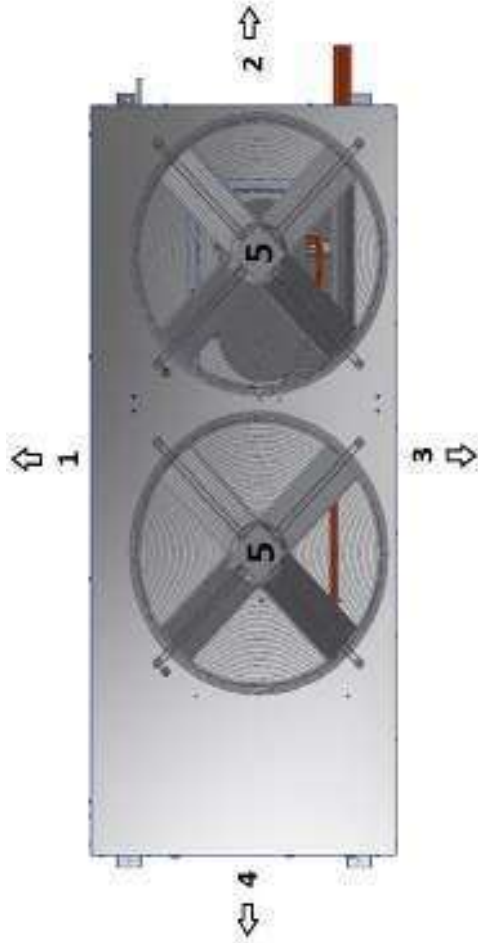
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 Volts / 3 Phase / 60 Hz
Full Load / Locked Rotor (Amps Per Phase)	29.8 FLA / 145 LRA
Min. Circuit Size	40.0 Amps
Refrigerant	R407C
Nominal Heating capacity	63.78 kW
Power input	13.11 kW
COP	4.86 COP
Noise Level	69 dBA @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	23.4 Amps

<b>TECHNICAL DATA</b>	
<b>Compressor</b>	<b>Fan</b>
Copeland	EBM-Papst
Scroll 20109	Axial
1	2
FLA (Full Load Amps)	27.2 Amps (Each)
380 / 3	1.3 Amps (Each)
2/3460	380 / 3
N/A	6/820
	6200 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	2.54 L/s
Max. Outlet Water Temp	61°C / 65°C*
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	50.8mm (2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	300 kg
Size L x W x H	1805mm x 807mm x 1355mm

<b>COP TABLE</b>								
Water Out °C	Ambient Temperature							
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C
45 °C	36.10 kW	41.18 kW	46.81 kW	51.44 kW	56.45 kW	60.02 kW	63.78 kW	65.73 kW
	2.83 COP	3.21 COP	3.62 COP	3.96 COP	4.33 COP	4.59 COP	4.86 COP	5.00 COP
50 °C	35.49 kW	40.40 kW	45.84 kW	50.31 kW	55.15 kW	58.59 kW	62.22 kW	64.10 kW
	2.58 COP	2.91 COP	3.28 COP	3.59 COP	3.92 COP	4.15 COP	4.40 COP	4.53 COP
55 °C	34.77 kW	39.46 kW	44.65 kW	48.91 kW	53.52 kW	56.80 kW	60.25 kW	62.05 kW
	2.29 COP	2.58 COP	2.90 COP	3.17 COP	3.45 COP	3.66 COP	3.87 COP	3.98 COP
60 °C	N/A	38.75 kW	43.73 kW	47.81 kW	52.23 kW	55.37 kW	58.68 kW	60.40 kW
		2.34 COP	2.62 COP	2.86 COP	3.11 COP	3.30 COP	3.49 COP	3.59 COP

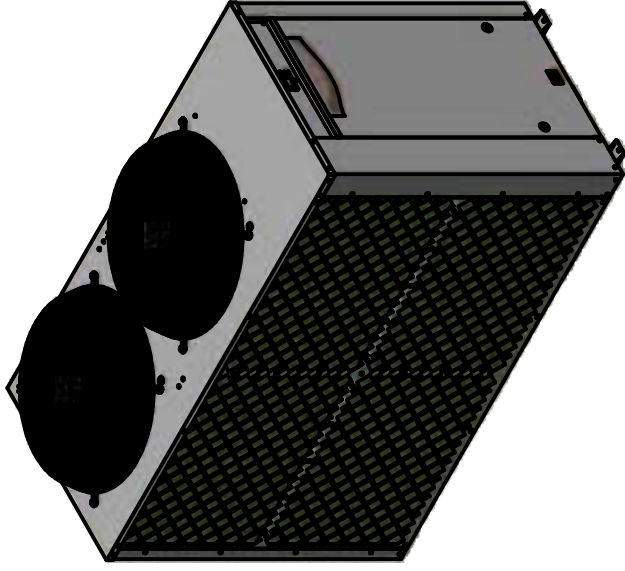
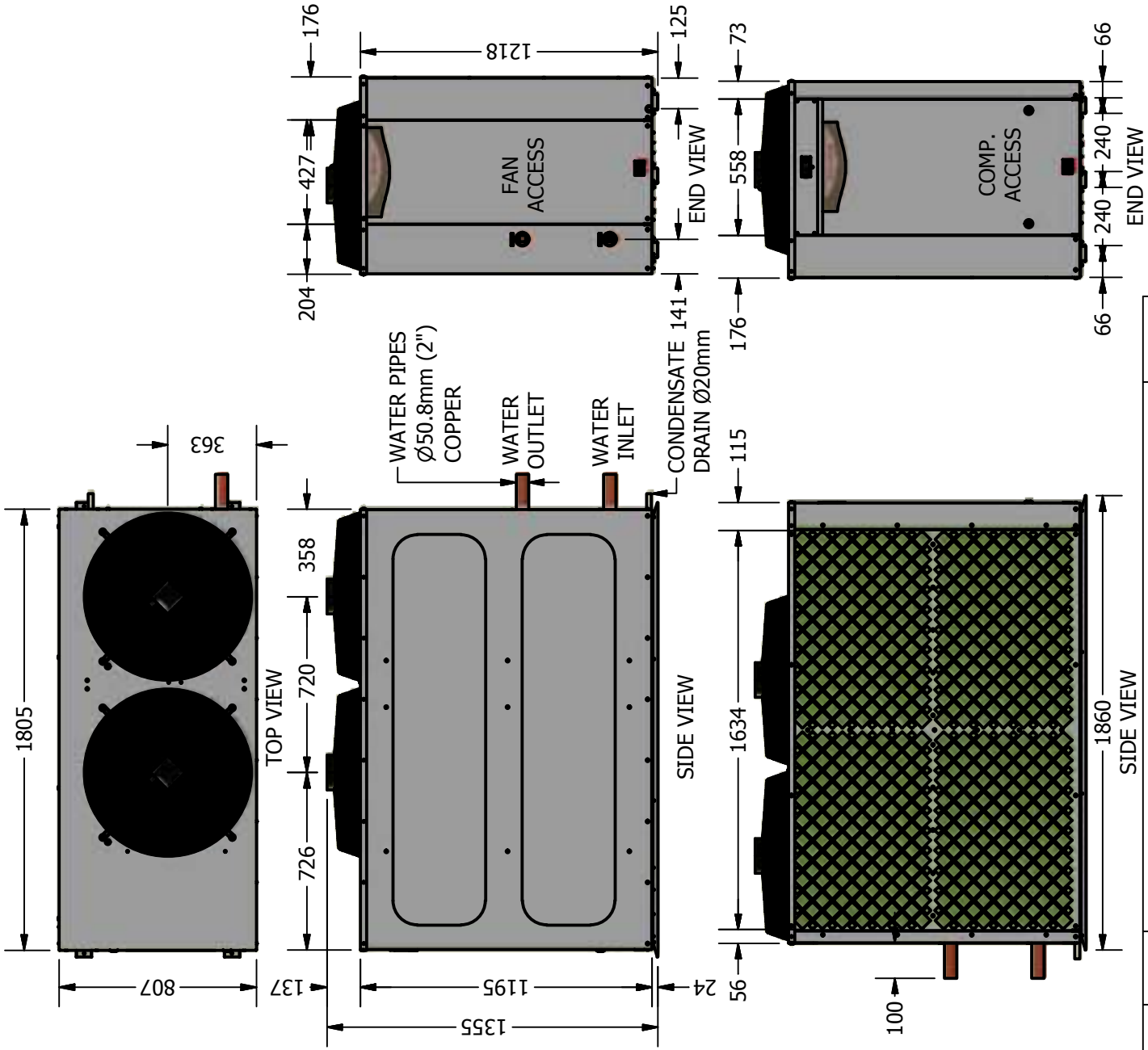


<b>UNIT CLEARANCES</b>		
Direction	Description	Minimum Clearance Required
1	Evaporator Coil	1000mm
2	Water Connections	500mm
3	Plain Back	Nil
4	Compressor Access	850mm
5	Top – Fan Discharge	3500mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C



**Manufactured In Australia by Rheem Thermal Systems Group**  
 Unit specifications subject to change without notice. ABN 28 062 383 224



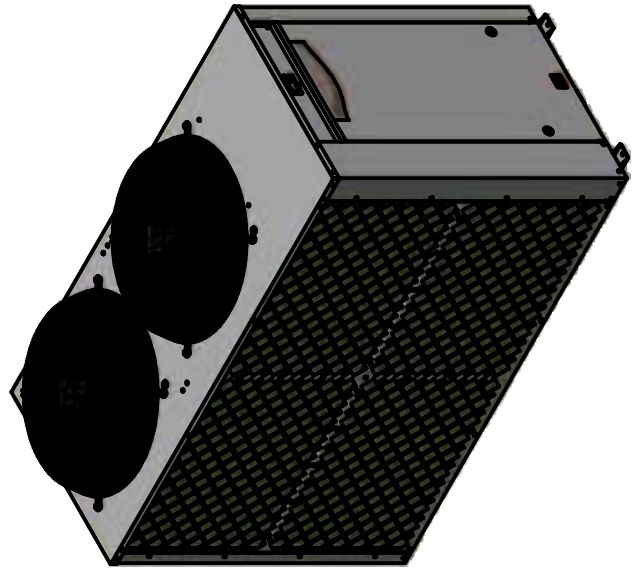
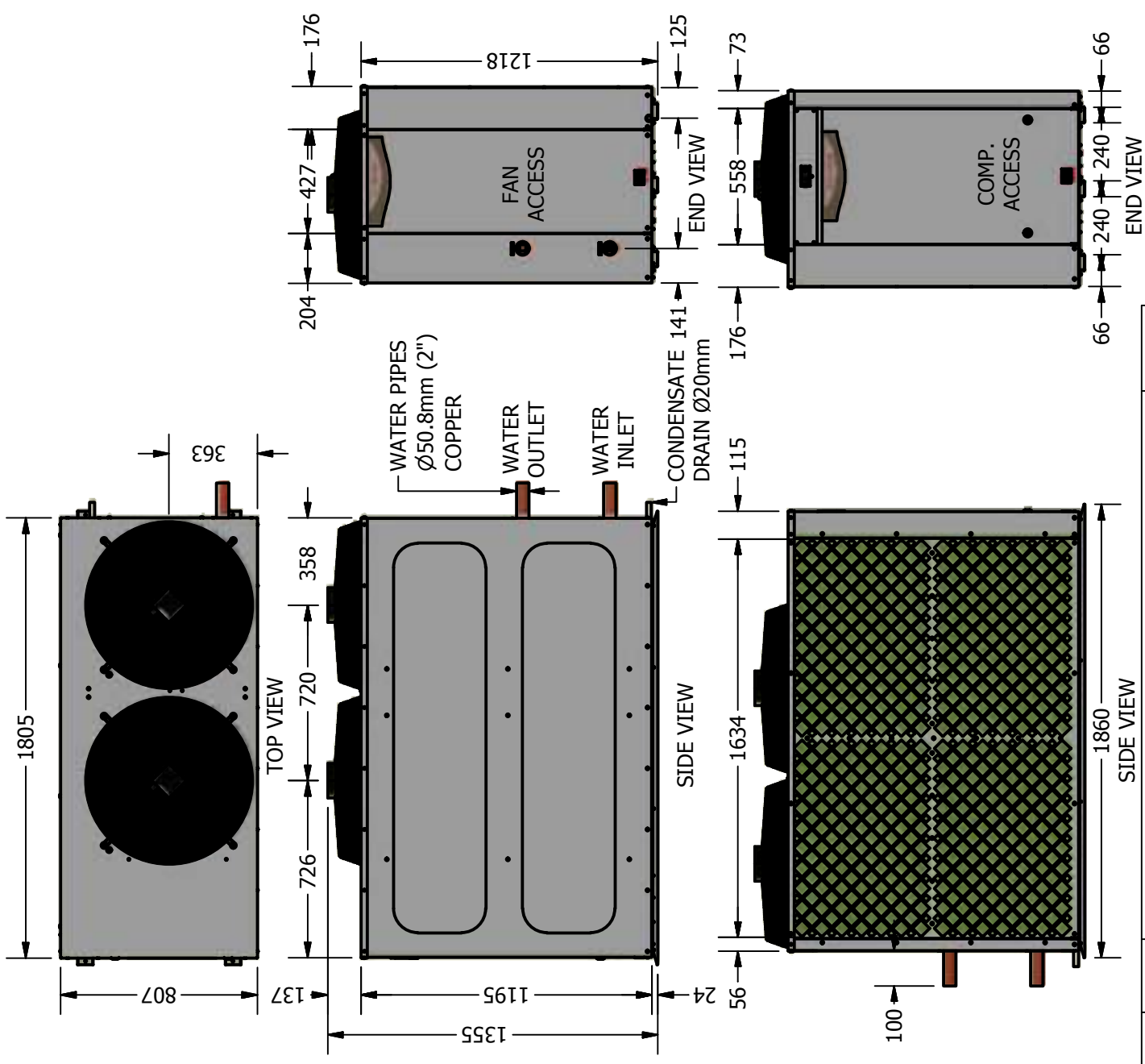
**Rheem**  
 THERMAL SYSTEMS GROUP

SHEET 1 OF 3

<b>Description:</b>	RHEEM THERMAL A2W RTHW	
<b>Part No:</b>	RTHW064KS-7EV-1	<b>Rev.</b>
<b>Material:</b>		<b>Date:</b> 22/05/2018
<b>Drawn By:</b>	JPB	<b>Checked By:</b>
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2	
		<b>Scale:</b> N.T.S

REV	ECN	DESCRIPTION	DATE





**Rheem**  
 THERMAL SYSTEMS GROUP

<b>Description:</b>		RHEEM THERMAL A2W RTHW	
<b>Part No:</b>	RTHW064KS-7QV-1	<b>Rev.</b>	1
<b>Material:</b>		<b>Date:</b>	22/05/2018
<b>Drawn By:</b>	JPB	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions ± 2, Angle ± 2		
			<b>Scale:</b> N.T.S

SHEET 1 OF 3

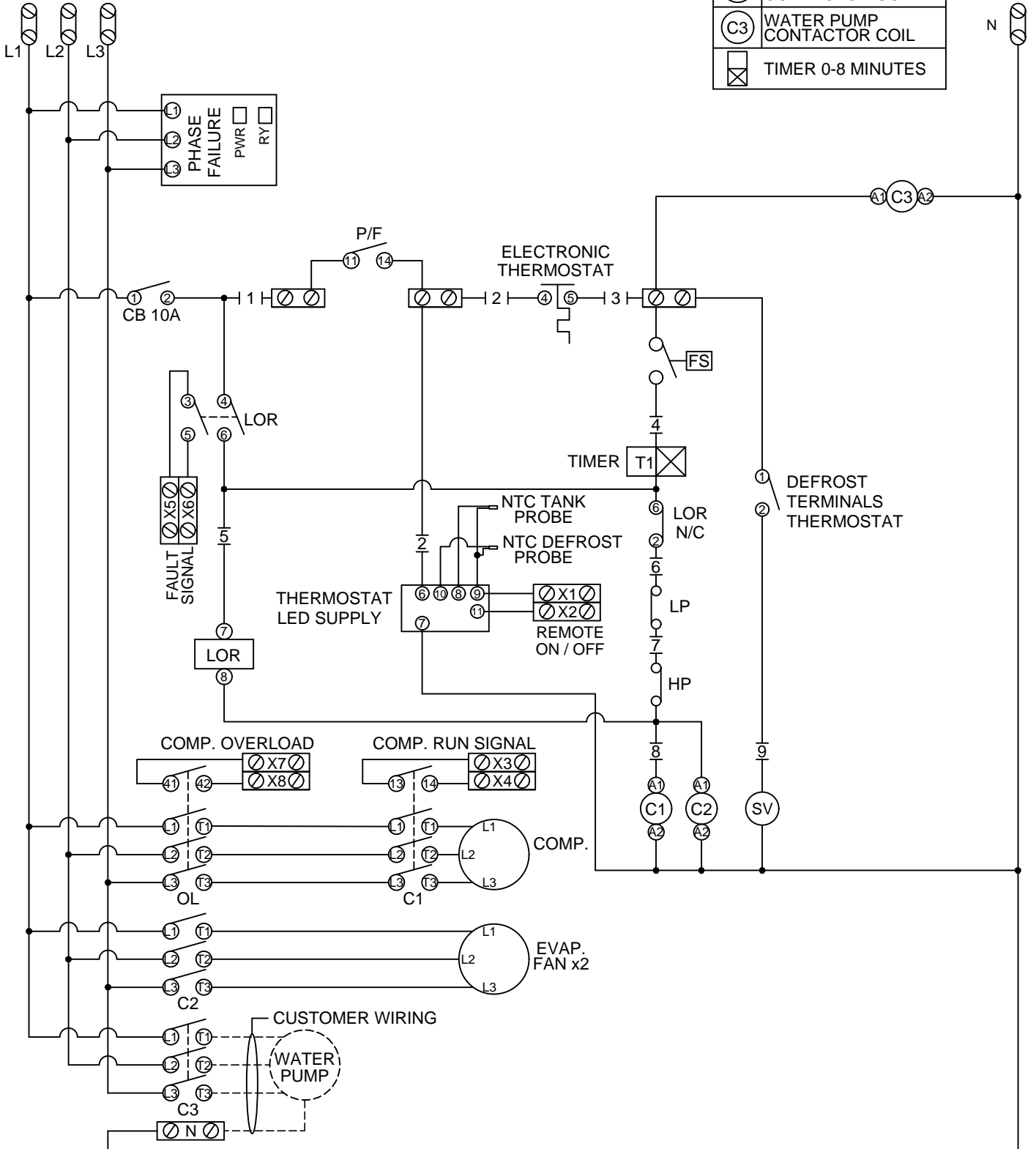
REV	ECN	DESCRIPTION	DATE
01	0383	ADDED RHEEM IQ	24/02/20

# WIRING DIAGRAM FOR 3Ø WITH WATER PUMP.

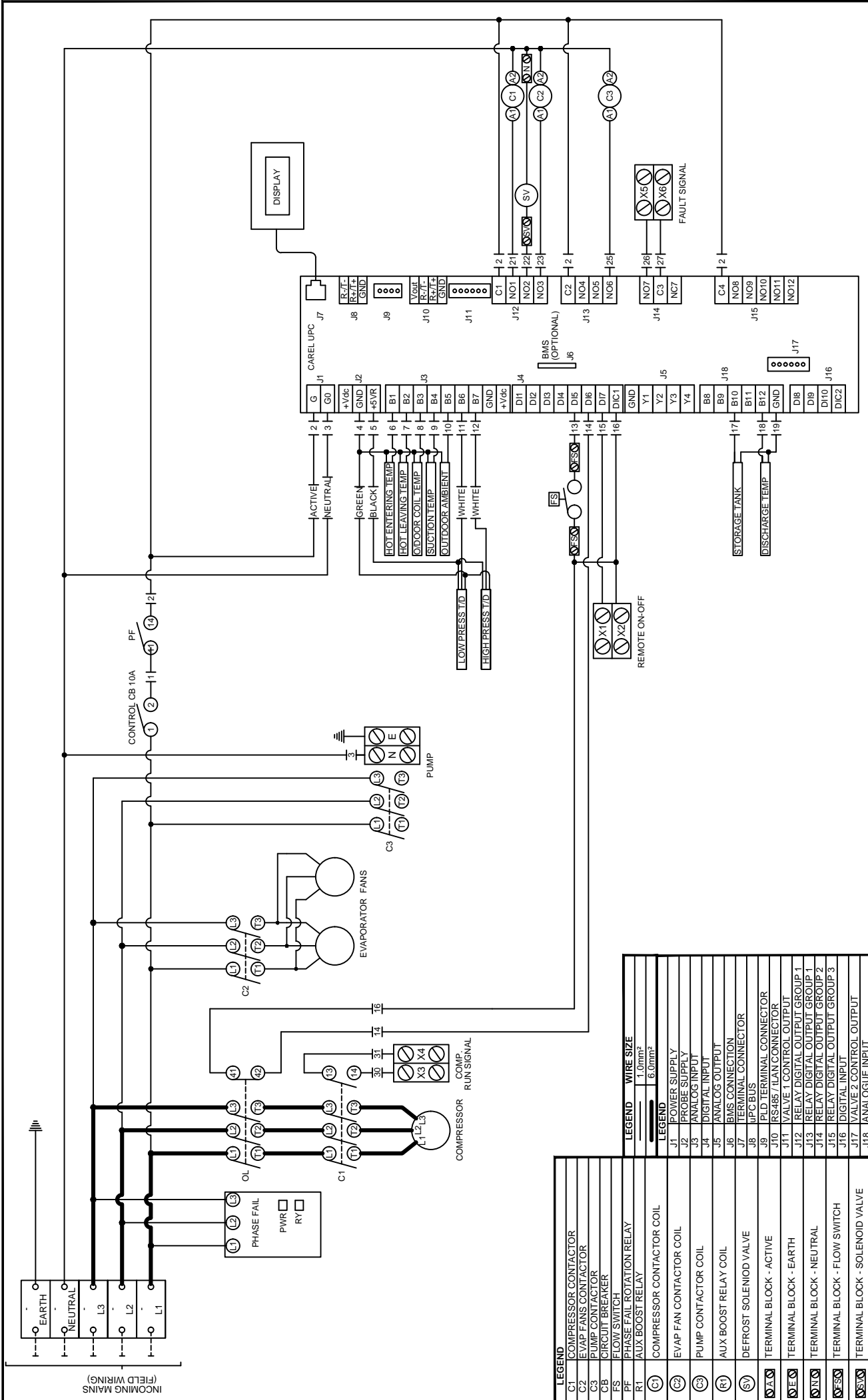
**TO USE REMOTE ON/OFF**

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	FAN CONTACTOR
C3	PUMP CONTACTOR
CB	CIRCUIT BREAKER
OL	COMP. OVERLOAD
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	EVAP. FAN CONTACTOR COIL
(C3)	WATER PUMP CONTACTOR COIL
[X]	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE			43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698	RTHW064 R407C 60Hz
				Drawn By:	J.Bates	Date:	19/02/2020
							Part No: <b>47171E</b>
							Rev: <b>00</b>



		<b>RTHW064 on R407C 60Hz</b>	
43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		Part No: <b>47172E</b> Rev: <b>00</b>	
Drawn By: <b>J.Bates</b>	Date: <b>19/02/2020</b>	DATE	
REV	ECN	DESCRIPTION	

## 2.3

### AIR TO WATER HEAT PUMP

(50Hz, HIGH TEMP), *RTHW###D#-D#V-1*



## HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger / thermostat control	RTHW020DS-DEV-1
Single wall heat exchanger / Rheem IQ control	RTHW020DS-DQV-1
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	12.8 FLA / 101 LRA
Min. Circuit Size	20.0 Amps
Refrigerant	R134A
Nominal Heating capacity	20.35 kW
Power input	4.98 kW
COP	4.09 COP
Noise Level	59 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	10.7 Amps

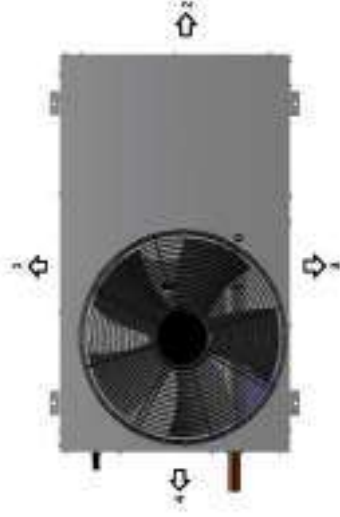
<b>TECHNICAL DATA</b>	
Make	<b>Compressor</b>
Type	Copeland
Number Per Unit	Scroll 20014
FLA (Full Load Amps)	1
Voltage / Phase	11.6 Amps (Each)
Pole/RPM	380 - 415 / 3
Air Flow	2/2,900
	N/A
	<b>Fan</b>
	EBM-Papst
	Axial
	1
	1.2 Amps (Each)
	220 - 240 / 1
	6/890
	1150 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	0.81 L/s
Max. Outlet Water Temp	65°C / 70°C*
Design Pressure Drop	60 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	32mm (1 1/4") Copper
Drain	20mm PVC
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	110 kg
Size L x W x H	1007mm x 650mm x 1090mm

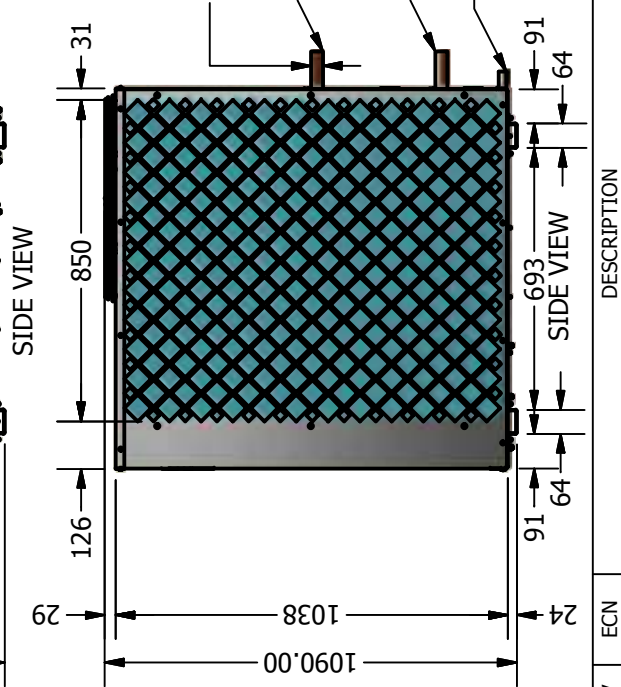
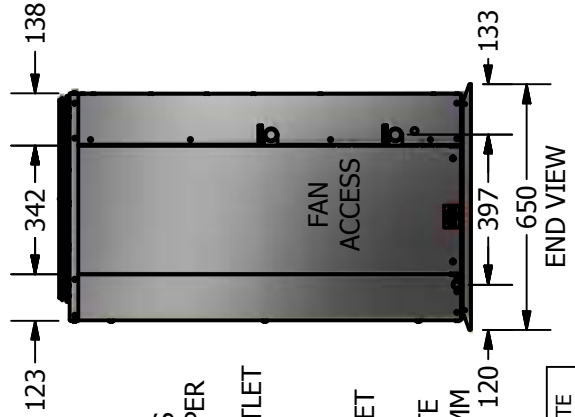
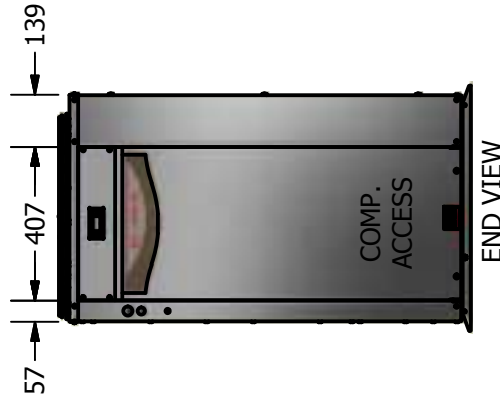
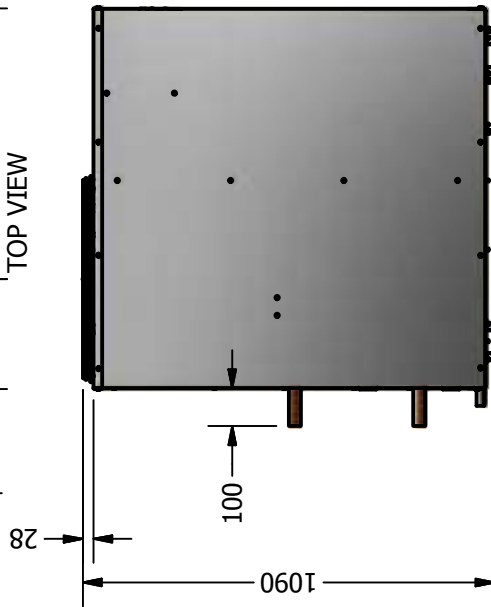
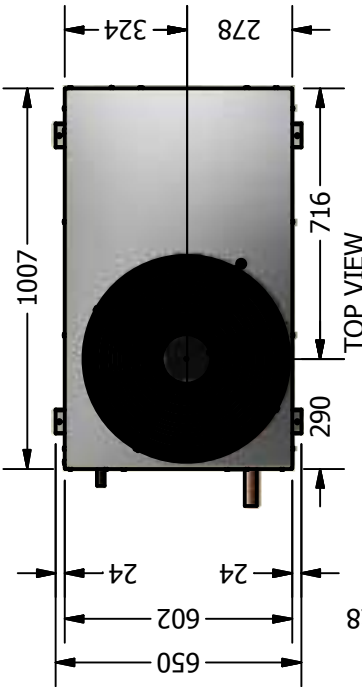
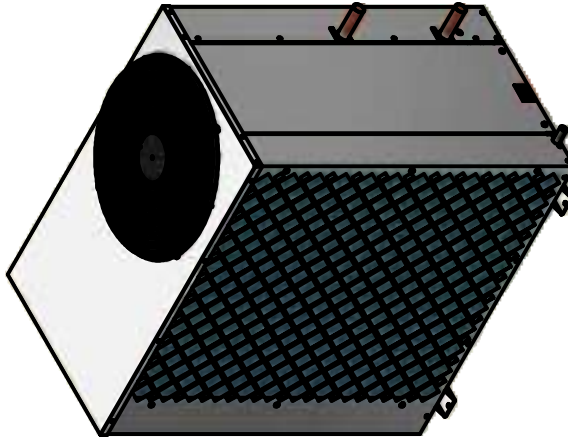
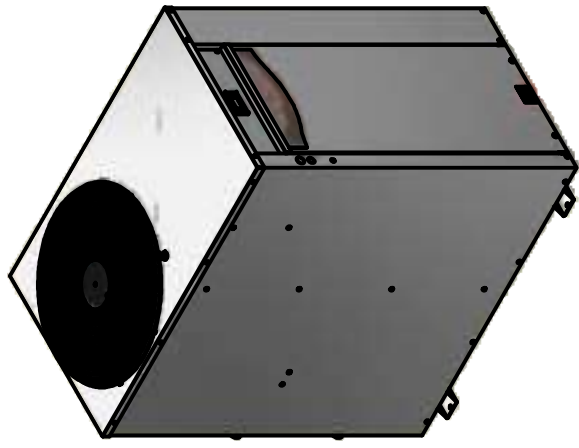
## COP TABLE

Water Out °C	Ambient Temperature									
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C		
45 °C	11.67 kW 2.40 COP	13.21 kW 2.70 COP	14.95 kW 3.05 COP	16.40 kW 3.34 COP	17.99 kW 3.64 COP	19.14 kW 3.86 COP	20.35 kW 4.09 COP	20.98 kW 4.20 COP		
50 °C	11.59 kW 2.18 COP	13.04 kW 2.45 COP	14.69 kW 2.76 COP	16.08 kW 3.01 COP	17.59 kW 3.28 COP	18.68 kW 3.47 COP	19.83 kW 3.67 COP	20.43 kW 3.77 COP		
55 °C	11.55 kW 2.03 COP	12.94 kW 2.27 COP	14.52 kW 2.54 COP	15.84 kW 2.77 COP	17.29 kW 3.01 COP	18.33 kW 3.18 COP	19.44 kW 3.36 COP	20.02 kW 3.46 COP		
60 °C	11.54 kW 1.88 COP	12.86 kW 2.10 COP	14.37 kW 2.34 COP	15.63 kW 2.55 COP	17.02 kW 2.76 COP	18.01 kW 2.92 COP	19.07 kW 3.08 COP	19.63 kW 3.16 COP		
65 °C	11.57 kW 1.72 COP	12.81 kW 1.91 COP	14.22 kW 2.12 COP	15.41 kW 2.29 COP	16.71 kW 2.48 COP	17.65 kW 2.62 COP	18.65 kW 2.76 COP	19.17 kW 2.83 COP		
70 °C	N/A	N/A	N/A	N/A	16.45 kW 2.23 COP	17.33 kW 2.35 COP	18.27 kW 2.47 COP	18.76 kW 2.54 COP		



UNIT CLEARANCES	
Direction	Description
1	Evaporator Coil
2	Compressor Access
3	Plain Back
4	Water Connections
5	Top - Fan Discharge
	Minimum Clearance Required
	500mm
	850mm
	Nil
	500mm
	2500mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C

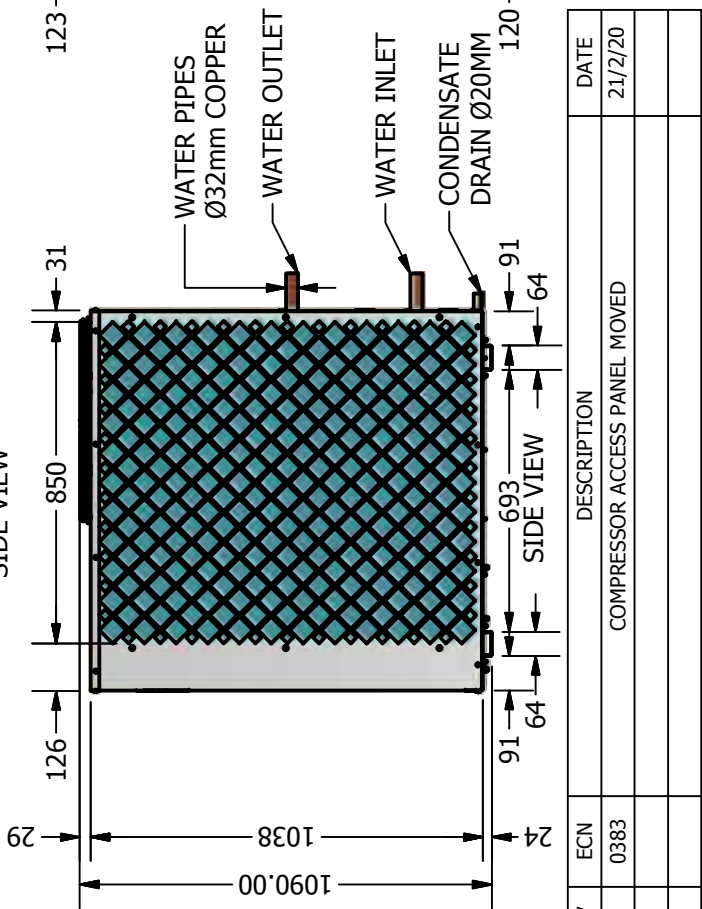
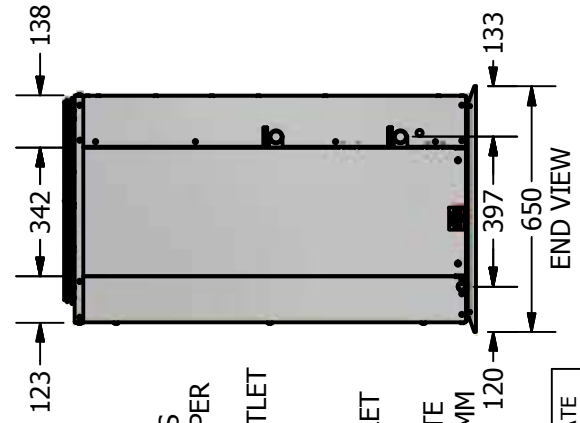
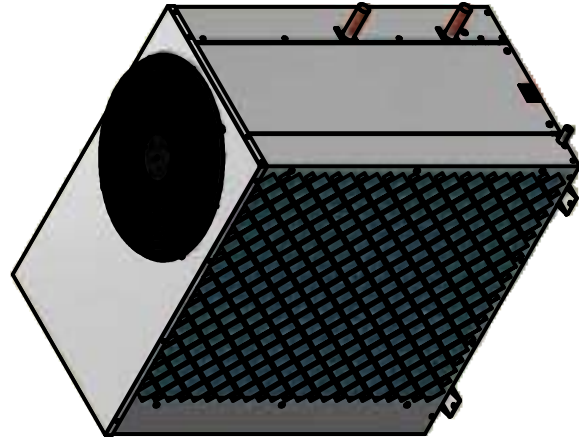
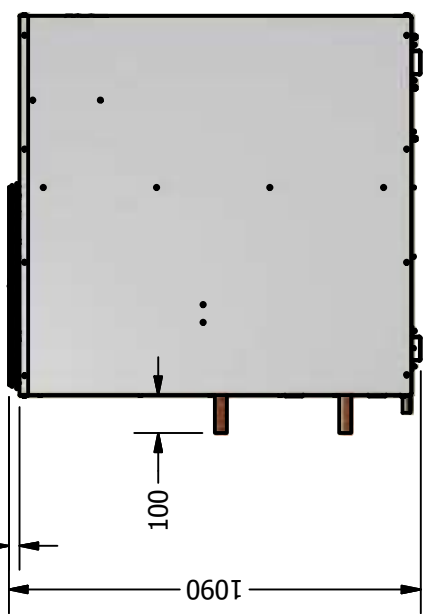
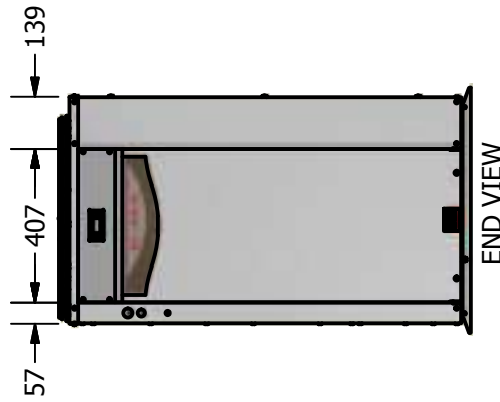
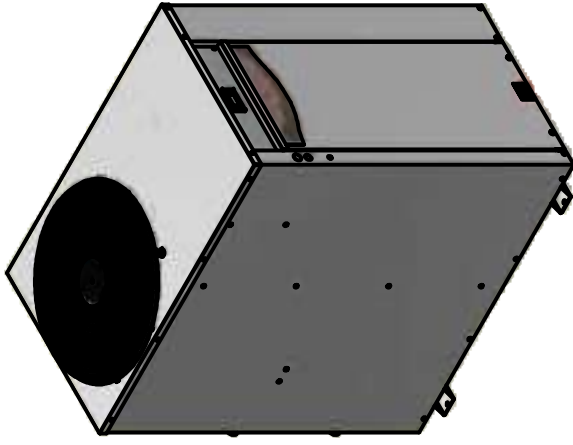
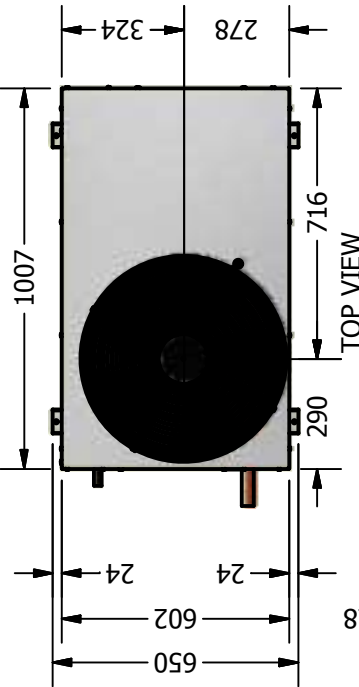



REV	ECN	DESCRIPTION	DATE
01	0383	COMPRESSOR ACCESS PANEL MOVED	21/2/20



**Rheem**  
THERMAL SYSTEMS GROUP

SHEET 1 OF 3			
<b>Description:</b>	RHEEM THERMAL A2W RTHW		
<b>Part No:</b>	RTHW020DS-DEV-1	<b>Rev.</b>	1
<b>Material:</b>			
<b>Drawn By:</b>	j.bates	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2		
<b>Date:</b>	21/02/2020		
<b>Scale:</b>	N.T.S		



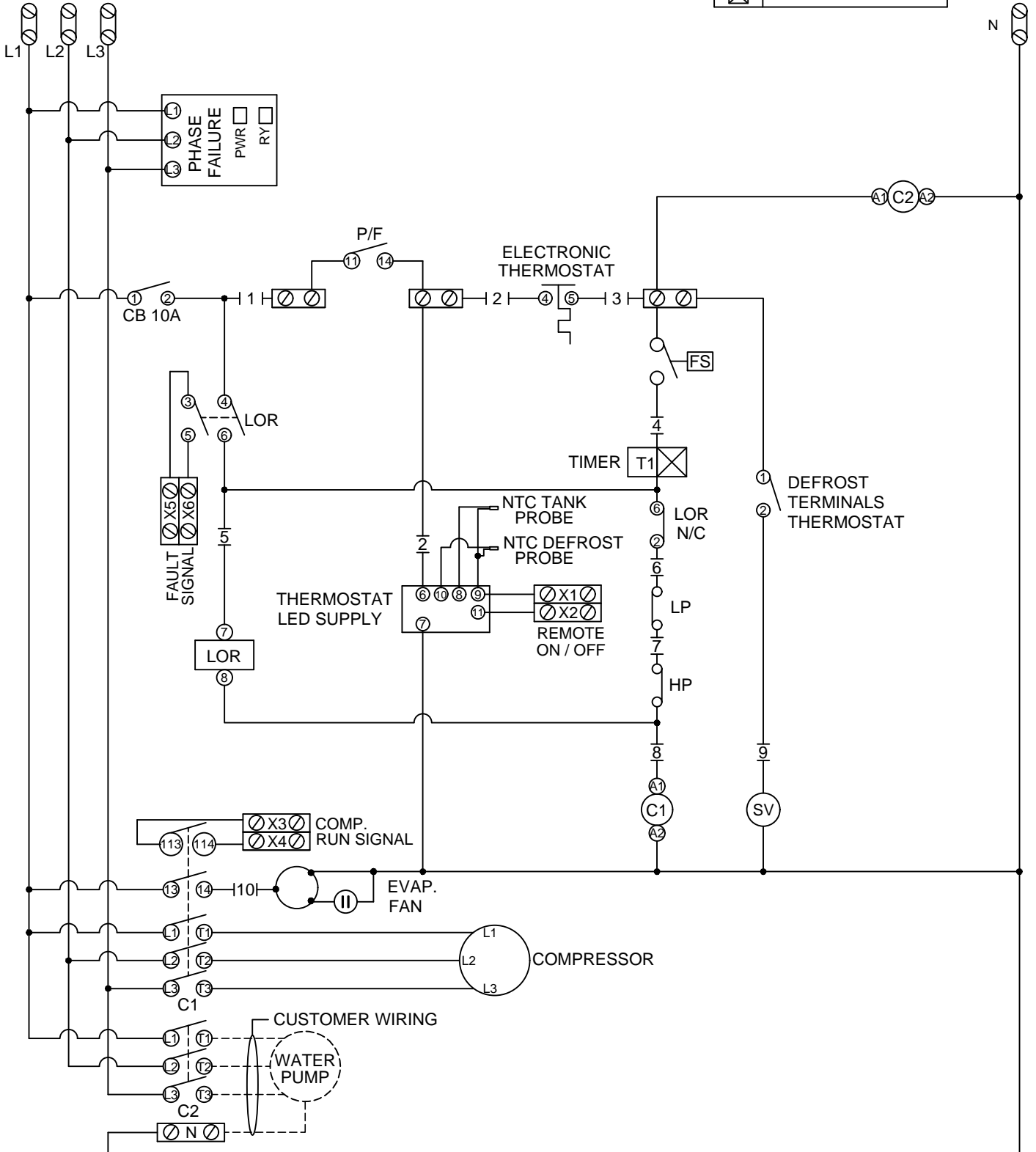
 <b>Rheem</b> THERMAL SYSTEMS GROUP		SHEET 1 OF 3		
		<b>Description:</b>	RHEEM THERMAL A2W RTHW	
<b>Part No:</b>	RTHW020DS-DQV-1	<b>Rev.</b>	1	
<b>Material:</b>		<b>Date:</b>	21/02/2020	
<b>Drawn By:</b>	j.bates	<b>Checked By:</b>		
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm		<b>Scale:</b>	N.T.S
	Tubes - Dimensions +2, Angle ±2			

REV	ECN	DESCRIPTION	DATE
01	0383	COMPRESSOR ACCESS PANEL MOVED	21/2/20

TO USE REMOTE ON/OFF

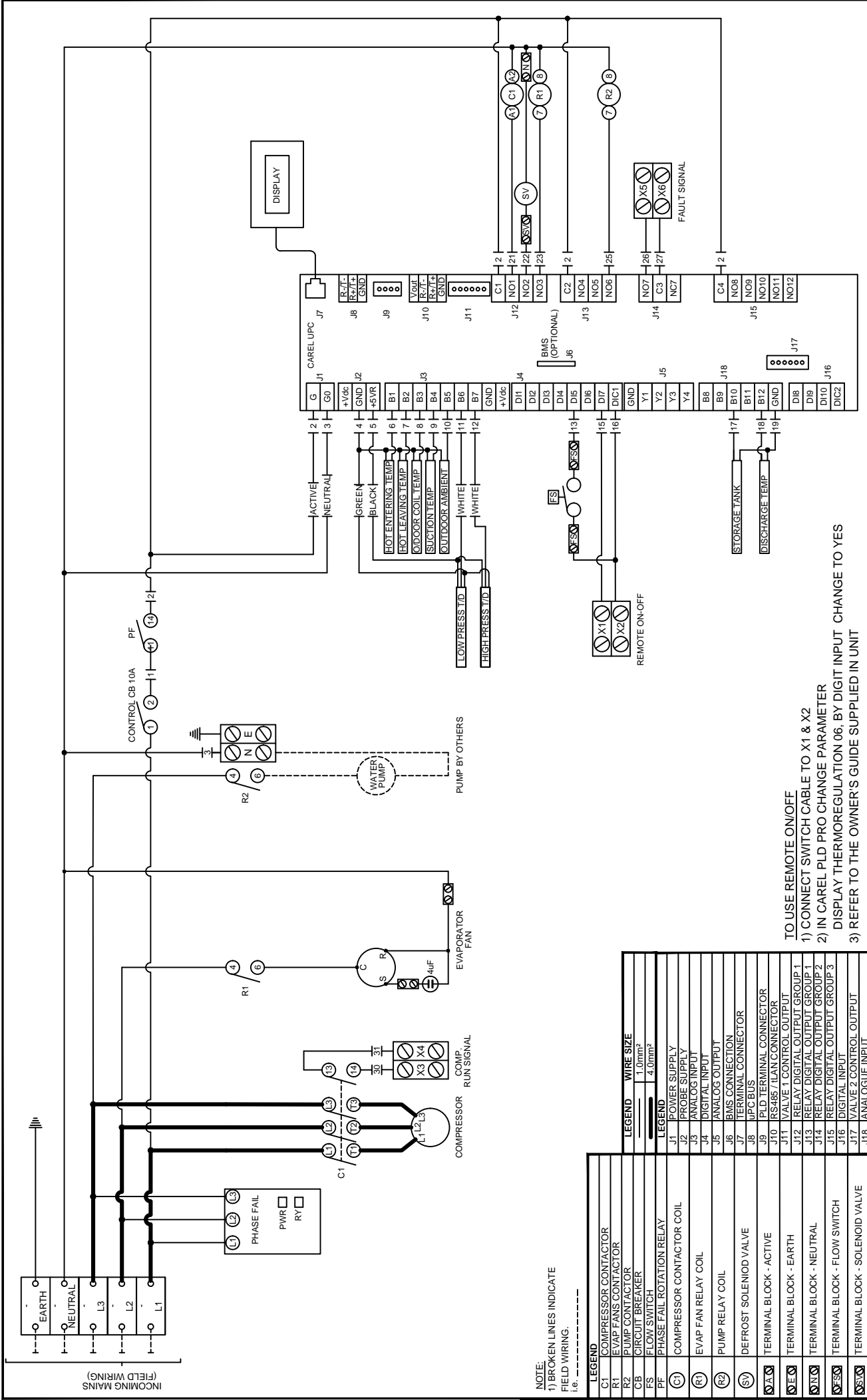
- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	PUMP CONTACTOR
CB	CIRCUIT BREAKER
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	WATER PUMP CONTACTOR COIL
	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE	Rheem THERMAL SYSTEMS GROUP		43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		RTHW020 on R134A	
01	0383	Description updated	18/02/20	Drawn By:	B.Fleming	Date:	11/9/2019	Part No:	47105E
								Rev:	01





REV	ECN	DESCRIPTION	DATE	Drawn By:	Date:	Part No:	Rev:
				J.Bates	19/02/2020	47173E	00

**RTHW020 on R134A**

43 Marigold Street  
 Revesby NSW 2212  
 Phone: (02) 9684 3684  
 Fax: (02) 9684 3698



- TO USE REMOTE ON/OFF**
- 1) CONNECT SWITCH CABLE TO X1 & X2
  - 2) IN CAREL PLD PRO CHANGE PARAMETER DISPLAY THERMOREGULATION 06, BY DIGIT INPUT CHANGE TO YES
  - 3) REFER TO THE OWNER'S GUIDE SUPPLIED IN UNIT

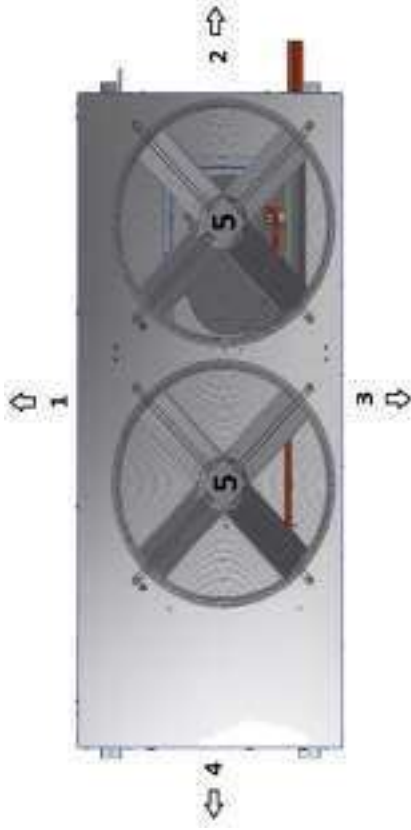
**NOTE:**  
 1) BROKEN LINES INDICATE FIELD WIRING.  
 (i.e. -----)

LEGEND	WIRE SIZE
C1	1.0mm <sup>2</sup>
R1	4.0mm <sup>2</sup>
R2	
CB	
FS	
PF	
(C)	
(R)	
(R2)	
(SV)	
(X1)	
(X2)	
(X5)	
(X6)	

LEGEND	DESCRIPTION
J1	POWER SUPPLY
J2	PROBE SUPPLY
J3	ANALOG INPUT
J4	DIGITAL INPUT
J5	ANALOG OUTPUT
J6	BMS CONNECTION
J7	TERMINAL CONNECTOR
J8	JFC-BUS
J9	PLD TERMINAL CONNECTOR
J10	RS-485 / I-LAN CONNECTOR
J11	VALVE 1 CONTROL OUTPUT
J12	RELAY DIGITAL OUTPUT GROUP 1
J13	RELAY DIGITAL OUTPUT GROUP 1
J14	RELAY DIGITAL OUTPUT GROUP 2
J15	RELAY DIGITAL OUTPUT GROUP 3
J16	DIGITAL INPUT
J17	VALVE 2 CONTROL OUTPUT
J18	ANALOGUE INPUT

**COP TABLE**

Water Out °C	Ambient Temperature									
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C		
45 °C	21.11 kW 2.77 COP	23.92 kW 3.12 COP	26.83 kW 3.49 COP	29.12 kW 3.80 COP	31.52 kW 4.11 COP	33.20 kW 4.33 COP	34.96 kW 4.54 COP	35.87 kW 4.65 COP		
50 °C	20.50 kW 2.47 COP	23.27 kW 2.77 COP	26.08 kW 3.10 COP	28.26 kW 3.36 COP	30.53 kW 3.64 COP	32.11 kW 3.84 COP	33.75 kW 4.03 COP	34.59 kW 4.14 COP		
55 °C	19.94 kW 2.26 COP	22.67 kW 2.53 COP	25.41 kW 2.82 COP	27.50 kW 3.05 COP	29.66 kW 3.30 COP	31.15 kW 3.48 COP	32.69 kW 3.66 COP	33.49 kW 3.75 COP		
60 °C	19.32 kW 2.07 COP	22.01 kW 2.31 COP	24.66 kW 2.56 COP	26.66 kW 2.77 COP	28.71 kW 2.99 COP	30.11 kW 3.15 COP	31.55 kW 3.31 COP	32.29 kW 3.39 COP		
65 °C	18.42 kW 1.86 COP	21.05 kW 2.07 COP	23.60 kW 2.29 COP	25.49 kW 2.46 COP	27.39 kW 2.65 COP	28.68 kW 2.78 COP	30.00 kW 2.92 COP	30.67 kW 2.99 COP		
70 °C	N/A	N/A	N/A	N/A	25.91 kW 2.34 COP	27.09 kW 2.45 COP	28.28 kW 2.57 COP	28.88 kW 2.63 COP		



UNIT CLEARANCES	
Direction	Description
1	Evaporator Coil
2	Water Connections
3	Plain Back
4	Compressor Access
5	Top - Fan Discharge
	Minimum Clearance Required
	1000 mm
	500 mm
	Nil
	850 mm
	3500 mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C

HOT WATER HEAT PUMP SPECIFICATIONS	
Single wall heat exchanger / thermostat control	RTHW035DS-DEV-1
Double wall heat exchanger / thermostat control	RTHW035DV-DEV-1
Single wall heat exchanger / Rheem IQ control	RTHW035DS-DQV-1
Double wall heat exchanger / Rheem IQ control	RTHW035DV-DQV-1

ELECTRICAL INPUT	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	20.2 FLA / 118 LRA
Min. Circuit Size	25.0 Amps
Refrigerant	R134A
Nominal Heating capacity	34.96 kW
Power input	7.69 kW
COP	4.54 COP
Noise Level	62 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	16.5 Amps

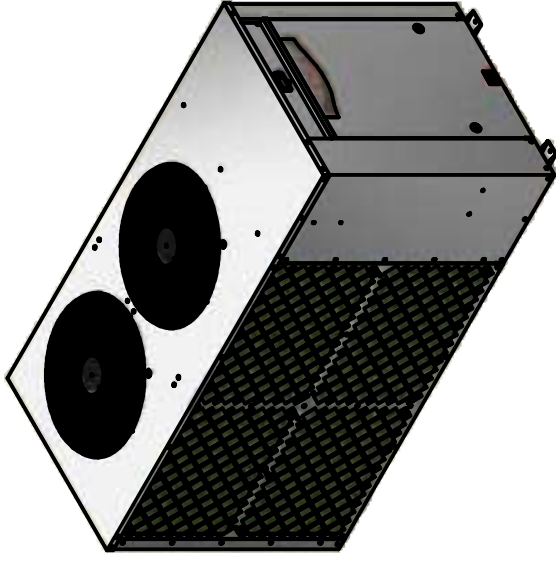
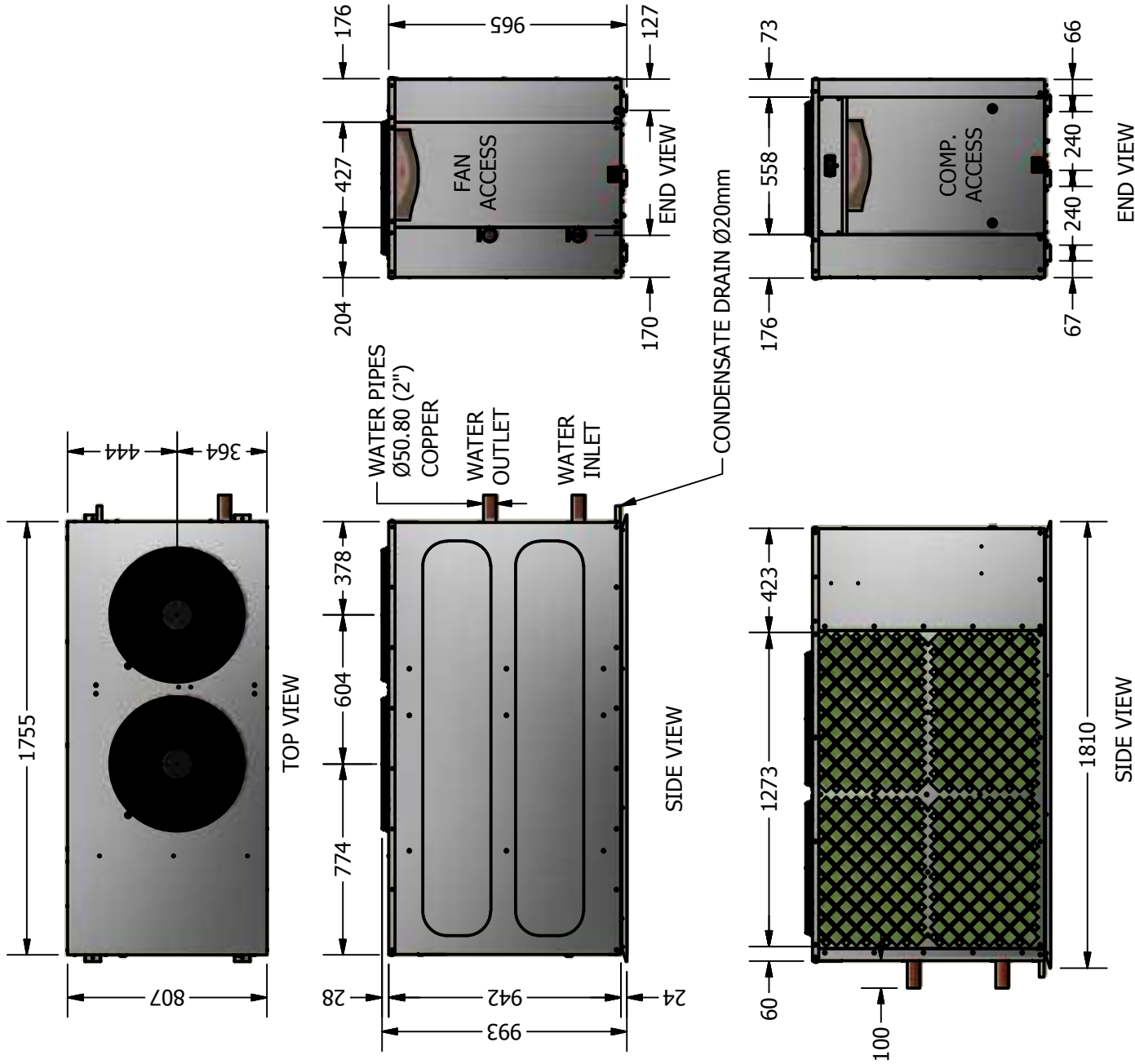
TECHNICAL DATA	
Make	Compressor
Type	Copeland
Number Per Unit	Scroll 20018
FLA (Full Load Amps)	17.8 Amps (Each)
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900
Air Flow	N/A
	Fan
	EBM-Papst
	Axial
	2

HEAT EXCHANGER (Water Side)	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	1.39 L/s
Max. Outlet Water Temp	65°C / 70°C*
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa

GENERAL INFORMATION	
Water Connections	50.8mm (2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	220 kg
Size L x W x H	1755 mm x 807 mm x 994 mm



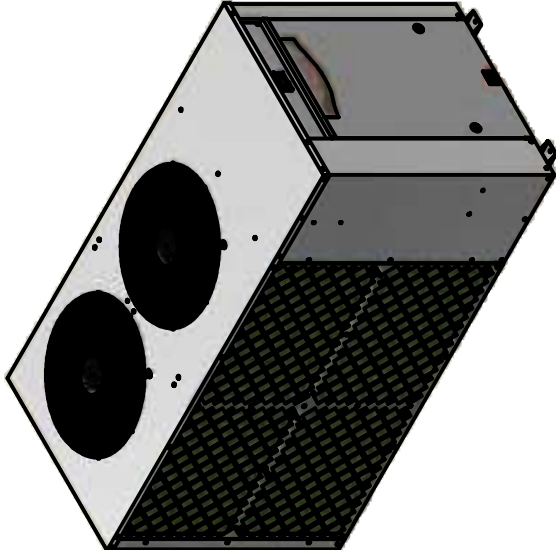
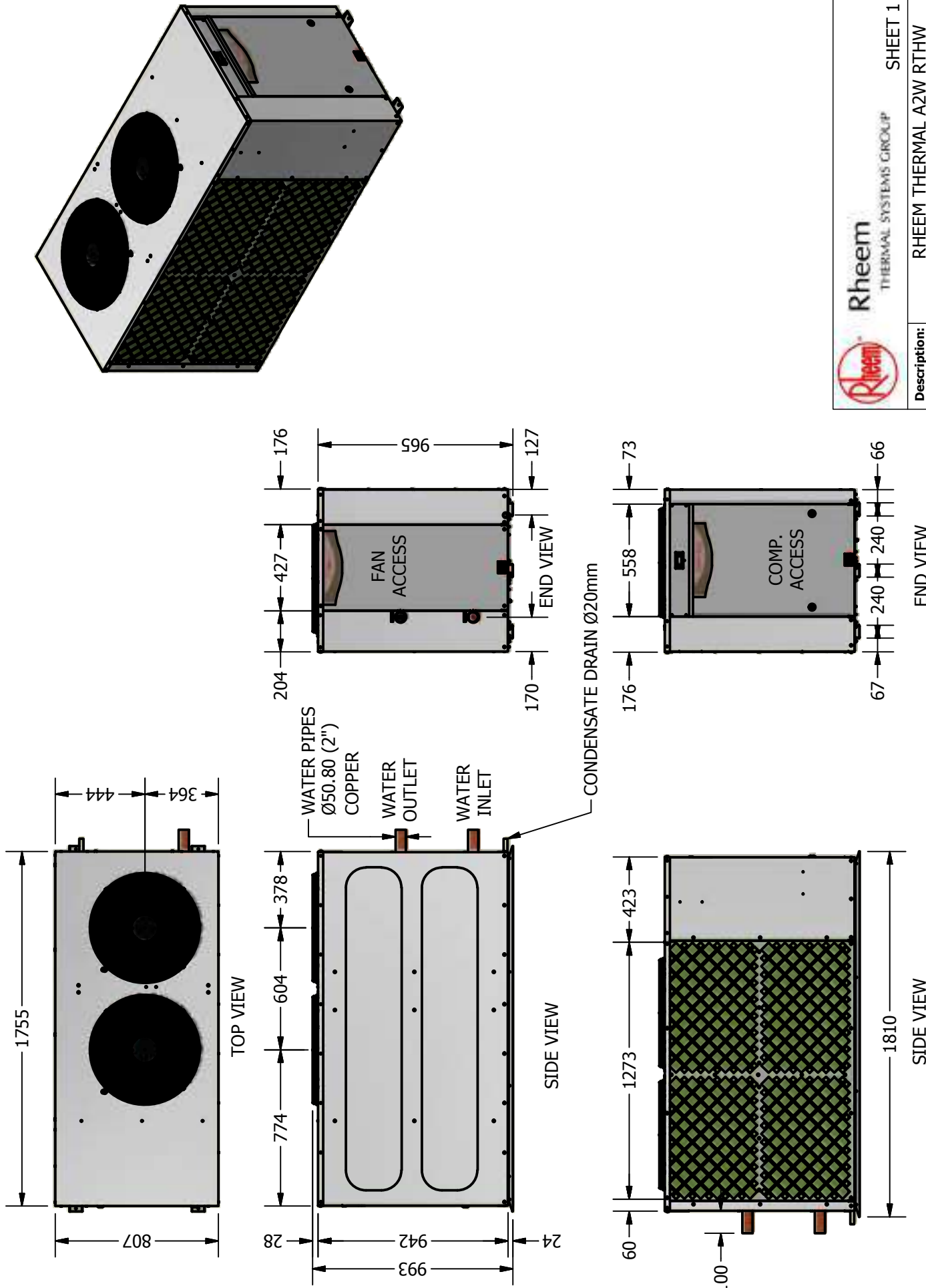
**Manufactured In Australia by Rheem Thermal Systems Group**  
 Unit specifications subject to change without notice. ABN 28 062 383 224



**Rheem**  
 THERMAL SYSTEMS GROUP

<b>Description:</b> RHEEM THERMAL A2W RTHW		SHEET 1 OF 3	
<b>Part No:</b> RTHW035DS-DEV-1	<b>Rev.:</b>		
<b>Material:</b>	<b>Date:</b> 20/06/2018		
<b>Drawn By:</b> JPB	<b>Checked By:</b>		
<b>General Tolerance:</b> Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions ± 2, Angle ± 2°	<b>Scale:</b> N.T.S		

REV	ECN	DESCRIPTION	DATE



<b>Rheem</b> THERMAL SYSTEMS GROUP		SHEET 1 OF 3	
<b>Description:</b>	RHEEM THERMAL A2W RTHW	<b>Rev.</b>	1
<b>Part No:</b>	RTHW035DS-DQV-1	<b>Date:</b>	18/06/2018
<b>Material:</b>		<b>Checked By:</b>	JPB
<b>Drawn By:</b>		<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2
<b>Scale:</b>	N.T.S		

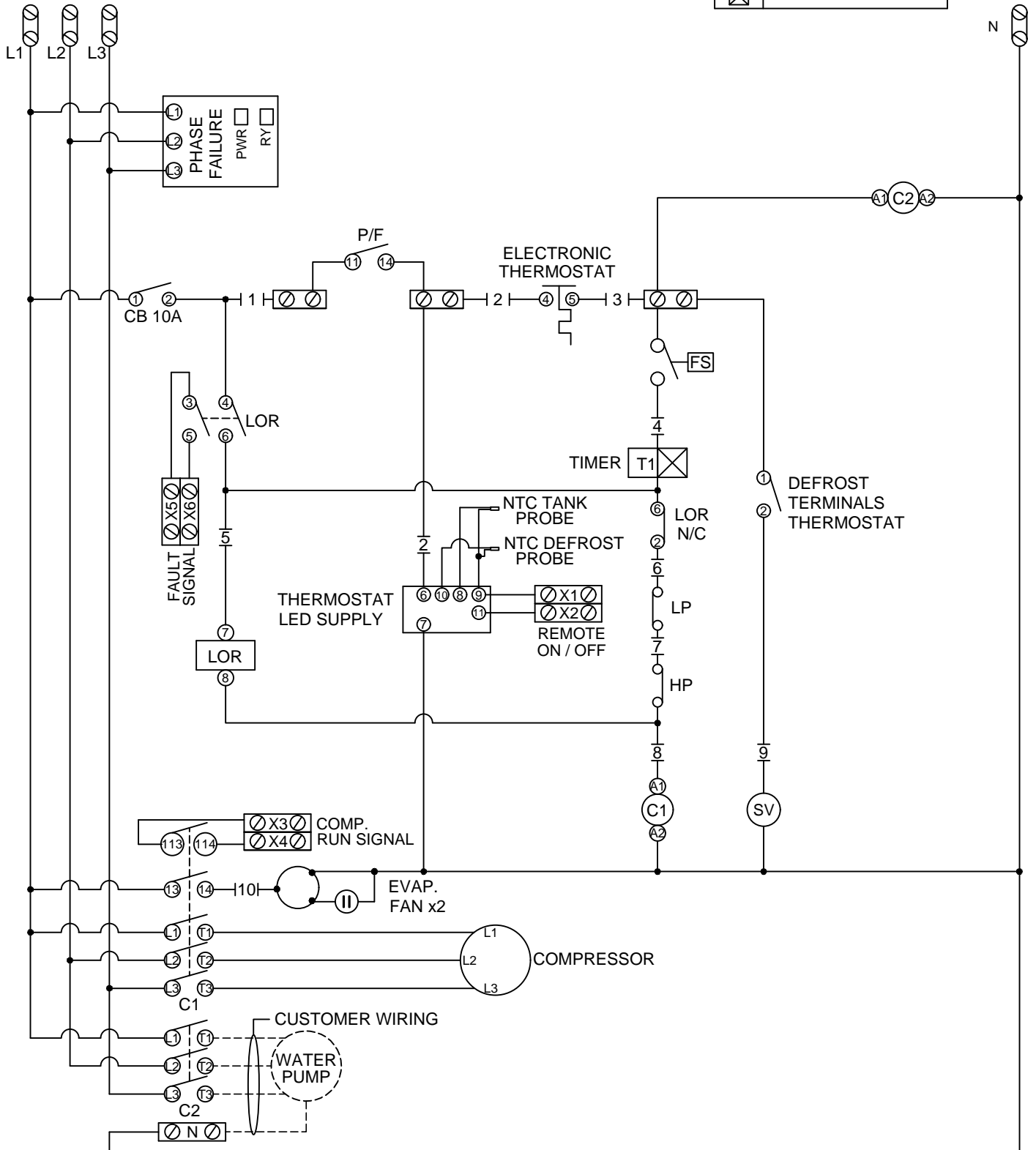
REV	ECN	DESCRIPTION	DATE
01	0383	ADDED MINI IQ	21/02/20

# WIRING DIAGRAM FOR 3Ø WITH WATER PUMP.

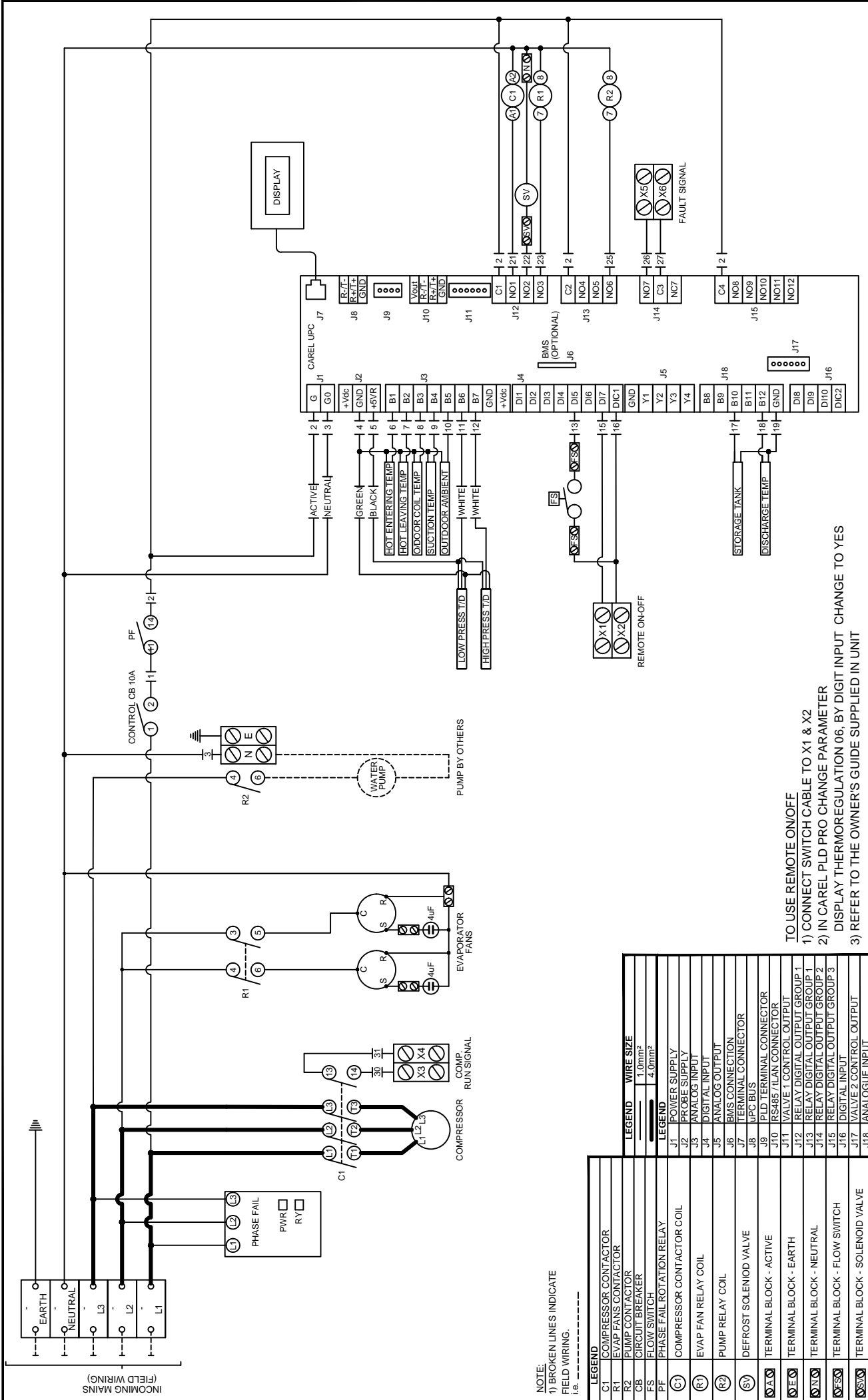
### TO USE REMOTE ON/OFF

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	PUMP CONTACTOR
CB	CIRCUIT BREAKER
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	WATER PUMP CONTACTOR COIL
	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE			43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		RTHW035 on R134A	
				Drawn By: J.BATES	Date: 19/02/2020	Part No:	Rev:	47174E 00	



**NOTE:**  
 1) BROKEN LINES INDICATE FIELD WIRING.  
 i.e. -----

**LEGEND**

TERMINAL	DESCRIPTION
C1	COMPRESSOR CONTACTOR
R1	EVAP FANS CONTACTOR
R2	PUMP CONTACTOR
CB	CIRCUIT BREAKER
FS	FLOW SWITCH
PF	PHASE FAIL ROTATION RELAY
(C)	COMPRESSOR CONTACTOR COIL
(F)	EVAP FAN RELAY COIL
(R)	PUMP RELAY COIL
(S)	DEFROST SOLENOID VALVE
(A)	TERMINAL BLOCK - ACTIVE
(E)	TERMINAL BLOCK - EARTH
(N)	TERMINAL BLOCK - NEUTRAL
(F)	TERMINAL BLOCK - FLOW SWITCH
(V)	TERMINAL BLOCK - SOLENOID VALVE

**LEGEND**

TERMINAL	DESCRIPTION
J1	POWER SUPPLY
J2	PROBE SUPPLY
J3	ANALOG INPUT
J4	DIGITAL INPUT
J5	ANALOG OUTPUT
J6	BMS CONNECTION
J7	TERMINAL CONNECTOR
J8	JPC BUS
J9	PLD TERMINAL CONNECTOR
J10	RS485 / I/LAN CONNECTOR
J11	VALVE 1 CONTROL OUTPUT
J12	RELAY DIGITAL OUTPUT GROUP 1
J13	RELAY DIGITAL OUTPUT GROUP 1
J14	RELAY DIGITAL OUTPUT GROUP 2
J15	RELAY DIGITAL OUTPUT GROUP 2
J16	DIGITAL INPUT
J17	VALVE 2 CONTROL OUTPUT
J18	ANALOGUE INPUT

**TO USE REMOTE ON/OFF**  
 1) CONNECT SWITCH CABLE TO X1 & X2  
 2) IN CAREL PLD PRO CHANGE PARAMETER DISPLAY THERMOREGULATION 06, BY DIGIT INPUT CHANGE TO YES  
 3) REFER TO THE OWNER'S GUIDE SUPPLIED IN UNIT

**REV**    **ECN**    **DESCRIPTION**

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**DATE**

--

**43 Marigold Street  
 Revesby NSW 2212  
 Phone: (02) 9684 3684  
 Fax: (02) 9684 3698**

**Rheem**  
 THERMAL SYSTEMS GROUP

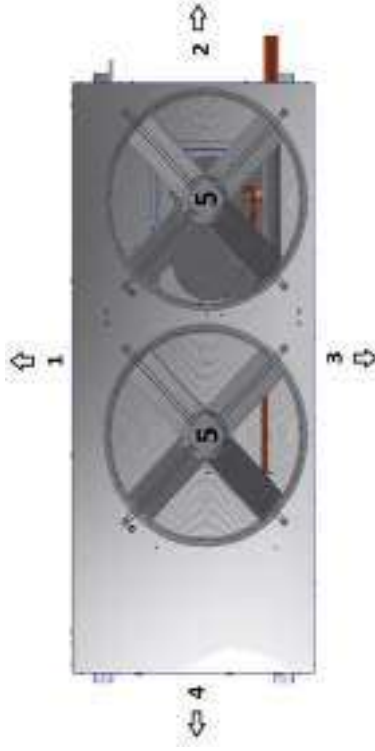
**RTHW035 on R134A**

**Part No: 47175E**    **Rev: 00**

**Drawn By: J.Bates**    **Date: 19/02/2020**

**COP TABLE**

Water Out °C	Ambient Temperature							
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C
45 °C	26.73 kW	30.49 kW	36.98 kW	39.35 kW	41.93 kW	44.59 kW	47.60 kW	48.77 kW
	2.69 COP	3.06 COP	3.71 COP	3.94 COP	4.19 COP	4.45 COP	4.73 COP	4.85 COP
50 °C	26.18 kW	29.82 kW	36.07 kW	38.34 kW	40.80 kW	43.34 kW	46.21 kW	47.33 kW
	2.40 COP	2.73 COP	3.30 COP	3.50 COP	3.72 COP	3.95 COP	4.20 COP	4.30 COP
55 °C	25.77 kW	29.31 kW	35.36 kW	37.55 kW	39.93 kW	42.40 kW	45.14 kW	46.24 kW
	2.18 COP	2.48 COP	3.00 COP	3.18 COP	3.38 COP	3.59 COP	3.82 COP	3.91 COP
60 °C	25.37 kW	28.81 kW	34.68 kW	36.79 kW	39.08 kW	41.44 kW	44.07 kW	45.12 kW
	1.99 COP	2.26 COP	2.72 COP	2.88 COP	3.06 COP	3.25 COP	3.45 COP	3.54 COP
65 °C	24.92 kW	28.23 kW	33.99 kW	36.03 kW	38.23 kW	40.48 kW	43.01 kW	44.01 kW
	1.77 COP	2.01 COP	2.47 COP	2.61 COP	2.77 COP	2.94 COP	3.12 COP	3.19 COP
70 °C	N/A	N/A	N/A	N/A	36.96 kW	39.11 kW	41.39 kW	42.57 kW
	N/A	N/A	N/A	N/A	2.38 COP	2.52 COP	2.67 COP	2.75 COP



UNIT CLEARANCES	
Direction	Description
1	Evaporator Coil
2	Water Connections
3	Plain Back
4	Compressor Access
5	Top - Fan Discharge
	Minimum Clearance Required
	1000mm
	500mm
	Nil
	850mm
	3500mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C

HOT WATER HEAT PUMP SPECIFICATIONS	
Single wall heat exchanger / thermostat control	RTHW048DS-DEV-1
Double wall heat exchanger / thermostat control	RTHW048DV-DEV-1
Single wall heat exchanger / Rheem IQ control	RTHW048DS-DQV-1
Double wall heat exchanger / Rheem IQ control	RTHW048DV-DQV-1

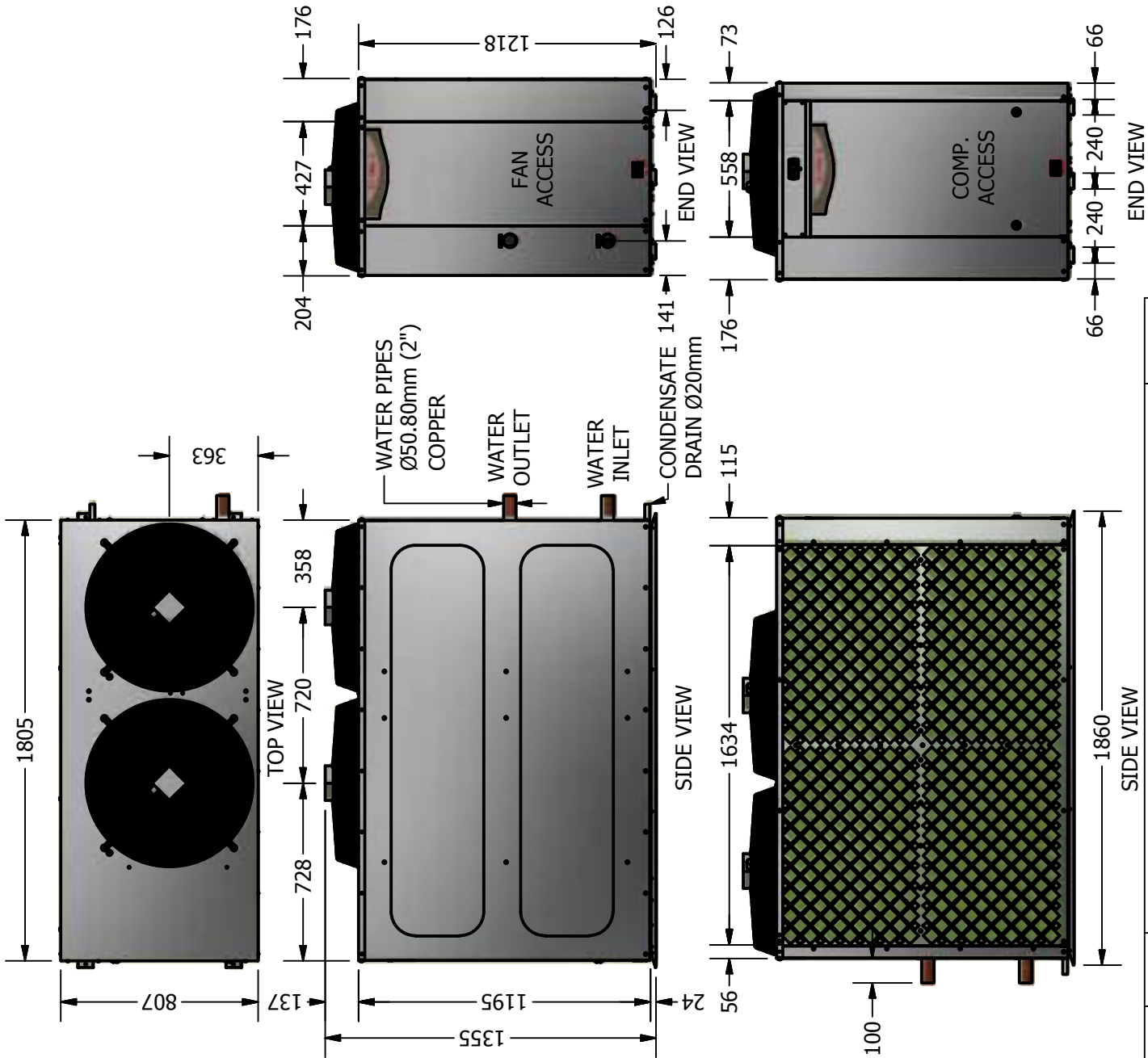
ELECTRICAL INPUT	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	29.2 FLA / 174 LRA
Min. Circuit Size	40.0 Amps
Refrigerant	R134A
Nominal Heating capacity	47.60 kW
Power input	10.06 kW
COP	4.73 COP
Noise Level	69 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	25.7 Amps

TECHNICAL DATA	
Make	Compressor
Type	Copeland
Number Per Unit	Scroll 20056
FLA (Full Load Amps)	26.8 Amps (Each)
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900
Air Flow	N/A
	Fan
	EBM-Papst
	Axial
	2

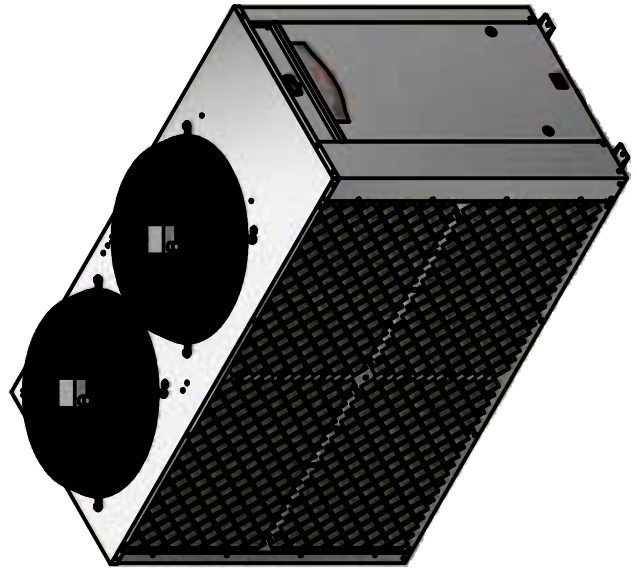
HEAT EXCHANGER (Water Side)	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	1.90 L/s
Max. Outlet Water Temp	65°C / 70°C*
Design Pressure Drop	60 kPa
Max. Operating Pressure	2,450 kPa

GENERAL INFORMATION	
Water Connections	50.8mm (2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	290 kg
Size L x W x H	1805mm x 807mm x 1355mm





REV	ECN	DESCRIPTION	DATE



**Rheem**  
 THERMAL SYSTEMS GROUP

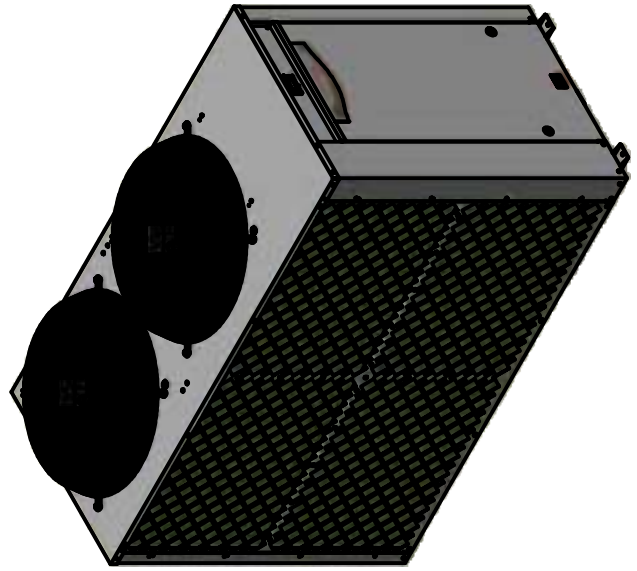
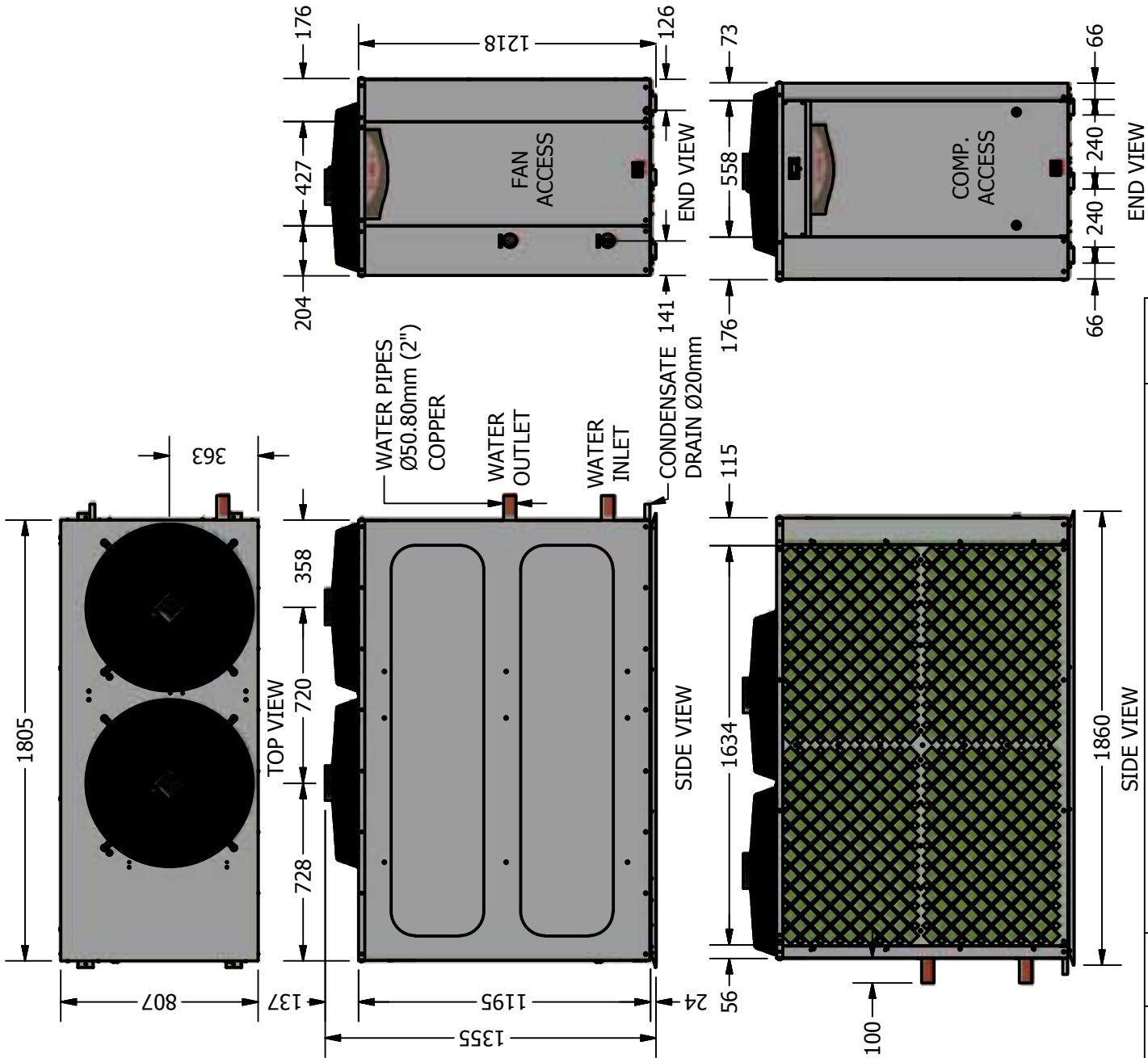
**Description:** RHEEM THERMAL A2W RTHW  
**Part No:** RTHW048DS-DEV-1  
**Material:** SHEETMETAL  
**Drawn By:** JPB  
**Checked By:** JPB  
**General Tolerance:** Sheetmetal - Cut Size - ±0.5mm, Angle - ±0.5°, Bend size - ±0.3mm  
 Tubes - Dimensions +2, Angle ±2

**Rev:** 18/06/2018  
**Date:** 18/06/2018

**Scale:** N.T.S.

SHEET 1 OF 3





<b>Rheem</b> THERMAL SYSTEMS GROUP		SHEET 1 OF 3	
<b>Description:</b>	RHEEM THERMAL A2W RTHW	<b>Rev.</b>	1
<b>Part No:</b>	RTHW048DS-DQV-1	<b>Date:</b>	18/06/2018
<b>Material:</b>		<b>Checked By:</b>	JPB
<b>Drawn By:</b>		<b>General Tolerance:</b>	Sheetmetal - Cut Size - ±0.5mm, Angle - ±0.5°, Bend size - ±0.3mm Tubes - Dimensions +2, Angle ±2
<b>Scale:</b>	N.T.S		

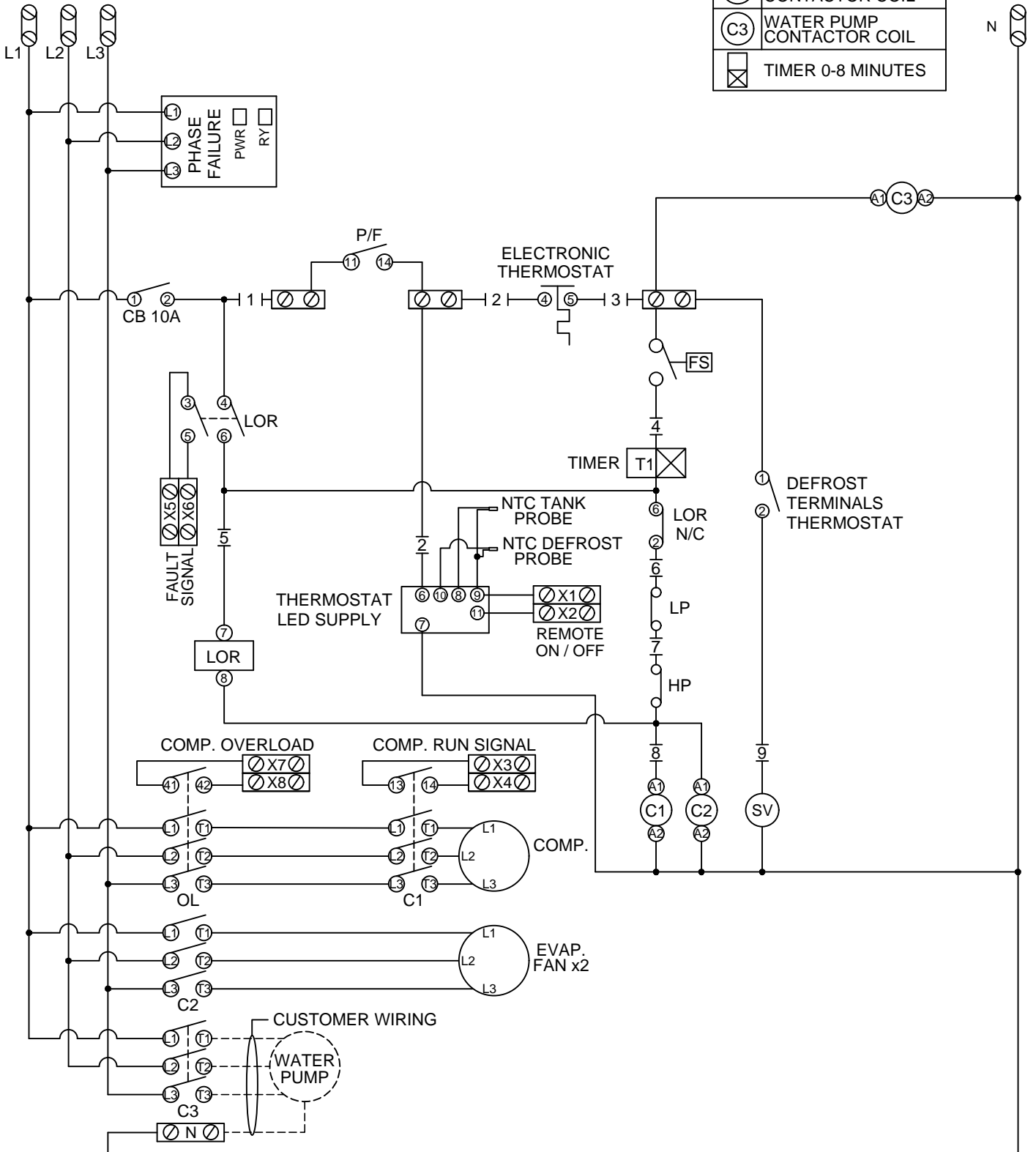
REV	ECN	DESCRIPTION	DATE
01	0383	ADDED MINI IQ	21/02/20

# WIRING DIAGRAM FOR 3Ø WITH WATER PUMP.

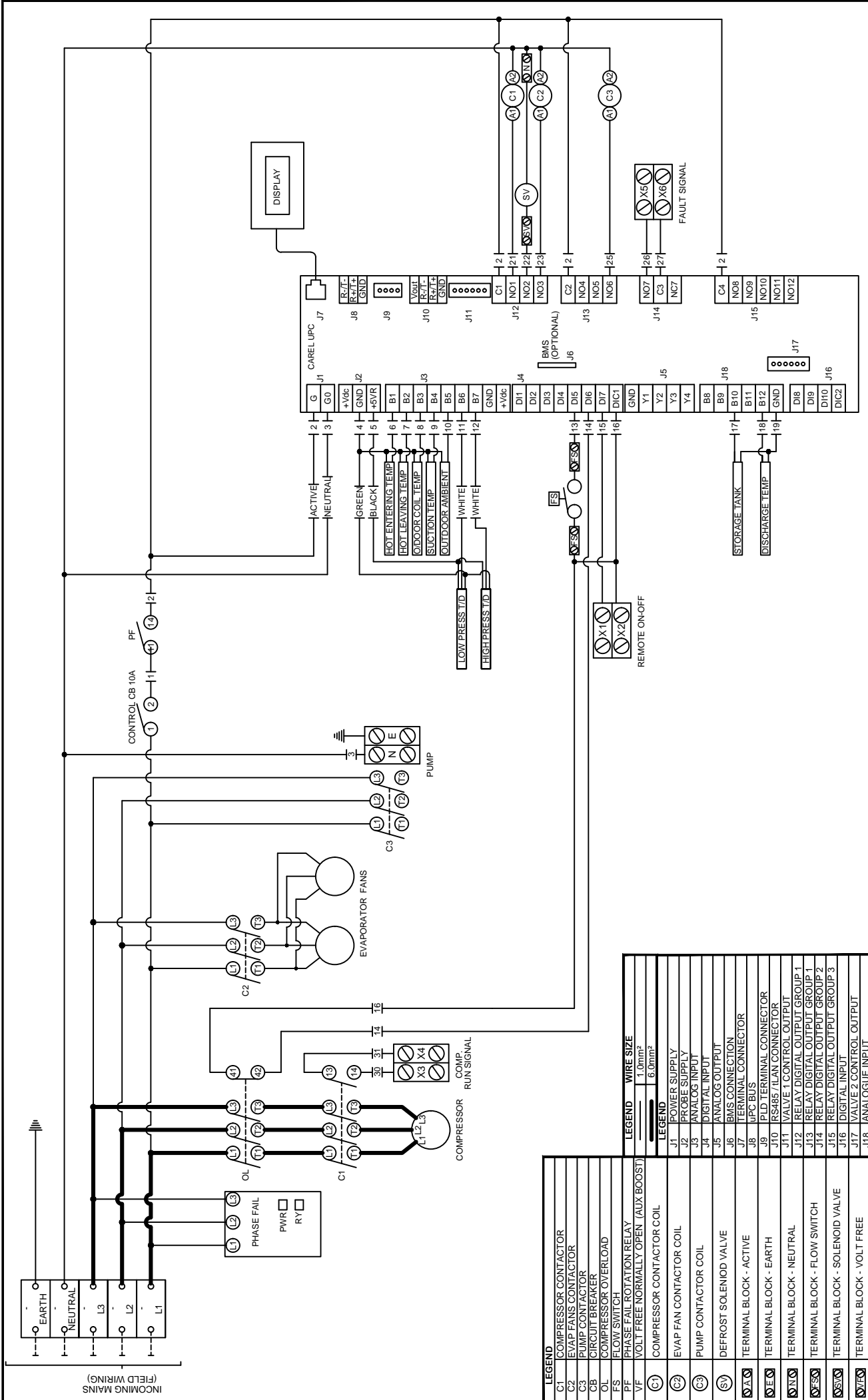
**TO USE REMOTE ON/OFF**


- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	FAN CONTACTOR
C3	PUMP CONTACTOR
CB	CIRCUIT BREAKER
OL	COMP. OVERLOAD
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	EVAP. FAN CONTACTOR COIL
(C3)	WATER PUMP CONTACTOR COIL
[X]	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE			43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698	RTHW048 on R134A
				Drawn By:	J.Bates	Date:	19/02/2020
							Part No: <b>47176E</b>
							Rev: <b>00</b>



			<b>RTHW048 on R134A</b>
43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698			
REV	ECN	DESCRIPTION	DATE
Drawn By: J.Bates		Date: 19/02/2020	Part No: 47177E
			Rev: 00

### HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger / thermostat control	<b>RTHW062DS-DEV-1</b>
Double wall heat exchanger / thermostat control	<b>RTHW062DV-DEV-1</b>
Single wall heat exchanger / Rheem IQ control	<b>RTHW062DS-DQV-1</b>
Double wall heat exchanger / Rheem IQ control	<b>RTHW062DV-DQV-1</b>

### ELECTRICAL INPUT

Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	33.3 FLA / 225 LRA
Min. Circuit Size	40.0 Amps
Refrigerant	R134A
Nominal Heating capacity	60.93 kW
Power input	12.77 kW
COP	4.77 COP
Noise Level	69 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	27.3 Amps

### TECHNICAL DATA

	Compressor	Fan
Make	Copeland	EBM-Papst
Type	Scroll 20092	Axial
Number Per Unit	1	2
FLA (Full Load Amps)	30.9 Amps (Each)	1.2 Amps (Each)
Voltage / Phase	380 - 415 / 3	380 - 415 / 3
Pole/RPM	2/2,900	6/890
Air Flow	N/A	4700 L/s

### HEAT EXCHANGER (Water Side)

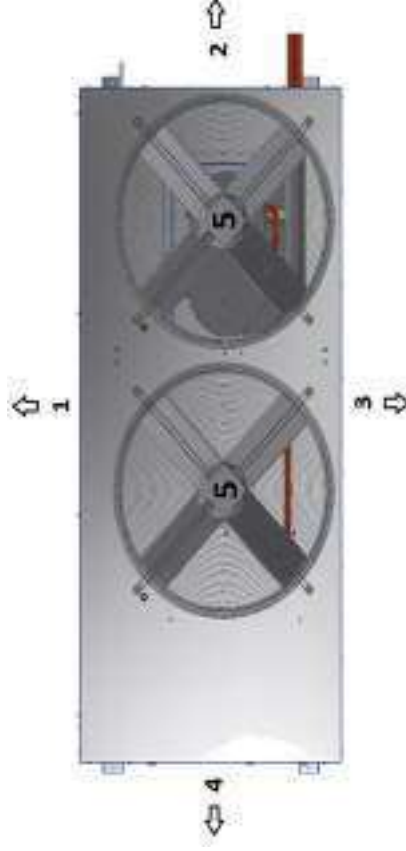
Type of Water Tube	Single Wall	Double Wall
Design	Shell and Tube	Co-axial Vented
Flow Rate Excl. By Pass	2.43 L/s	
Max. Outlet Water Temp	65°C / 70°C*	
Design Pressure Drop	50 kPa	
Max. Operating Pressure	2,450 kPa	

### GENERAL INFORMATION

Water Connections	50.8mm (2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	340 kg
Size L x W x H	2005mm x 807mm x 1355mm

### COP TABLE

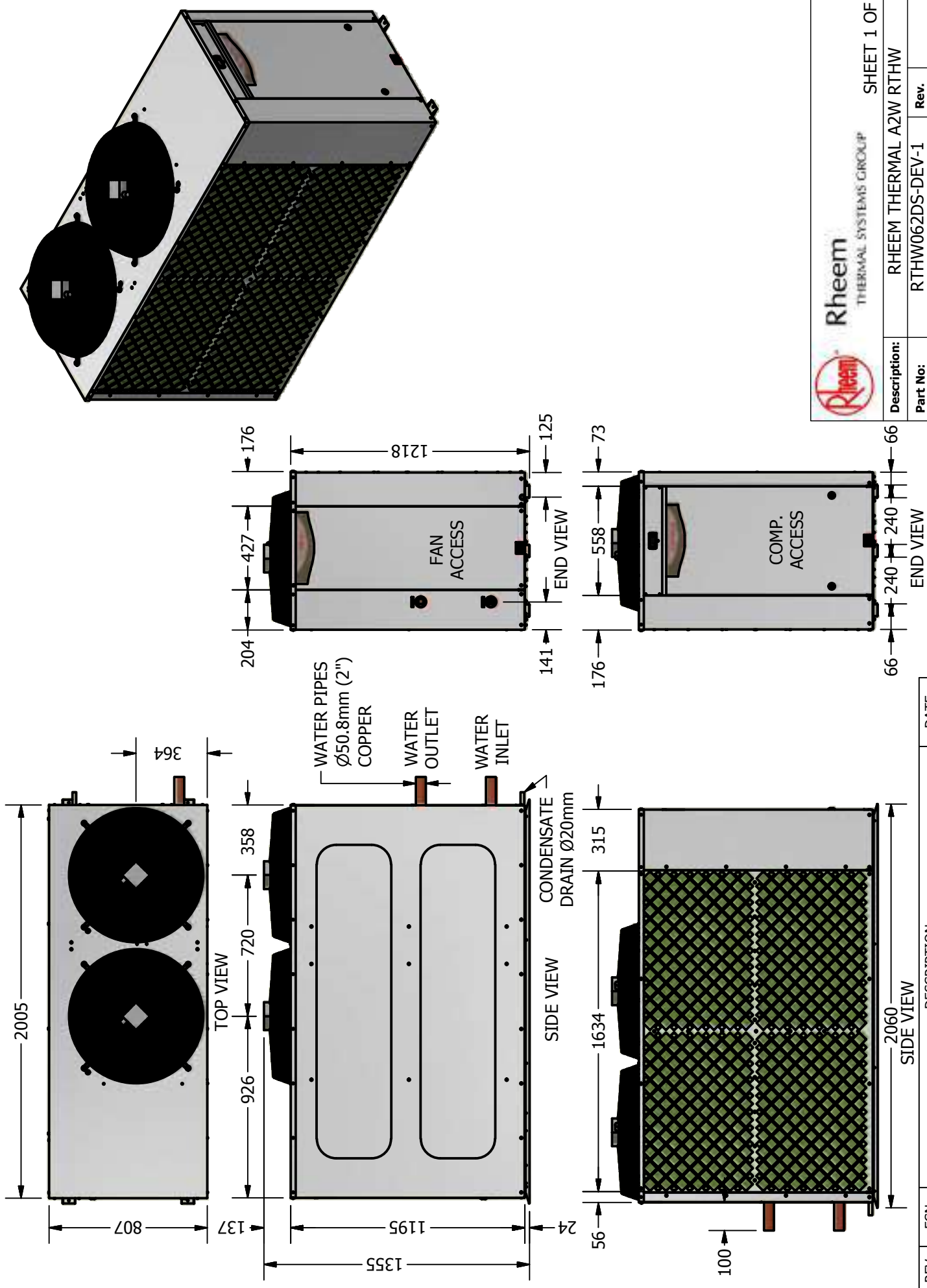
Water Out °C	Ambient Temperature						
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C
45 °C	34.62 kW 2.82 COP	39.30 kW 3.17 COP	44.58 kW 3.56 COP	48.98 kW 3.89 COP	53.80 kW 4.25 COP	57.26 kW 4.50 COP	<b>60.93 kW</b> <b>4.77 COP</b>
50 °C	34.29 kW 2.55 COP	38.78 kW 2.85 COP	43.82 kW 3.19 COP	48.02 kW 3.47 COP	52.60 kW 3.78 COP	55.89 kW 4.01 COP	59.38 kW 4.24 COP
55 °C	34.08 kW 2.36 COP	38.41 kW 2.62 COP	43.27 kW 2.92 COP	47.30 kW 3.17 COP	51.69 kW 3.45 COP	54.85 kW 3.64 COP	58.19 kW 3.85 COP
60 °C	33.90 kW 2.18 COP	38.09 kW 2.41 COP	42.76 kW 2.67 COP	46.62 kW 2.90 COP	50.83 kW 3.14 COP	53.85 kW 3.31 COP	57.05 kW 3.50 COP
65 °C	33.75 kW 1.98 COP	37.75 kW 2.17 COP	42.18 kW 2.40 COP	45.85 kW 2.58 COP	49.83 kW 2.79 COP	52.68 kW 2.94 COP	55.69 kW 3.10 COP
70 °C	N/A	N/A	N/A	N/A	48.90 kW 2.48 COP	51.58 kW 2.60 COP	54.42 kW 2.74 COP



### UNIT CLEARANCES

Direction	Description	Minimum Clearance Required
1	Evaporator Coil	500 mm
2	Water Connections	850 mm
3	Plain Back	Nil
4	Compressor Access	850 mm
5	Top - Fan Discharge	3500 mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C

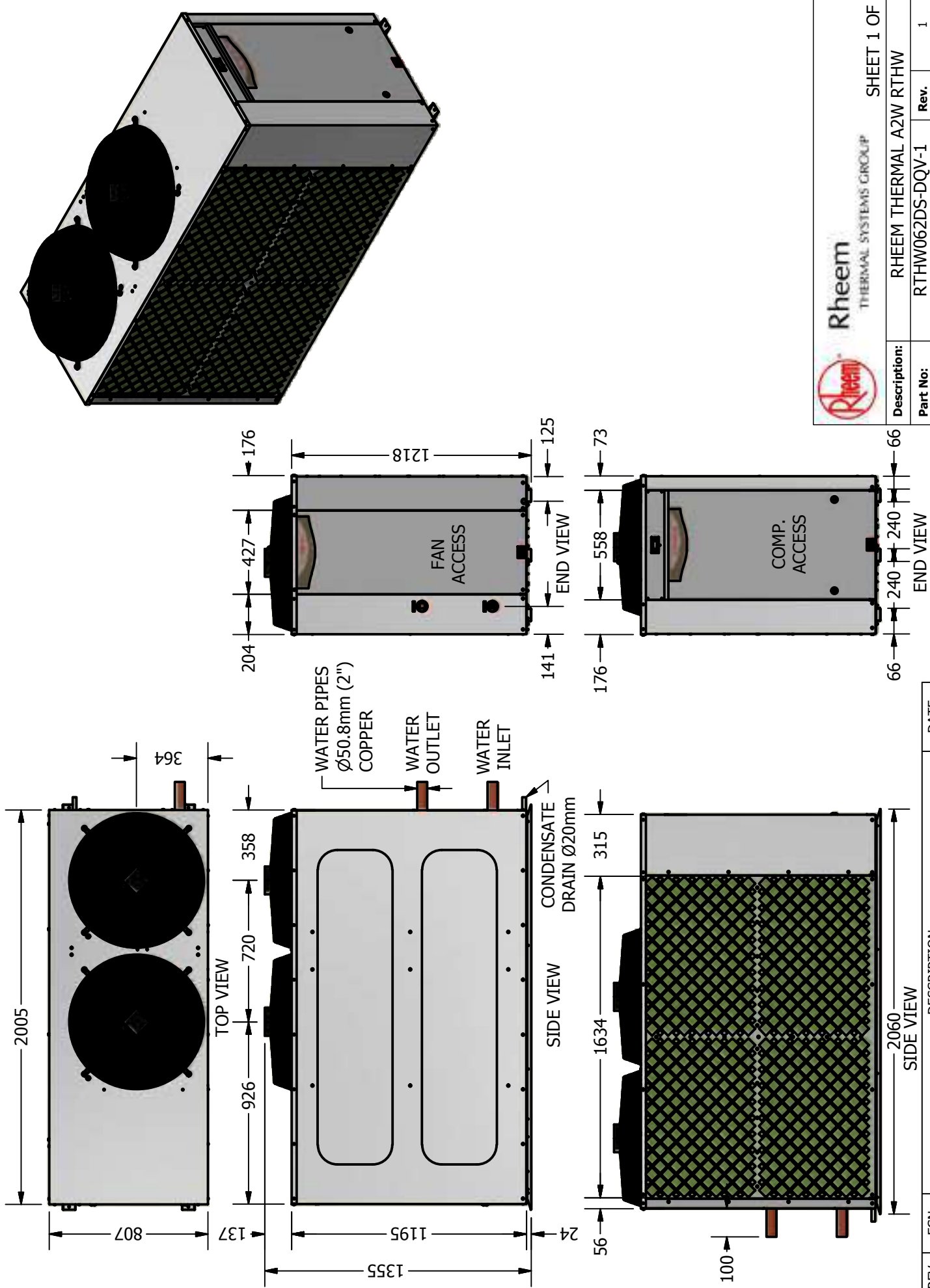



**Rheem**  
 THERMAL SYSTEMS GROUP

<b>Description:</b>		RHEEM THERMAL A2W RTHW	
<b>Part No:</b>	RTHW062DS-DEV-1	<b>Rev.</b>	
<b>Material:</b>		<b>Date:</b>	20/06/2018
<b>Drawn By:</b>	JPB	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2		
			<b>Scale:</b> N.T.S

SHEET 1 OF 3

REV	ECN	DESCRIPTION	DATE



		RHEEM THERMAL SYSTEMS GROUP		SHEET 1 OF 3	
<b>Description:</b>	RHEEM THERMAL A2W RTHW	<b>Rev.</b>	1		
<b>Part No:</b>	RTHW062DS-DQV-1	<b>Date:</b>	22/06/2018		
<b>Material:</b>		<b>Checked By:</b>	JPB		
<b>Drawn By:</b>		Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm			
<b>General Tolerance:</b>		Tubes - Dimensions +2, Angle ±2			
			<b>Scale:</b>	N.T.S	

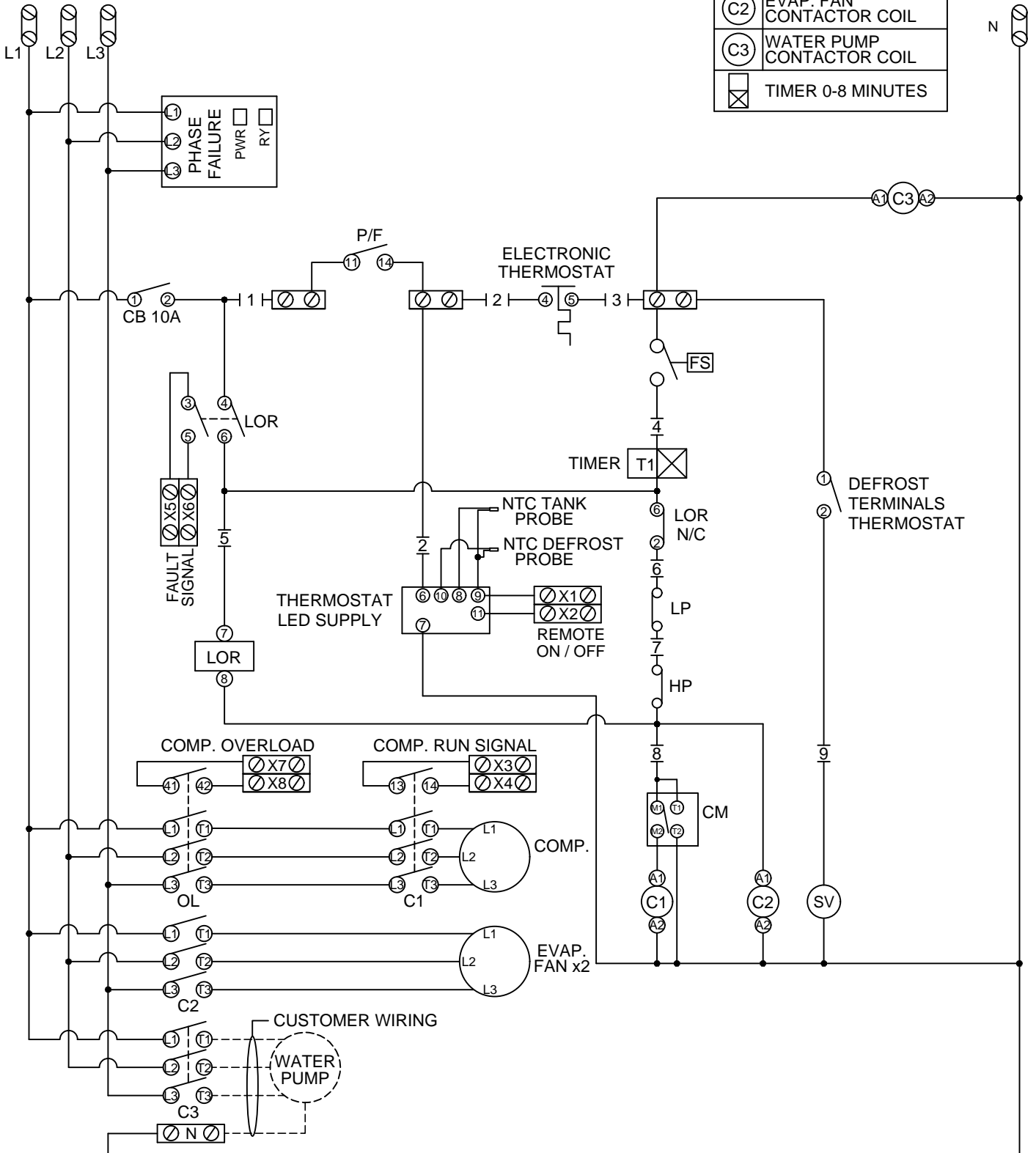
REV	ECN	DESCRIPTION	DATE
01	0383	ADDED MINI IQ	21/02/20

# WIRING DIAGRAM FOR 3Ø WITH WATER PUMP.

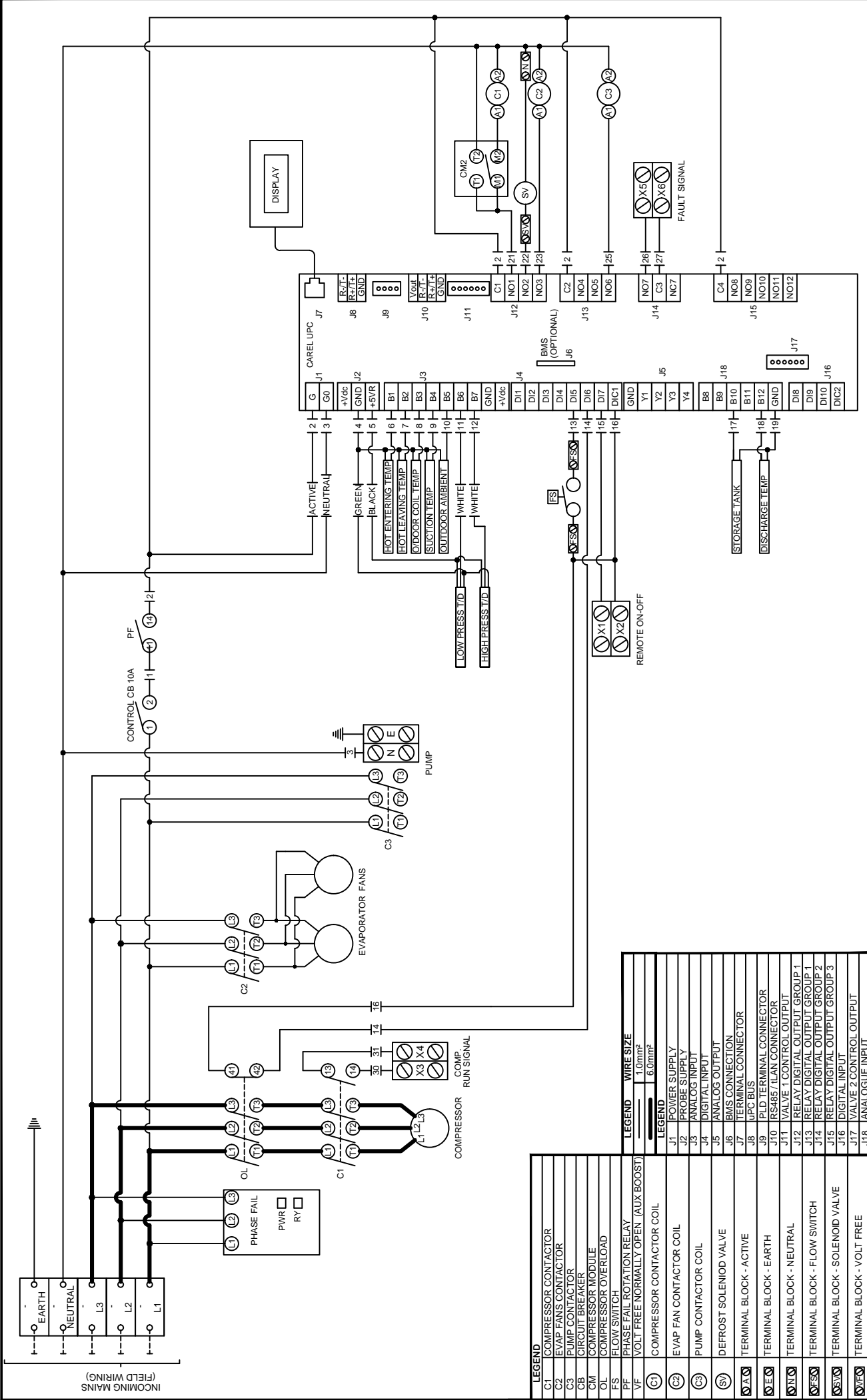
**TO USE REMOTE ON/OFF**

- 1) CONNECT SWITCH CABLE TO X1 & X2
- 2) IN CAREL EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
- 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
- 4) PRESS "SET". THEN "ARROW UP" TILL VALVE "22" IS DISPLAYED
- 5) PRESS "SET" TO CONFIRM. "PS" WILL BE DISPLAYED
- 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
- 7) SELECT PARAMETER A4. PRESS "SET"
- 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
- 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
- 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	
C1	COMP. CONTACTOR
C2	FAN CONTACTOR
C3	PUMP CONTACTOR
CB	CIRCUIT BREAKER
CM	COMP. MODULE
OL	COMP. OVERLOAD
LOR	LOCKOUT RELAY
SV	SOLENOID
P/F	PHASE FAILURE
TH	THERMOSTAT
(C1)	COMPRESSOR CONTACTOR COIL
(C2)	EVAP. FAN CONTACTOR COIL
(C3)	WATER PUMP CONTACTOR COIL
(X)	TIMER 0-8 MINUTES



REV	ECN	DESCRIPTION	DATE			43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698		RTHW062 on R134A	
				Drawn By: J.Bates	Date: 20/02/2020	Part No: 47178E	Rev: 00		



REV	ECN	DESCRIPTION	DATE

	43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698
RTHW062 on R134A	Part No: 47179E Rev: 00

Drawn By: J.Bates	Date: 20/02/2020
-------------------	------------------

LEGEND	WIRE SIZE
C1 COMPRESSOR CONTACTOR	1.0mm <sup>2</sup>
C2 EVAP FANS CONTACTOR	6.0mm <sup>2</sup>
C3 PUMP CONTACTOR	
CB CIRCUIT BREAKER	
CM COMPRESSOR MODULE	
OL COMPRESSOR OVERLOAD	
FS FLOW SWITCH	
PF PHASE FAIL ROTATION RELAY	
VF VOLT FREE NORMALLY OPEN (AUX BOOST)	
① COMPRESSOR CONTACTOR COIL	
② EVAP FAN CONTACTOR COIL	
③ PUMP CONTACTOR COIL	
Ⓢ DEFROST SOLENOID VALVE	
ⓃAⓃ ACTIVE	
ⓃEⓃ EARTH	
ⓃNⓃ NEUTRAL	
ⓃSⓃ RELAY DIGITAL OUTPUT GROUP 1	
Ⓝ4Ⓝ RELAY DIGITAL OUTPUT GROUP 2	
Ⓝ5Ⓝ RELAY DIGITAL OUTPUT GROUP 3	
Ⓝ6Ⓝ DIGITAL INPUT	
Ⓝ7Ⓝ VALVE 2 CONTROL OUTPUT	
Ⓝ8Ⓝ ANALOGUE INPUT	



<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger / thermostat control	<b>RTHW070DS-DEV-1</b>
Double wall heat exchanger / thermostat control	<b>RTHW070DV-DEV-1</b>
Single wall heat exchanger / Rheem IQ control	<b>RTHW070DS-DQV-1</b>
Double wall heat exchanger / Rheem IQ control	<b>RTHW070DV-DQV-1</b>

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	38.0 FLA / 118 LRA
Min. Circuit Size	50.0 Amps
Refrigerant	R134A
Nominal Heating capacity	69.92 kW
Power input	14.19 kW
COP	4.93 COP
Noise Level	69 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	30.7 Amps

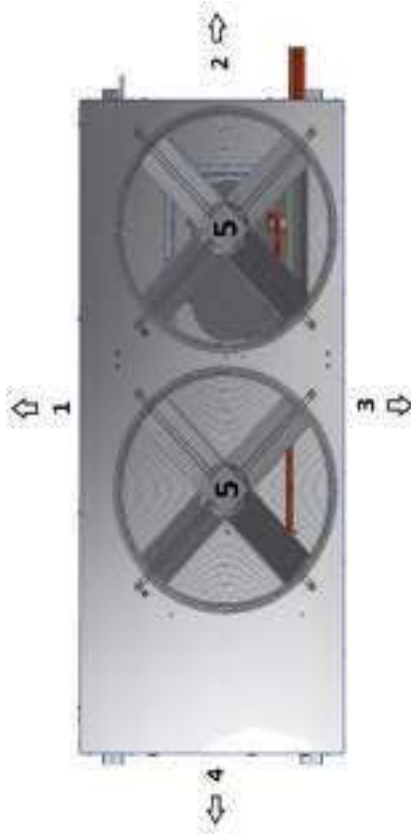
<b>TECHNICAL DATA</b>	
Make	<b>Compressor</b> Copeland
Type	Scroll 20018
Number Per Unit	2
FLA (Full Load Amps)	17.8 Amps (Each) 380 - 415 / 3
Voltage / Phase	2/2,900
Pole/RPM	N/A
Air Flow	6/890 4700 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	2.79 L/s
Max. Outlet Water Temp	65°C / 70°C*
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	65mm (2 1/2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	400 kg
Size L x W x H	1905mm x 1005mm x 1103mm

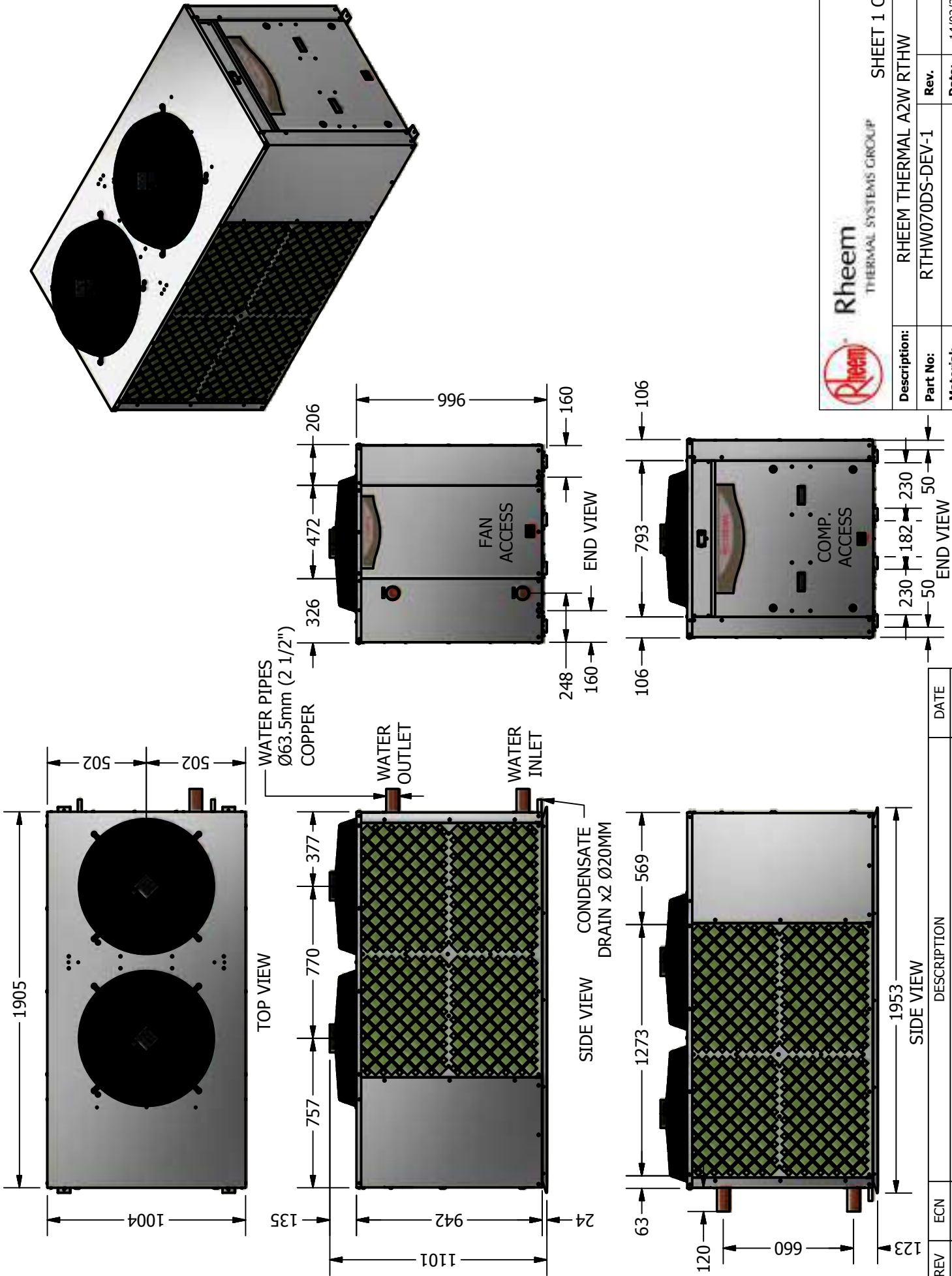
**COP TABLE**

Water Out °C	Ambient Temperature						
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C
45 °C	42.21 kW 3.01 COP	47.84 kW 3.38 COP	53.66 kW 3.79 COP	58.23 kW 4.12 COP	63.04 kW 4.46 COP	66.41 kW 4.69 COP	69.92 kW 4.93 COP
50 °C	41.00 kW 2.66 COP	46.54 kW 2.98 COP	52.17 kW 3.34 COP	56.53 kW 3.62 COP	61.07 kW 3.92 COP	64.22 kW 4.13 COP	67.50 kW 4.35 COP
55 °C	39.89 kW 2.43 COP	45.35 kW 2.71 COP	50.82 kW 3.02 COP	55.01 kW 3.27 COP	59.33 kW 3.54 COP	62.31 kW 3.73 COP	65.39 kW 3.92 COP
60 °C	38.63 kW 2.21 COP	44.01 kW 2.46 COP	49.32 kW 2.74 COP	53.32 kW 2.96 COP	57.42 kW 3.19 COP	60.22 kW 3.36 COP	63.11 kW 3.53 COP
65 °C	36.83 kW 1.98 COP	42.10 kW 2.20 COP	47.19 kW 2.43 COP	50.97 kW 2.61 COP	54.78 kW 2.81 COP	57.36 kW 2.95 COP	59.99 kW 3.10 COP
70 °C	N/A	N/A	N/A	N/A	51.82 kW 2.48 COP	54.18 kW 2.59 COP	56.56 kW 2.72 COP



<b>UNIT CLEARANCES</b>	
Direction	Description
1	Evaporator Coil
2	Water Connections
3	Evaporator Coil
4	Compressor Access
5	Top - Fan Discharge
	Minimum Clearance Required
	1000mm
	500mm
	1000mm
	850mm
	3500mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C

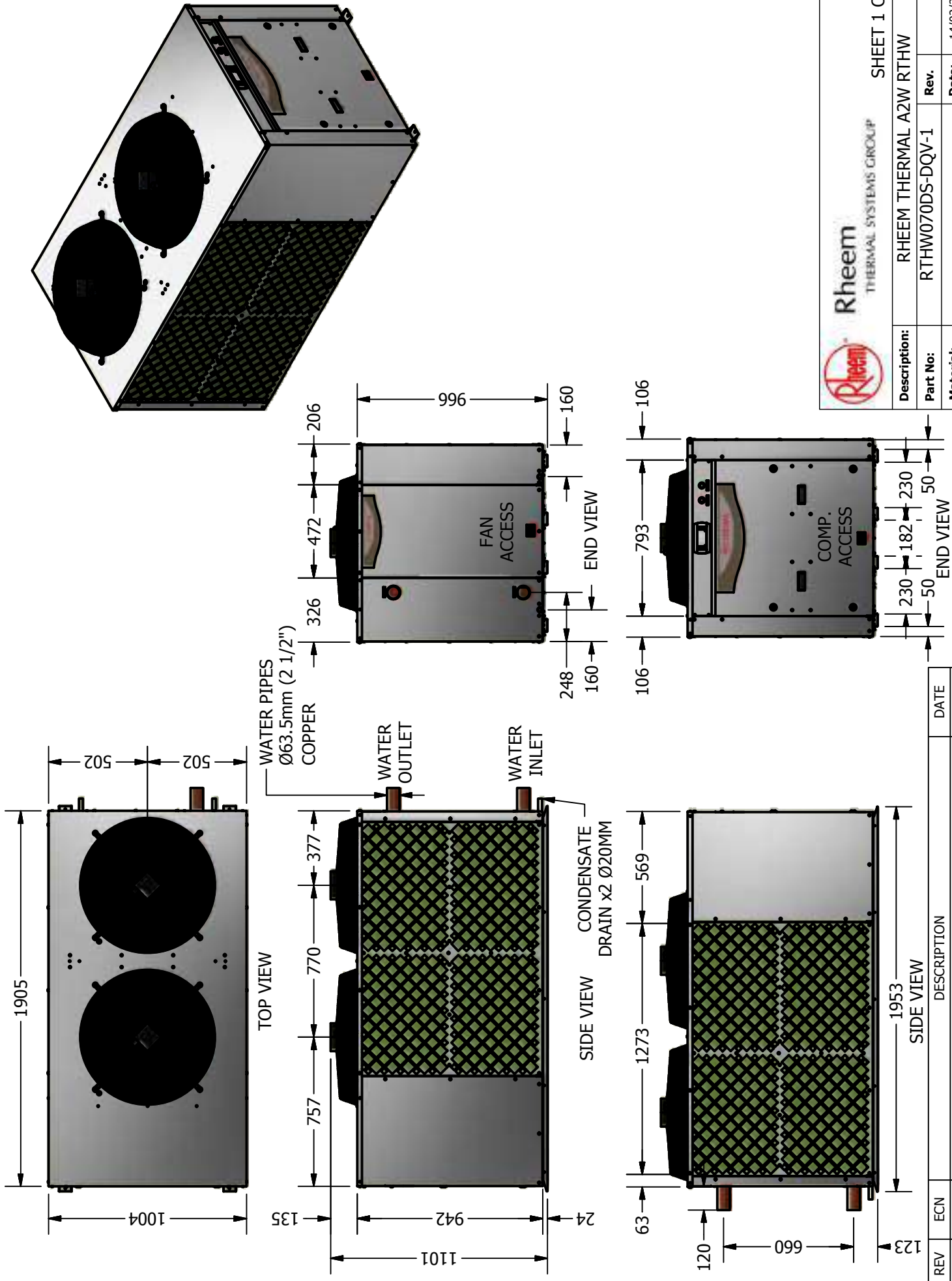


REV	ECN	DESCRIPTION	DATE

**Rheem**  
 THERMAL SYSTEMS GROUP

SHEET 1 OF 4

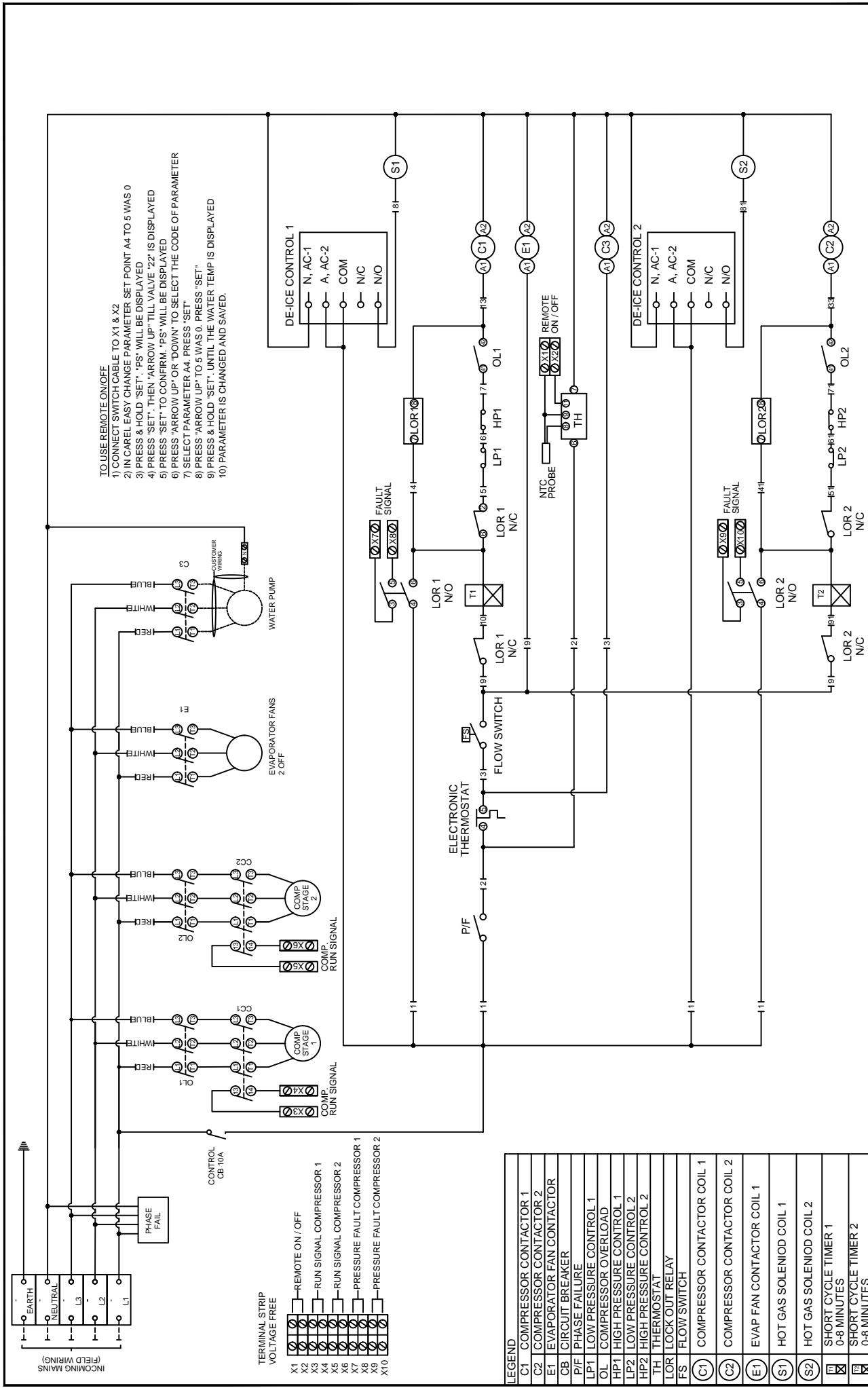
<b>Description:</b>	RHEEM THERMAL A2W RTHW
<b>Part No:</b>	RTHW070DS-DEV-1
<b>Material:</b>	
<b>Drawn By:</b>	j.bates
<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2
<b>Rev:</b>	
<b>Date:</b>	14/02/2020
<b>Scale:</b>	N.T.S



Thermal Systems Group

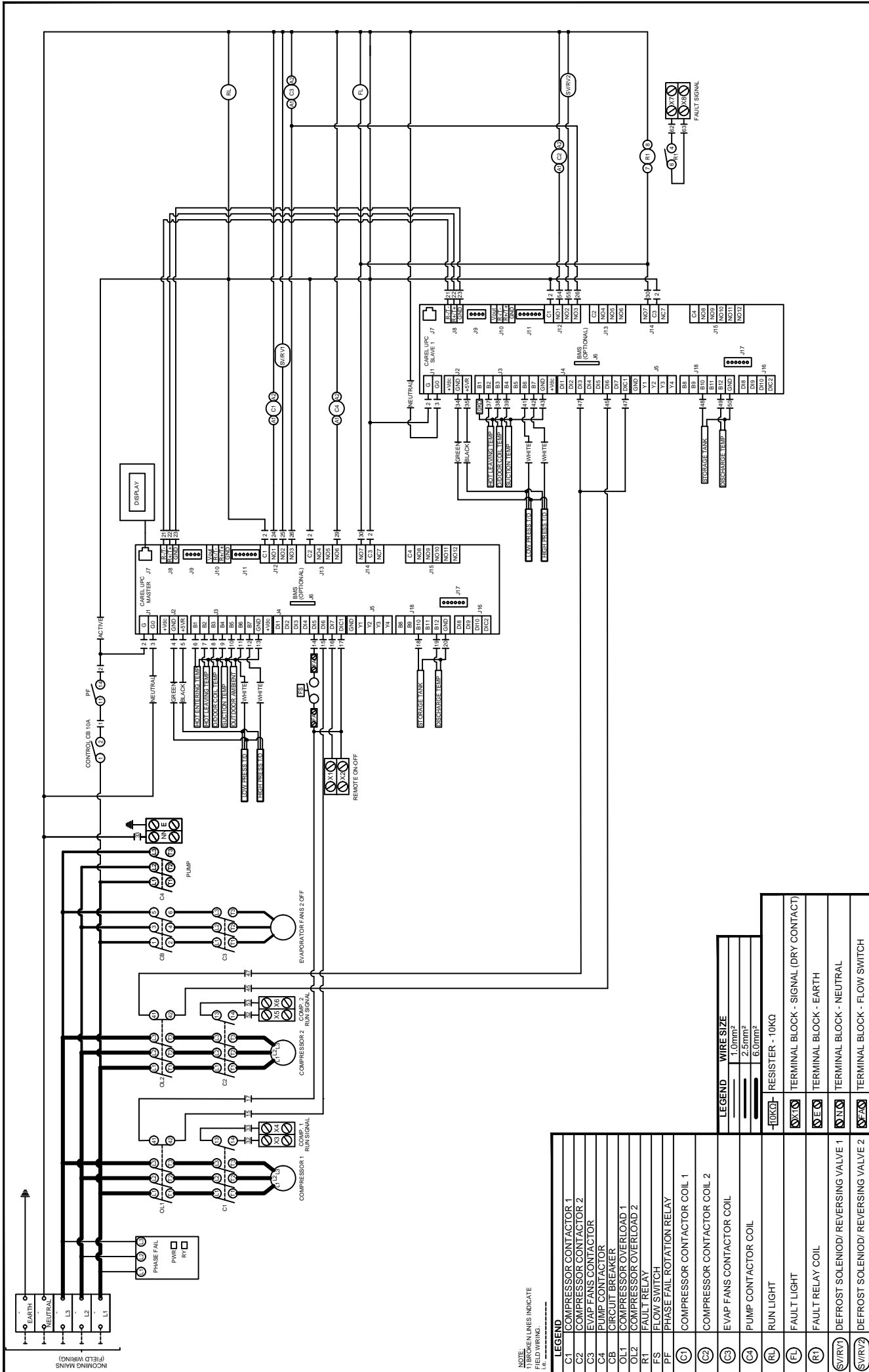
SHEET 1 OF 4	
<b>Description:</b>	RHEEM THERMAL A2W RTHW
<b>Part No:</b>	RTHW070DS-DQV-1
<b>Material:</b>	
<b>Drawn By:</b>	j.bates
<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2
<b>Rev:</b>	
<b>Date:</b>	14/02/2020
<b>Scale:</b>	N.T.S

REV	ECN	DESCRIPTION	DATE



		43 Marigold Street Revesby NSW 2212 Australia Phone: +61 2 9684 3684 Fax: +61 2 9684 3698	
DATE		Drawn By: J Bates	
REV		Date: 19/02/2020	
ECN		Part No: 47180E	
DESCRIPTION		RTHW070 on R134A	
REV		Rev: 00	

Unit specifications are subject to change without notice.



NOTE:  
 1. THICKEN LINES INDICATE FIELD WIRING.  
 1.6. WIRE SIZE IS INDICATED BY LINE THICKNESS

LEGEND	DESCRIPTION
C1	COMPRESSOR CONTACTOR 1
C2	COMPRESSOR CONTACTOR 2
C3	EVAP FANS CONTACTOR
C4	PUMP CONTACTOR
CB	CIRCUIT BREAKER
OL1	COMPRESSOR OVERLOAD 1
OL2	COMPRESSOR OVERLOAD 2
R1	FAULT RELAY
FS	FLOW SWITCH
PF	PHASE FAIL ROTATION RELAY
(C1)	COMPRESSOR CONTACTOR COIL 1
(C2)	COMPRESSOR CONTACTOR COIL 2
(C3)	EVAP FANS CONTACTOR COIL
(C4)	PUMP CONTACTOR COIL
(RL)	RELAY
(FL)	FAULT LIGHT
(R1)	FAULT RELAY COIL
(S1/RV1)	DEFROST SOLENOID/REVERSING VALVE 1
(S1/RV2)	DEFROST SOLENOID/REVERSING VALVE 2

LEGEND	WIRE SIZE
1.0mm <sup>2</sup>	1.0mm <sup>2</sup>
2.5mm <sup>2</sup>	2.5mm <sup>2</sup>
6.0mm <sup>2</sup>	6.0mm <sup>2</sup>

(10KΩ)	RESISTOR - 10KΩ
(NO)	TERMINAL BLOCK - SIGNAL (DRY CONTACT)
(E)	TERMINAL BLOCK - EARTH
(N)	TERMINAL BLOCK - NEUTRAL
(F)	TERMINAL BLOCK - FLOW SWITCH

DATE

REV ECN DESCRIPTION



43 Marigold Street  
 Revesby NSW 2212  
 Phone: (02) 9684 3684  
 Fax: (02) 9684 3698

RTHW070 on R134A

Part No: 47181E

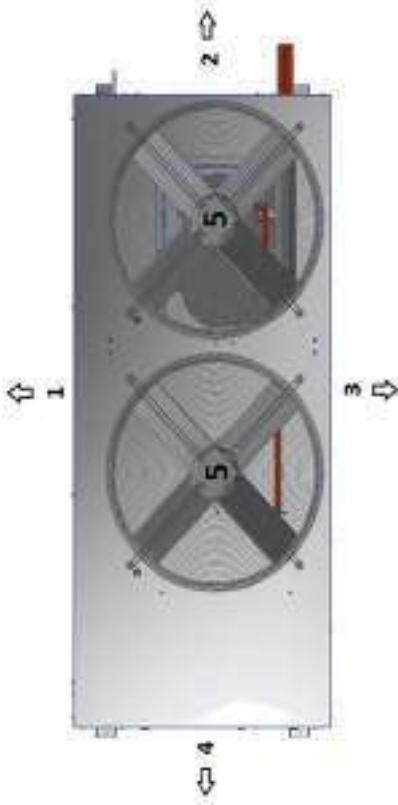
Rev: 00

Drawn By: J.Bates

Date: 19/02/2020

**COP TABLE**

Water Out °C	Ambient Temperature						
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C
45 °C	53.45 kW 2.76 COP	60.97 kW 3.14 COP	69.33 kW 3.57 COP	76.24 kW 3.92 COP	83.78 kW 4.29 COP	89.19 kW 4.56 COP	94.92 kW 4.84 COP
50 °C	52.37 kW 2.46 COP	59.64 kW 2.79 COP	67.68 kW 3.17 COP	74.31 kW 3.47 COP	81.53 kW 3.80 COP	86.70 kW 4.04 COP	92.18 kW 4.42 COP
55 °C	51.53 kW 2.23 COP	58.61 kW 2.54 COP	66.40 kW 2.87 COP	72.80 kW 3.15 COP	79.75 kW 3.44 COP	84.73 kW 3.66 COP	90.01 kW 4.00 COP
60 °C	50.74 kW 2.03 COP	57.62 kW 2.30 COP	65.15 kW 2.60 COP	71.32 kW 2.85 COP	78.01 kW 3.12 COP	82.80 kW 3.31 COP	87.87 kW 3.61 COP
65 °C	49.83 kW 1.81 COP	56.46 kW 2.04 COP	63.67 kW 2.30 COP	69.55 kW 2.52 COP	75.91 kW 2.75 COP	80.46 kW 2.91 COP	85.27 kW 3.09 COP
70 °C	N/A	N/A	N/A	N/A	73.92 kW 2.42 COP	78.23 kW 2.56 COP	82.77 kW 2.71 COP



UNIT CLEARANCES	
Direction	Description
1	Evaporator Coil
2	Water Connections
3	Evaporator Coil
4	Compressor Access
5	Top - Fan Discharge
	Minimum Clearance Required
	1000mm
	500mm
	1000mm
	850mm
	3500mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C

HOT WATER HEAT PUMP SPECIFICATIONS	
Single wall heat exchanger / thermostat control	RTHW096DS-DEV-1
Double wall heat exchanger / thermostat control	RTHW096DV-DEV-1
Single wall heat exchanger / Rheem IQ control	RTHW096DS-DQV-1
Double wall heat exchanger / Rheem IQ control	RTHW096DV-DQV-1

ELECTRICAL INPUT	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	57.0 FLA / 174 LRA
Min. Circuit Size	63.0 Amps
Refrigerant	R134A
Nominal Heating capacity	94.92 kW
Power input	19.62 kW
COP	4.84 COP
Noise Level	69 dBA @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	50.0 Amps

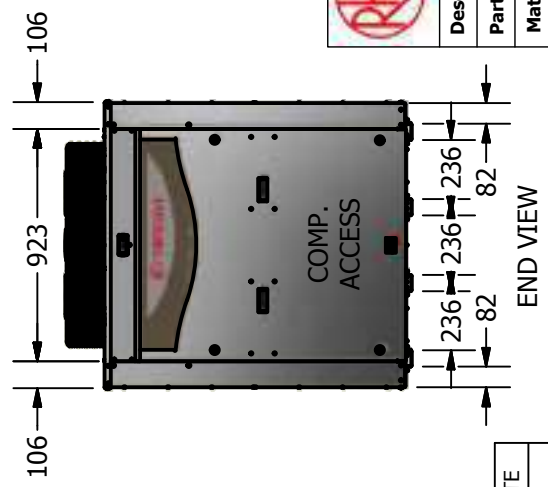
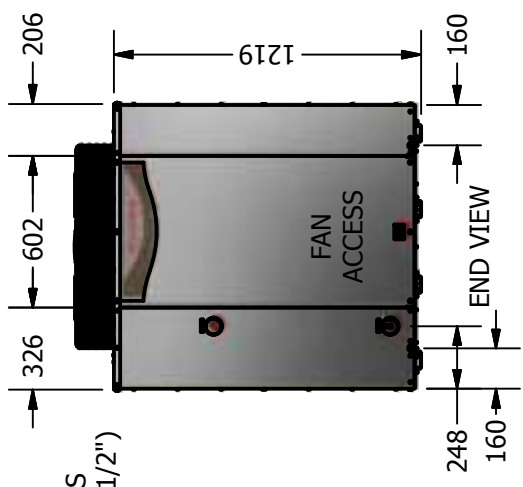
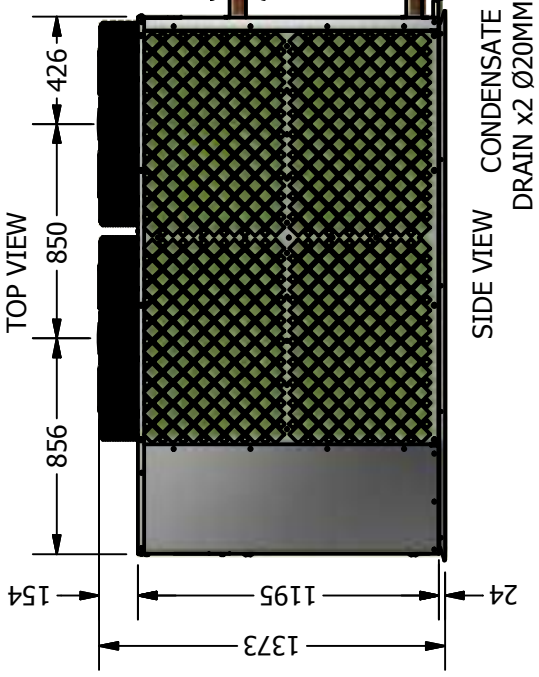
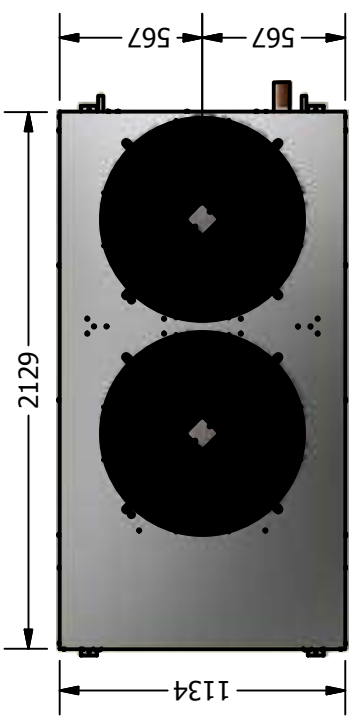
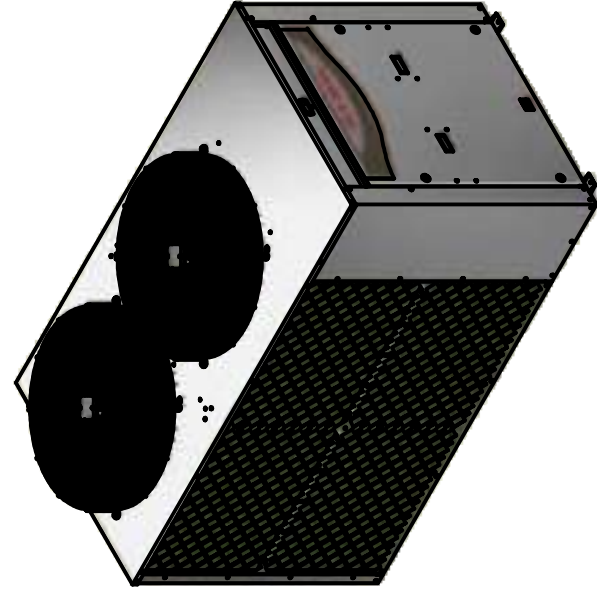
TECHNICAL DATA	
Make	Compressor
Type	Copeland
Number Per Unit	Scroll 20056
FLA (Full Load Amps)	2
Voltage / Phase	26.8 Amps (Each)
Pole/RPM	380 - 415 / 3
Air Flow	2/2,900
	N/A
	6/890
	7334 L/s
	Fan
	EBM-Papst
	Axial
	2

HEAT EXCHANGER (Water Side)	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	3.78 L/s
Max. Outlet Water Temp	65°C / 70°C*
Design Pressure Drop	60 kPa
Max. Operating Pressure	2,450 kPa

GENERAL INFORMATION	
Water Connections	65mm (2 1/2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	600 kg
Size L x W x H	2130mm x 1135mm x 1375mm

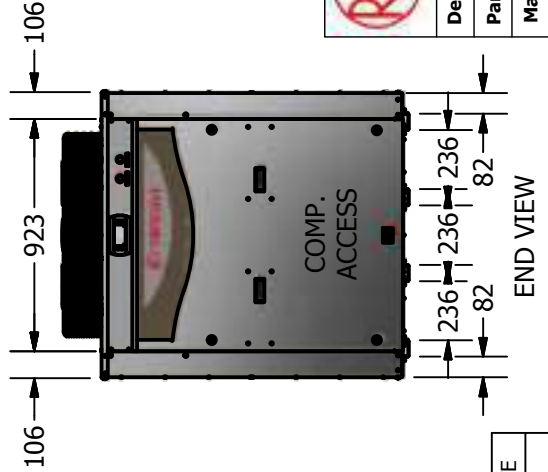
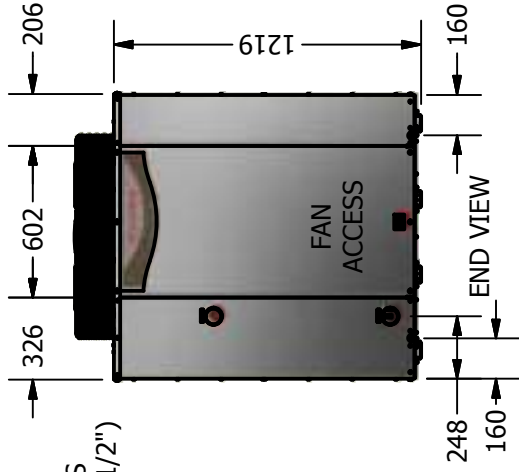
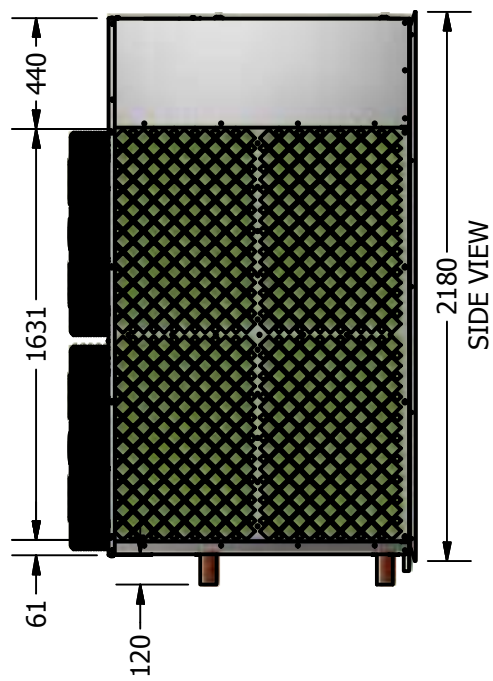
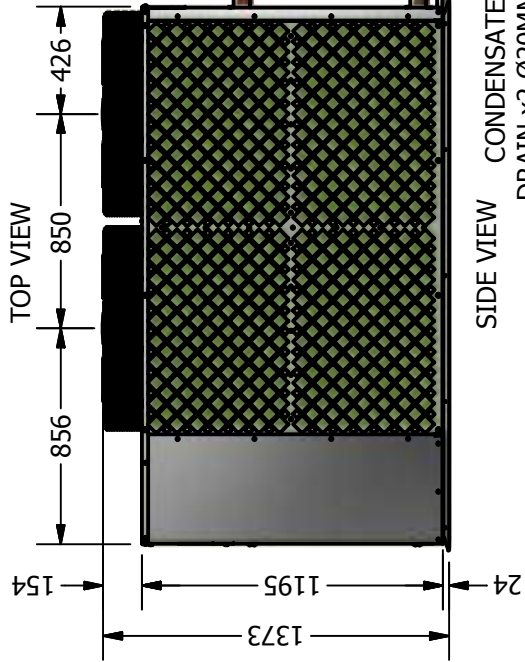
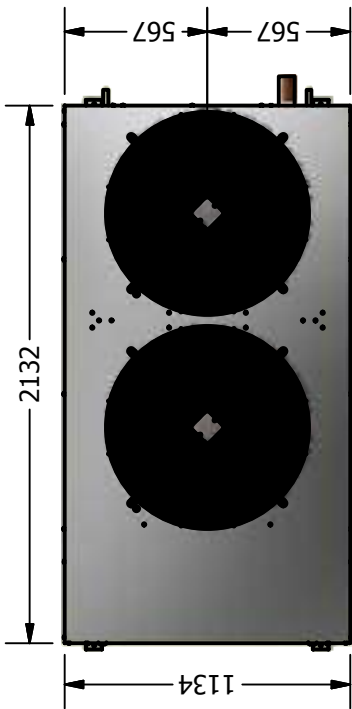
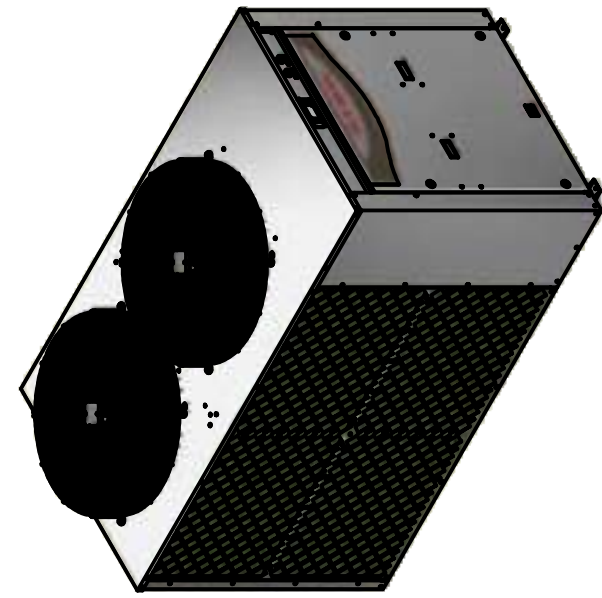


**Manufactured In Australia by Rheem Thermal Systems Group**  
 Unit specifications subject to change without notice. ABN 28 062 383 224



		THERMAL SYSTEMS GROUP		SHEET 1 OF 4	
<b>Description:</b>	RHEEM THERMAL A2W RTHW	<b>Part No:</b>	RTHW096DS-DEV-1	<b>Rev.</b>	
<b>Material:</b>		<b>Date:</b>	14/02/2020	<b>Checked By:</b>	j.bates
<b>Drawn By:</b>		<b>Scale:</b>	N.T.S	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm	
<b>General Tolerance:</b>		Tubes - Dimensions ± 2, Angle ± 2			

REV	ECN	DESCRIPTION	DATE



REV	ECN	DESCRIPTION	DATE

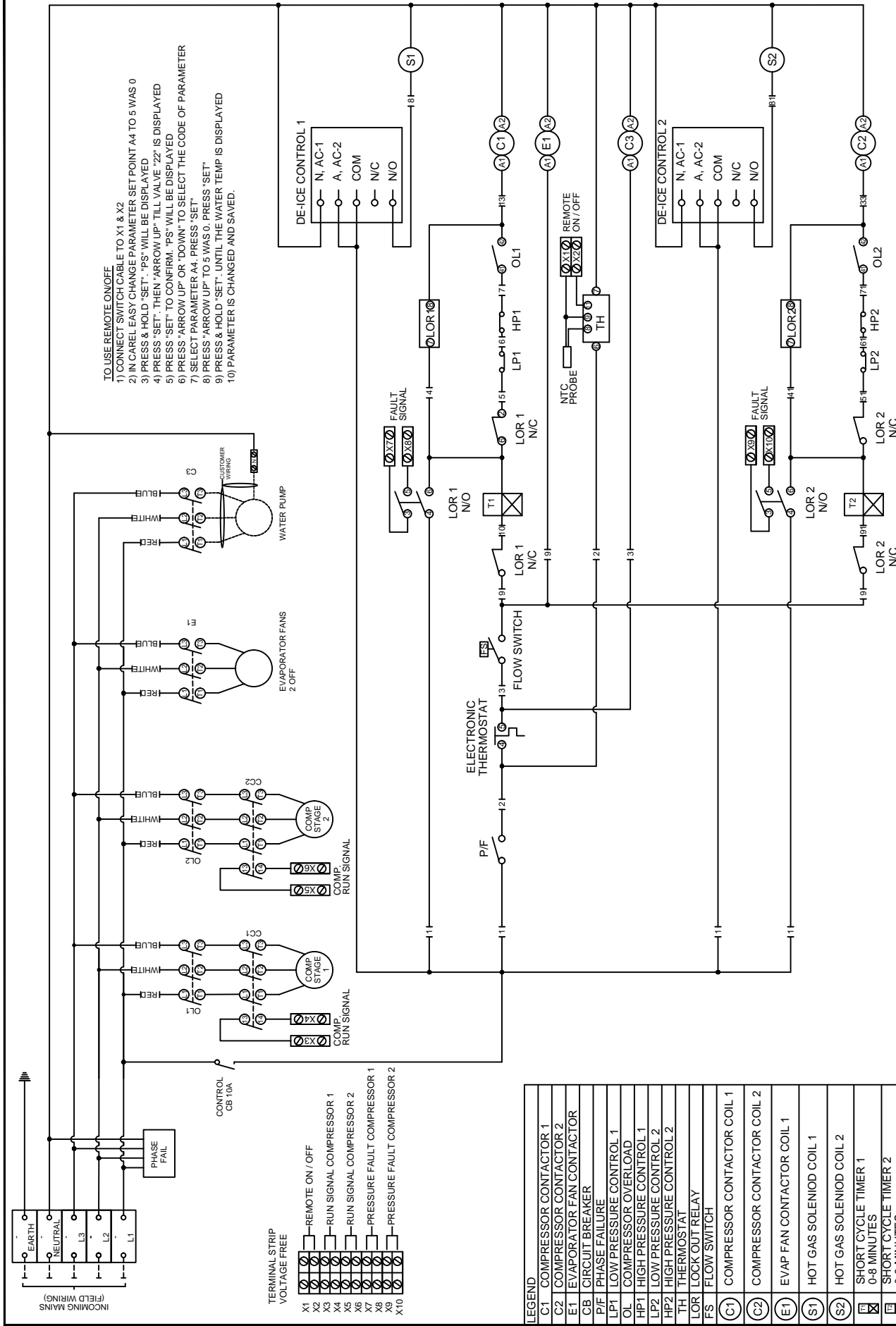


Thermal Systems Group

SHEET 1 OF 4

<b>Description:</b>	RHEEM THERMAL A2W RTHW		
<b>Part No:</b>	RTHW096DS-DQV-1	<b>Rev.</b>	
<b>Material:</b>		<b>Date:</b>	14/02/2020
<b>Drawn By:</b>	j.bates	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions ± 2, Angle ± 2°		
<b>Scale:</b>	N.T.S		

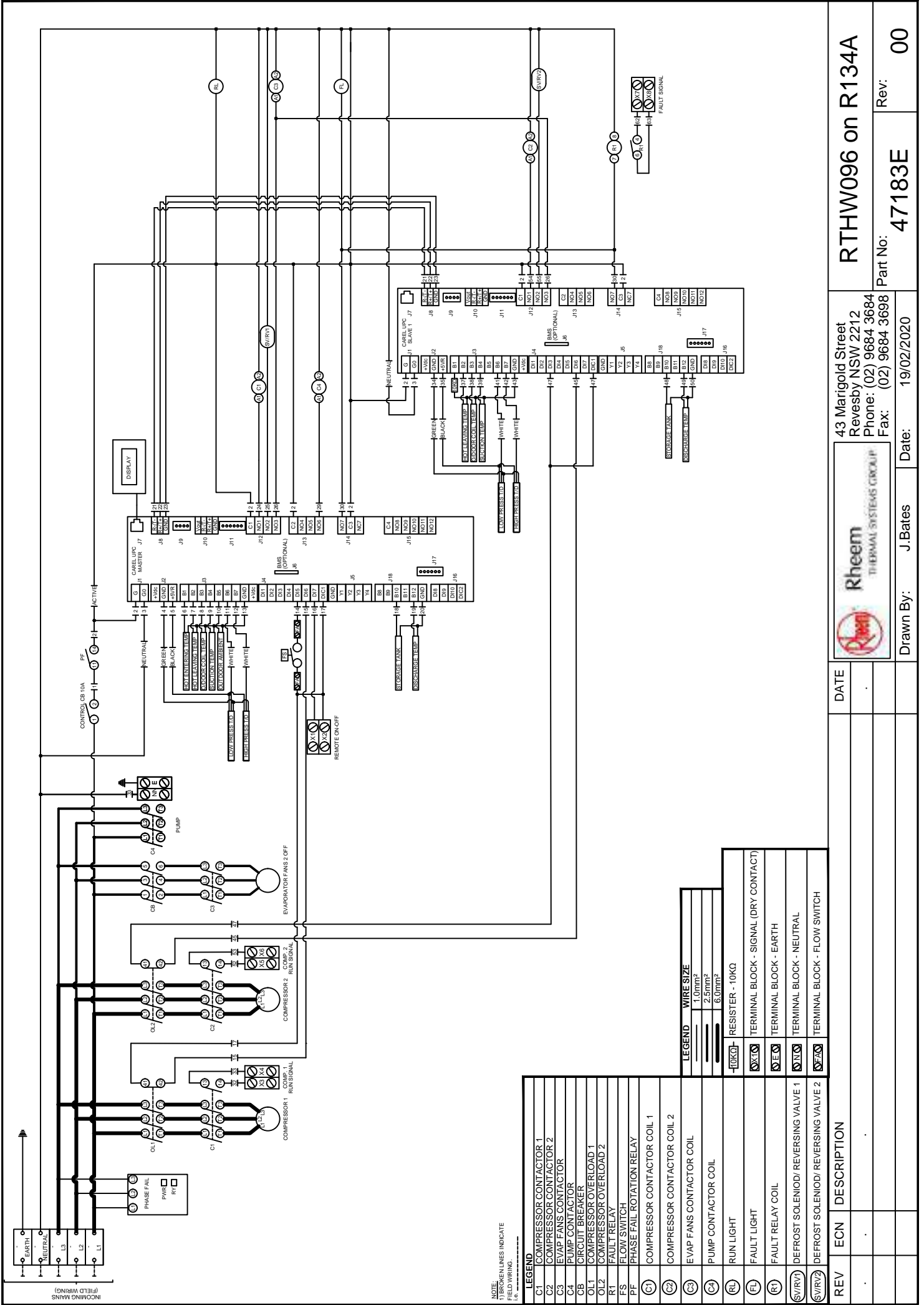




- TO USE REMOTE ON/OFF
- 1) CONNECT SWITCH CABLE TO X1 & X2
  - 2) IN CARE EASY CHANGE PARAMETER SET POINT A4 TO 5 WAS 0
  - 3) PRESS & HOLD "SET". "PS" WILL BE DISPLAYED
  - 4) PRESS "SET". THEN "ARROW UP" TILL VAL VE "22" IS DISPLAYED
  - 5) PRESS "SET". "PS" WILL BE DISPLAYED
  - 6) PRESS "ARROW UP" OR "DOWN" TO SELECT THE CODE OF PARAMETER
  - 7) SELECT PARAMETER A4. PRESS "SET"
  - 8) PRESS "ARROW UP" TO 5 WAS 0. PRESS "SET"
  - 9) PRESS & HOLD "SET". UNTIL THE WATER TEMP IS DISPLAYED
  - 10) PARAMETER IS CHANGED AND SAVED.

LEGEND	DESCRIPTION
C1	COMPRESSOR CONTACTOR 1
C2	COMPRESSOR CONTACTOR 2
E1	EVAPORATOR FAN CONTACTOR
CB	CIRCUIT BREAKER
P/F	PHASE FAILURE
LP1	LOW PRESSURE CONTROL 1
OL	COMPRESSOR OVERLOAD
HP1	HIGH PRESSURE CONTROL 1
HP2	HIGH PRESSURE CONTROL 2
TH	THERMOSTAT
LOR	LOCK OUT RELAY
FS	FLOW SWITCH
(C1)	COMPRESSOR CONTACTOR COIL 1
(C2)	COMPRESSOR CONTACTOR COIL 2
(E1)	EVAP FAN CONTACTOR COIL 1
(S1)	HOT GAS SOLENIOD COIL 1
(S2)	HOT GAS SOLENIOD COIL 2
(T1)	SHORT CYCLE TIMER 1
(T2)	SHORT CYCLE TIMER 2
(T3)	0-8 MINUTES
(T4)	0-8 MINUTES

		43 Mangold Street Revesby NSW 2212 Australia Phone: +61 2 9684 3684 Fax: +61 2 9684 3698	
		Part No: <b>47182E</b>	Rev: <b>00</b>
DATE	Drawn By: <b>J. Bates</b>	Date: <b>19/02/2020</b>	RTHW096 on R134A
REV	ECN	DESCRIPTION	Unit specifications are subject to change without notice.



NOTE:  
 1. THERCOIL LINES INDICATE  
 FIELD WIRING.

LEGEND	DESCRIPTION
C1	COMPRESSOR CONTACTOR 1
C2	COMPRESSOR CONTACTOR 2
C3	EVAP FANS CONTACTOR
C4	PUMP CONTACTOR
CB	CIRCUIT BREAKER
OL1	COMPRESSOR OVERLOAD 1
OL2	COMPRESSOR OVERLOAD 2
R1	FAULT RELAY
FS	FLOW SWITCH
PF	PHASE FAIL ROTATION RELAY
C1	COMPRESSOR CONTACTOR COIL 1
C2	COMPRESSOR CONTACTOR COIL 2
C3	EVAP FANS CONTACTOR COIL
C4	PUMP CONTACTOR COIL
R1	FAULT LIGHT
FL	FAULT LIGHT
R1	FAULT RELAY COIL
S1/RV1	DEFROST SOLENOID/REVERSING VALVE 1
S1/RV2	DEFROST SOLENOID/REVERSING VALVE 2

LEGEND	WIRE SIZE
—	1.0mm <sup>2</sup>
—	2.5mm <sup>2</sup>
—	6.0mm <sup>2</sup>

-10KΩ	RESISTOR - 10KΩ
□X10	TERMINAL BLOCK - SIGNAL (DRY CONTACT)
□E0	TERMINAL BLOCK - EARTH
□N0	TERMINAL BLOCK - NEUTRAL
□F0	TERMINAL BLOCK - FLOW SWITCH

REV	ECN	DESCRIPTION



43 Marigold Street  
 Revesby NSW 2212  
 Phone: (02) 9684 3684  
 Fax: (02) 9684 3698

RTHW096 on R134A

Part No: 47183E

Rev: 00

Date: 19/02/2020

Drawn By: J.Bates

<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger / thermostat control	<b>RTHW124DS-DEV-1</b>
Double wall heat exchanger / thermostat control	<b>RTHW124DV-DEV-1</b>
Single wall heat exchanger / Rheem IQ control	<b>RTHW124DS-DQV-1</b>
Double wall heat exchanger / Rheem IQ control	<b>RTHW124DV-DQV-1</b>

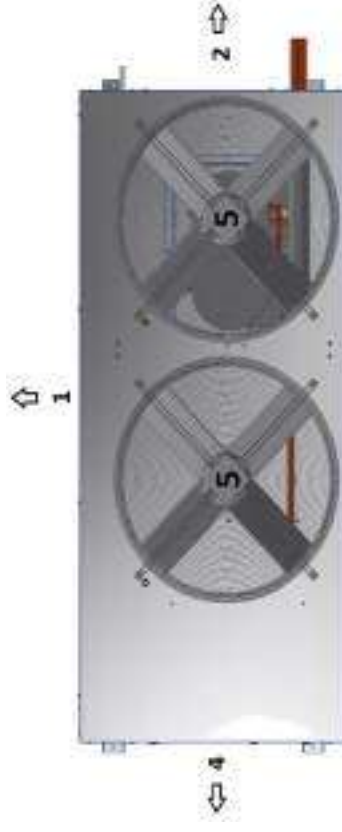
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	65.2 FLA / 225 LRA
Min. Circuit Size	80.0 Amps
Refrigerant	R134A
Nominal Heating capacity	121.86 kW
Power input	25.01 kW
COP	4.87 COP
Noise Level	69 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	46.8 Amps

<b>TECHNICAL DATA</b>	
Make	<b>Compressor</b> Copeland
Type	Scroll 20092
Number Per Unit	2
FLA (Full Load Amps)	30.9 Amps (Each) 1.7 Amps (Each)
Voltage / Phase	380 - 415 / 3 380 - 415 / 3
Pole/RPM	2/2,900 6/890
Air Flow	N/A 7335 L/s
Make	<b>Fan</b> EBM-Papst
Type	Axial
Number Per Unit	2

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	4.86 L/s
Max. Outlet Water Temp	65°C / 70°C*
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa

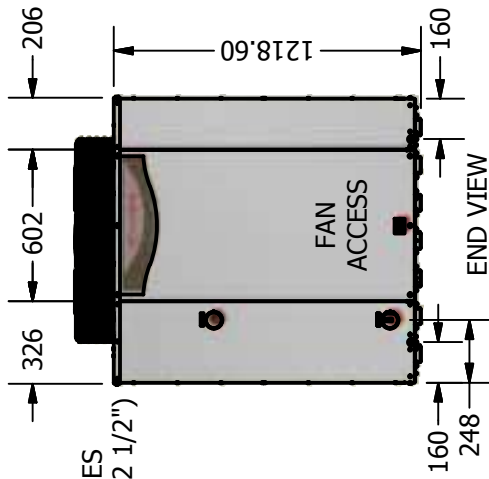
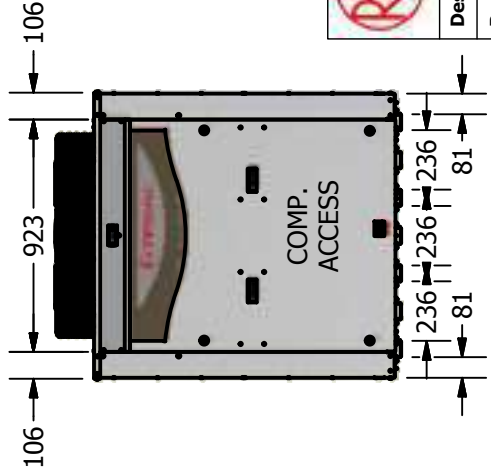
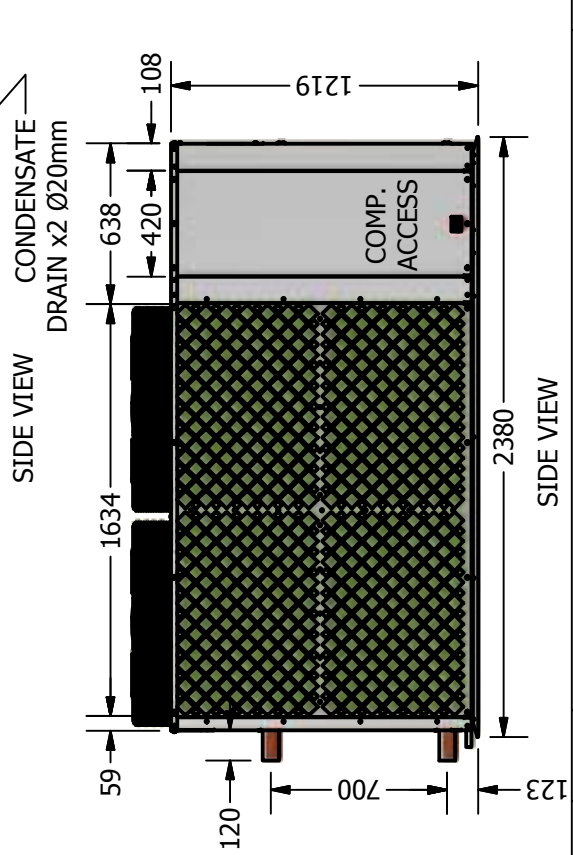
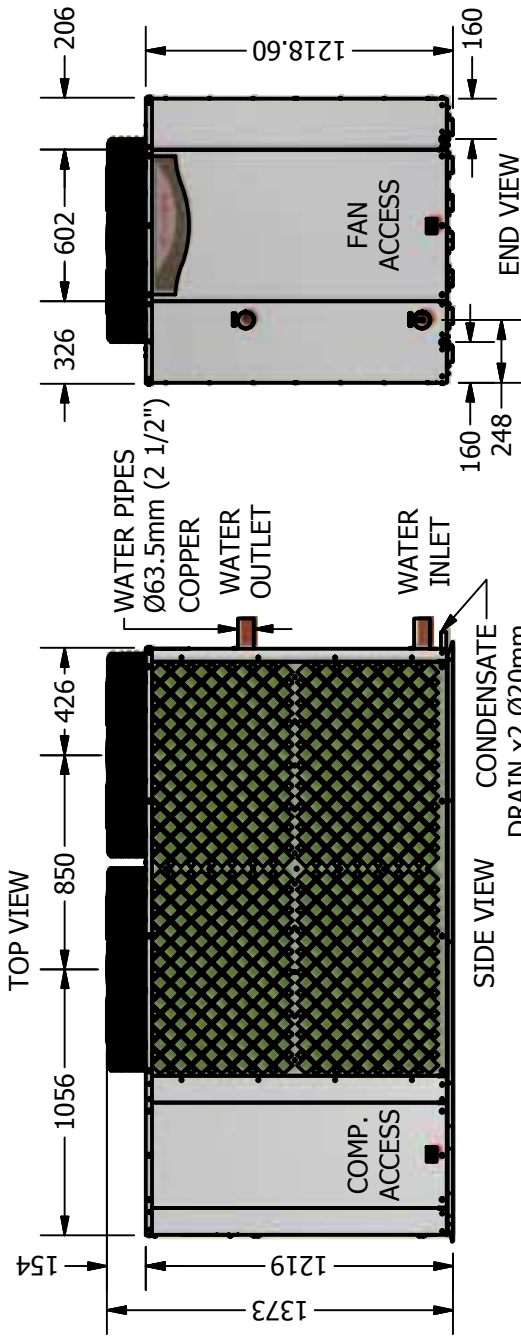
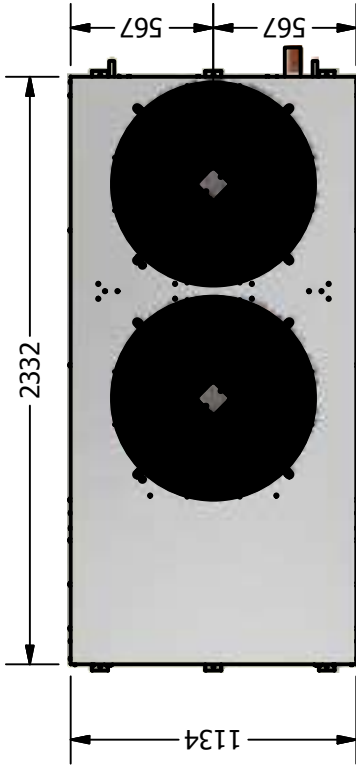
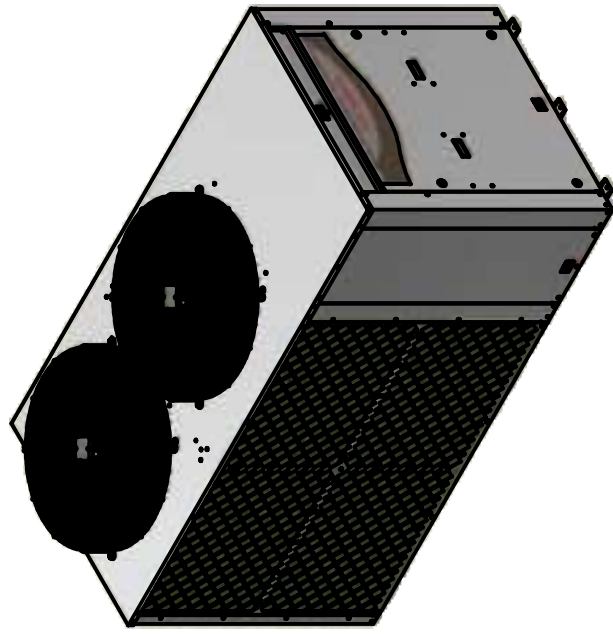
<b>GENERAL INFORMATION</b>	
Water Connections	65mm (2 1/2") Copper
Drain	20mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	650 kg
Size L x W x H	2380mm x 1134mm x 1373mm

<b>COP TABLE</b>								
Water Out °C	Ambient Temperature							
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C
45 °C	69.24 kW	78.59 kW	89.15 kW	97.96 kW	107.60 kW	114.52 kW	<b>121.86 kW</b>	125.69 kW
	2.88 COP	3.23 COP	3.64 COP	3.97 COP	4.34 COP	4.60 COP	<b>4.87 COP</b>	5.02 COP
50 °C	68.59 kW	77.56 kW	87.65 kW	96.03 kW	105.20 kW	111.78 kW	118.75 kW	122.39 kW
	2.60 COP	2.91 COP	3.25 COP	3.54 COP	3.86 COP	4.08 COP	4.32 COP	4.45 COP
55 °C	68.15 kW	76.82 kW	86.54 kW	94.59 kW	103.39 kW	109.69 kW	116.37 kW	119.86 kW
	2.40 COP	2.67 COP	2.97 COP	3.23 COP	3.51 COP	3.71 COP	3.92 COP	4.03 COP
60 °C	67.81 kW	76.18 kW	85.51 kW	93.24 kW	101.67 kW	107.70 kW	114.09 kW	117.43 kW
	2.22 COP	2.45 COP	2.72 COP	2.94 COP	3.19 COP	3.37 COP	3.56 COP	3.65 COP
65 °C	67.49 kW	75.49 kW	84.37 kW	91.69 kW	99.65 kW	105.35 kW	111.38 kW	114.53 kW
	2.01 COP	2.21 COP	2.43 COP	2.62 COP	2.83 COP	2.98 COP	3.14 COP	3.23 COP
70 °C	N/A	N/A	N/A	N/A	97.80 kW	103.17 kW	108.84 kW	111.80 kW
	N/A	N/A	N/A	N/A	2.51 COP	2.64 COP	2.78 COP	2.85 COP



<b>UNIT CLEARANCES</b>		
Direction	Description	Minimum Clearance Required
1	Evaporator Coil	1000mm
2	Water Connections	850mm
3	Evaporator Coil	1000mm
4	Compressor Access	850mm
5	Top - Fan Discharge	3500mm

When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C

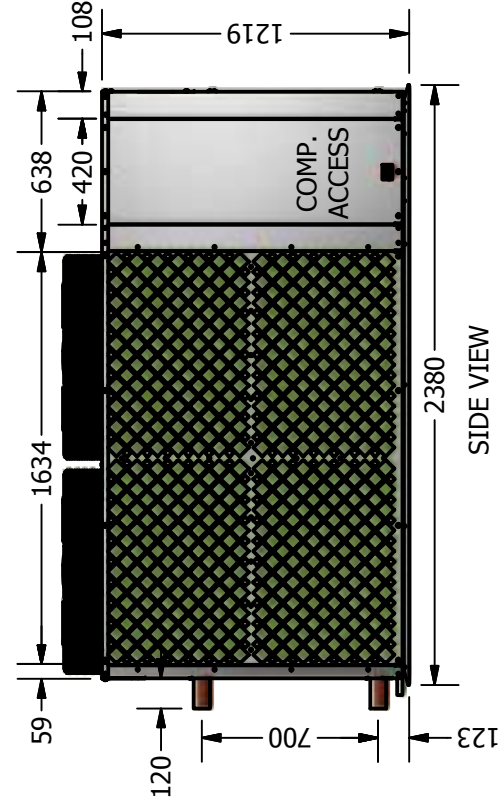
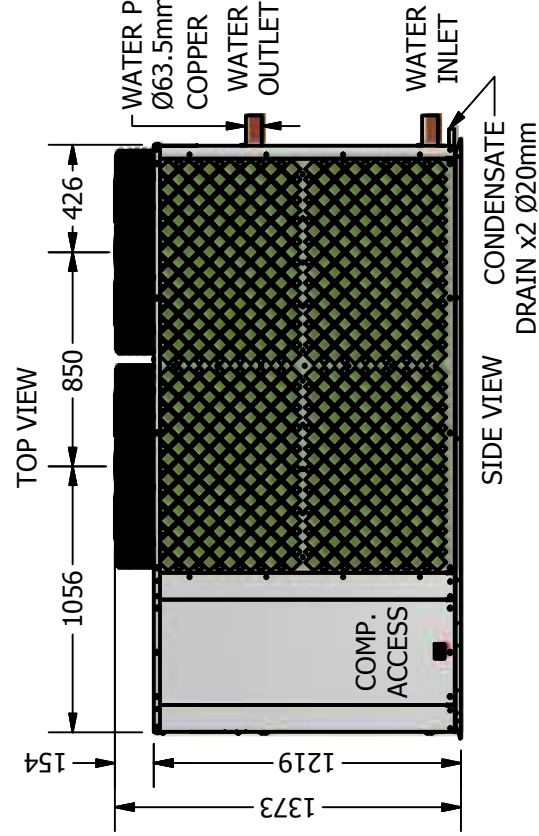
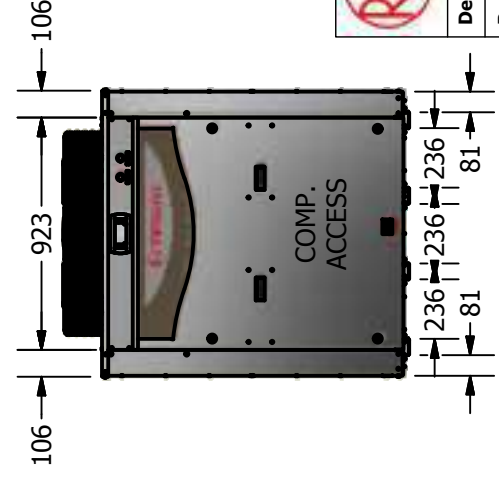
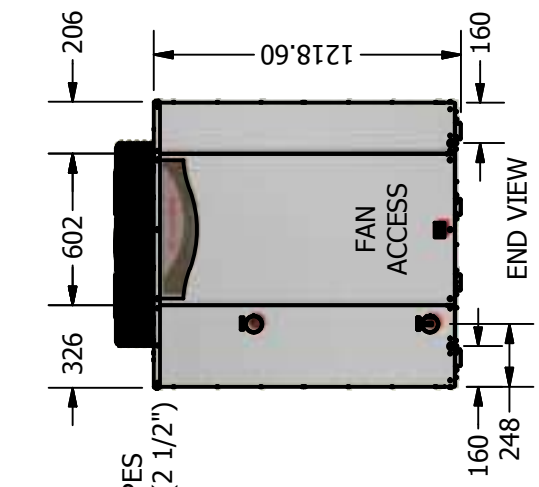
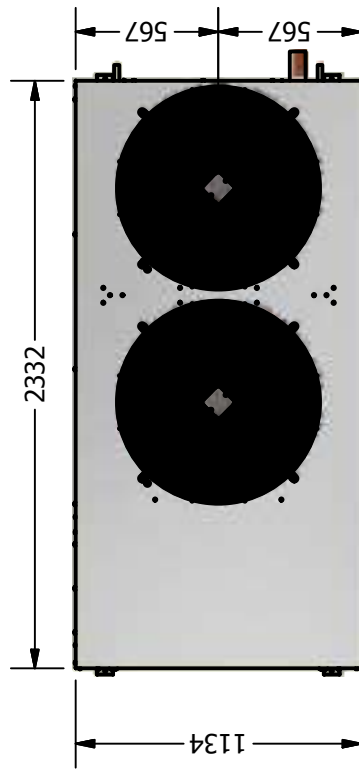
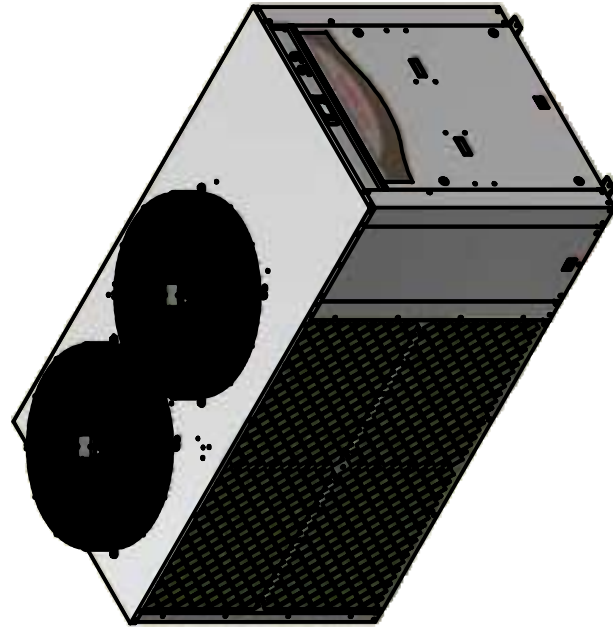



THE THERMAL SYSTEMS GROUP

SHEET 1 OF 4

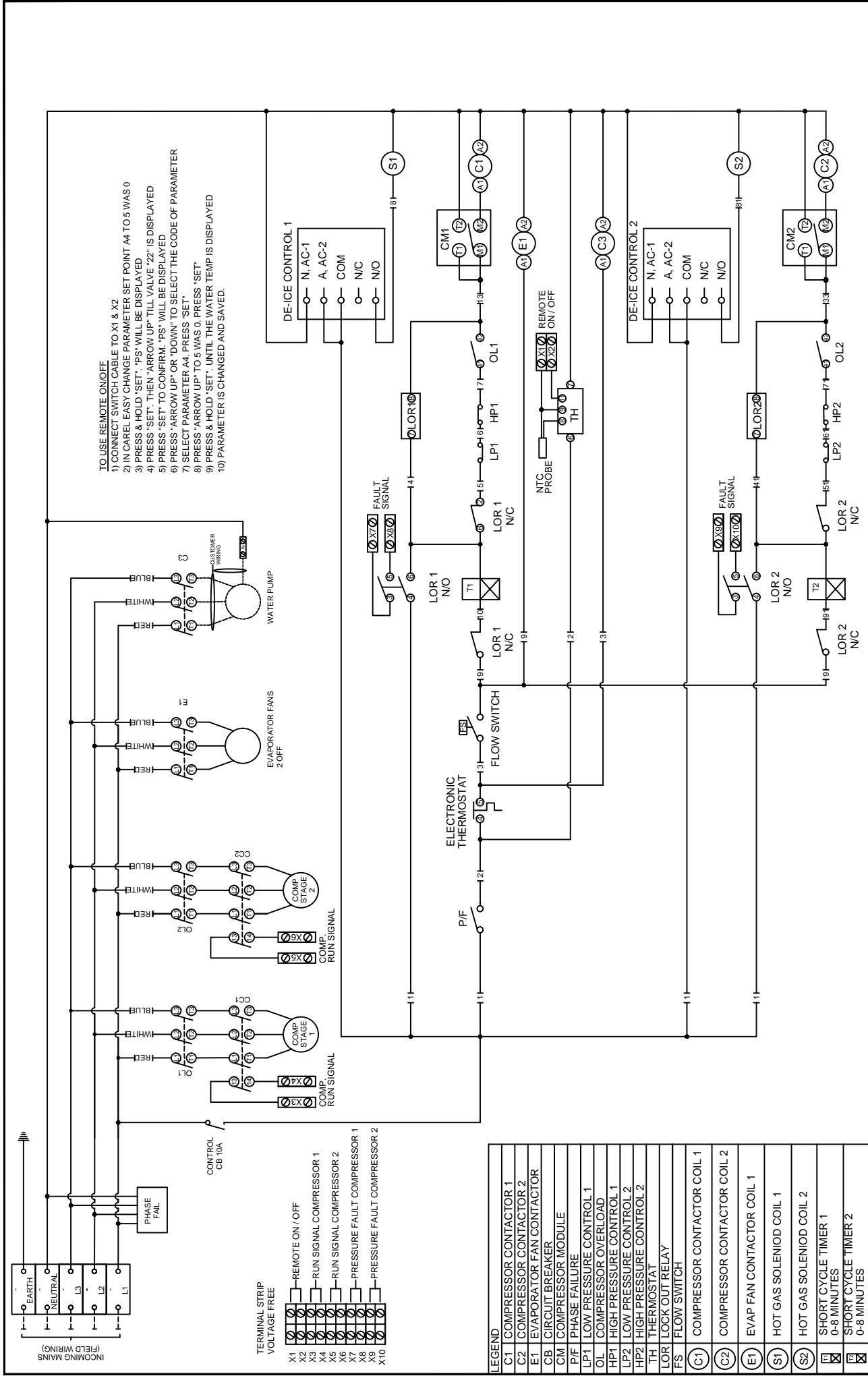
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<b>Part No:</b>	RTHW124DS-DEV-1		
<b>Material:</b>		<b>Rev:</b>	14/02/2020
<b>Drawn By:</b>	j.bates	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2		
<b>Scale:</b>	N.T.S.		

REV	ECN	DESCRIPTION	DATE



 <b>Rheem</b> THERMAL SYSTEMS GROUP		SHEET 1 OF 4	
		RHEEM THERMAL A2W RTHW	
<b>Description:</b>	RTHW124DS-DQV-1	<b>Rev.</b>	
<b>Part No:</b>		<b>Date:</b>	11/04/2019
<b>Material:</b>		<b>Checked By:</b>	j.bates
<b>Drawn By:</b>		<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions ± 2, Angle ± 2°
			<b>Scale:</b> N.T.S

REV	ECN	DESCRIPTION	DATE



REV	ECN	DESCRIPTION

DATE	

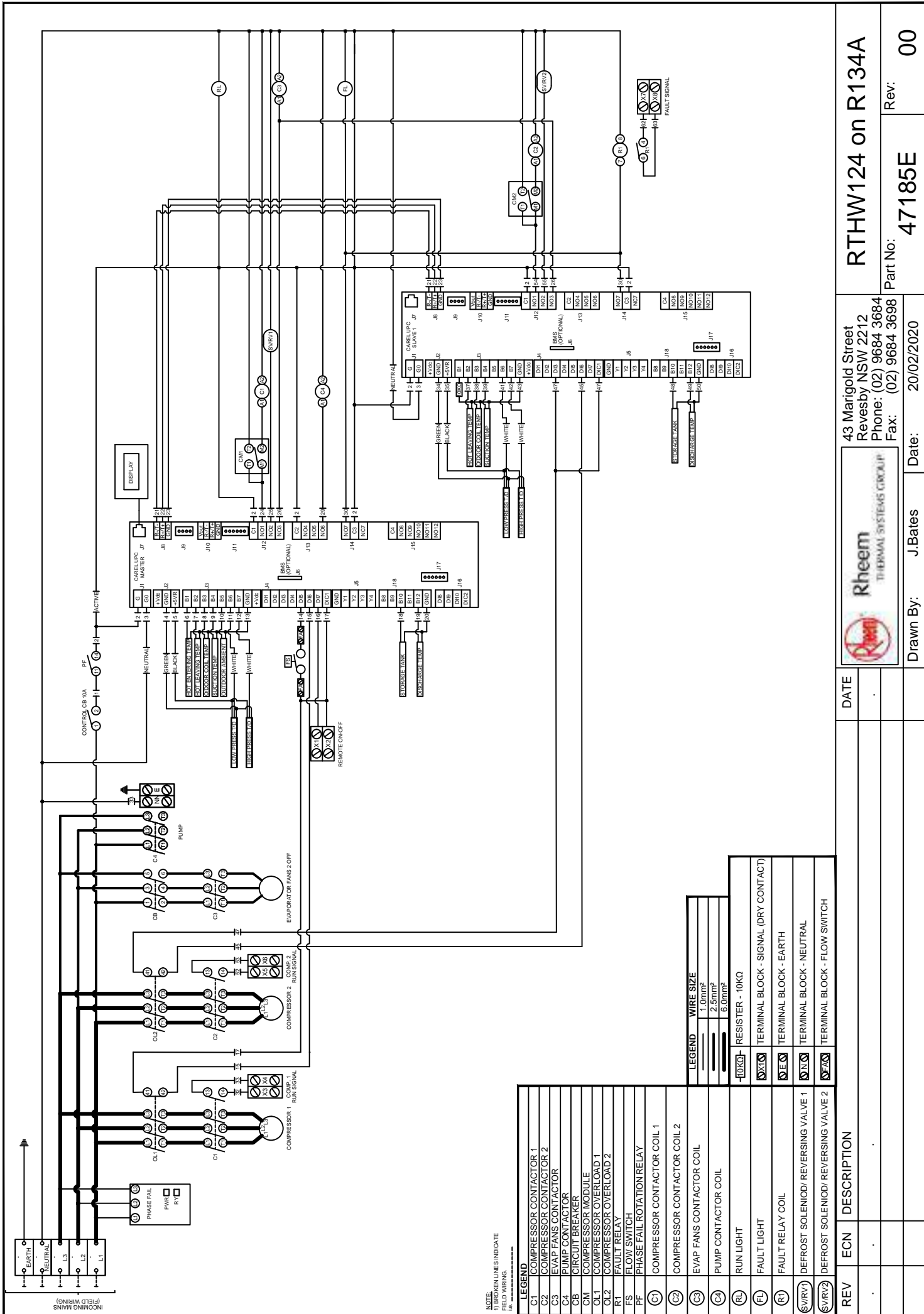
  

 Rheem THERMAL SYSTEMS GROUP	43 Marigold Street Revesby NSW 2212 Australia Phone: +61 2 9684 3684 Fax: +61 2 9684 3698
Drawn By: J. Bates	Date: 20/02/2020

<b>RTHW124 on R134A</b>	Part No: <b>47184E</b>
Rev:	00

Unit specifications are subject to change without notice.



RTHW124 on R134A

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Revesby NSW 2212  
Phone: (02) 9684 3684  
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Drawn By: J.Bates

Date: 20/02/2020

Part No: 47185E

Rev: 00

<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger / thermostat control	<b>RTHW186DS-DEV-1</b>
Double wall heat exchanger / thermostat control	<b>RTHW186DV-DEV-1</b>
Single wall heat exchanger / Rheem IQ control	<b>RTHW186DS-DQV-1</b>
Double wall heat exchanger / Rheem IQ control	<b>RTHW186DV-DQV-1</b>

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	99.9 FLA / 225 LRA
Min. Circuit Size	120.0 Amps
Refrigerant	R134A
Nominal Heating capacity	182.78 kW
Power input	38.30 kW
COP	4.77 COP
Noise Level	72 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	72.3 Amps

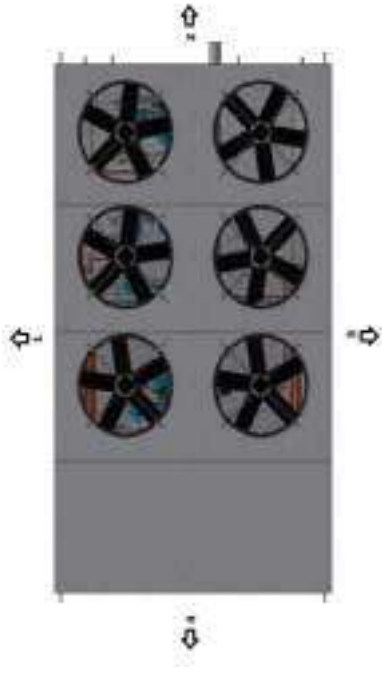
<b>TECHNICAL DATA</b>	
Make	<b>Compressor</b> Copeland
Type	Scroll 20092
Number Per Unit	3
FLA (Full Load Amps)	30.9 Amps (Each)
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900
Air Flow	N/A
Make	<b>Fan</b> EBM-Papst
Type	Scroll 20092
Number Per Unit	6
FLA (Full Load Amps)	1.2 Amps (Each)
Voltage / Phase	380 - 415 / 3
Pole/RPM	6/890
Air Flow	14100 L/s

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Single Wall
Design	Shell and Tube
Flow Rate Excl. By Pass	7.29 L/s
Max. Outlet Water Temp	65°C / 70°C*
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	76.2mm (3") Copper
Drain	40mm aluminium
Defrost	Hot Gas Injection
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	1500 kg
Size L x W x H	3462mm x 1962mm x 2270mm

**COP TABLE**

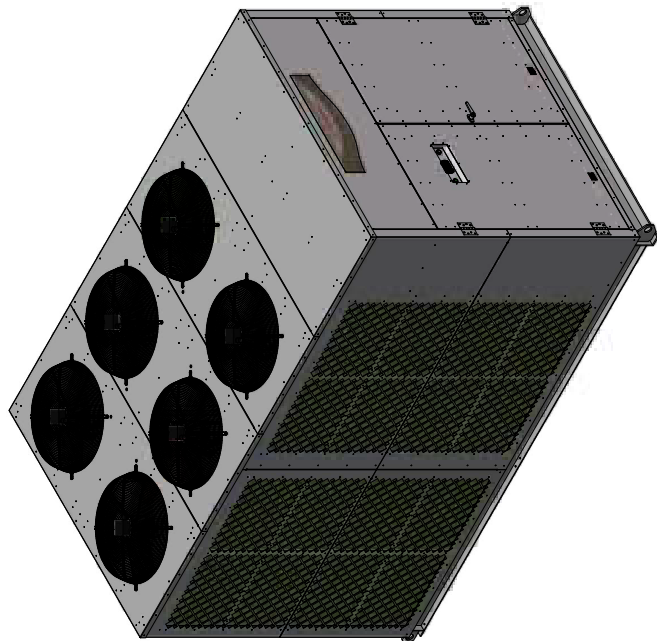
Water Out °C	Ambient Temperature									
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C		
45 °C	103.86 kW 2.82 COP	117.89 kW 3.17 COP	133.73 kW 3.56 COP	146.94 kW 3.89 COP	161.40 kW 4.25 COP	171.78 kW 4.50 COP	182.78 kW 4.77 COP	188.53 kW 4.91 COP		
50 °C	102.88 kW 2.55 COP	116.34 kW 2.85 COP	131.47 kW 3.19 COP	144.05 kW 3.47 COP	157.80 kW 3.78 COP	167.67 kW 4.01 COP	178.13 kW 4.24 COP	183.59 kW 4.37 COP		
55 °C	102.23 kW 2.36 COP	115.24 kW 2.62 COP	129.80 kW 2.92 COP	141.89 kW 3.17 COP	155.08 kW 3.45 COP	164.54 kW 3.64 COP	174.56 kW 3.85 COP	179.79 kW 3.96 COP		
60 °C	101.71 kW 2.18 COP	114.27 kW 2.41 COP	128.27 kW 2.67 COP	139.86 kW 2.90 COP	152.50 kW 3.14 COP	161.55 kW 3.31 COP	171.14 kW 3.50 COP	176.14 kW 3.60 COP		
65 °C	101.31 kW 2.02 COP	113.43 kW 2.22 COP	126.88 kW 2.45 COP	137.98 kW 2.64 COP	150.07 kW 2.86 COP	158.71 kW 3.01 COP	167.87 kW 3.17 COP	172.64 kW 3.26 COP		
70 °C	N/A	N/A	N/A	N/A	146.70 kW 2.48 COP	154.75 kW 2.60 COP	163.26 kW 2.74 COP	167.70 kW 2.81 COP		



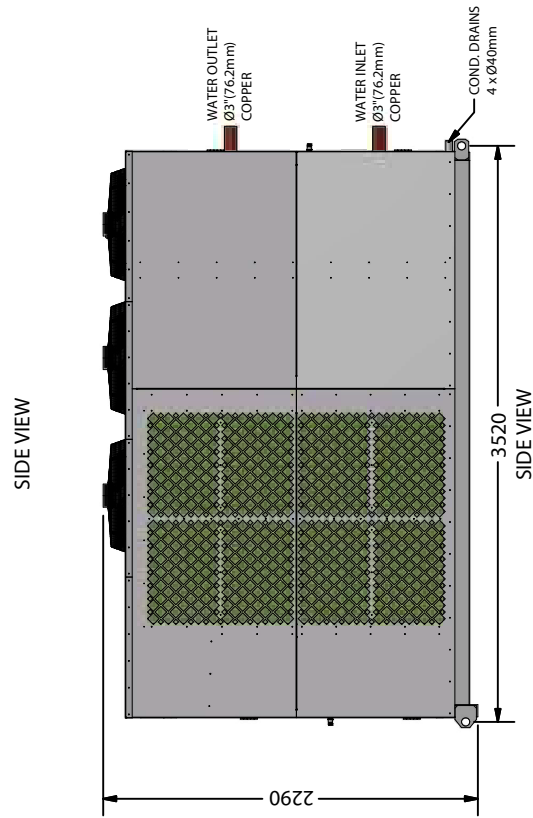
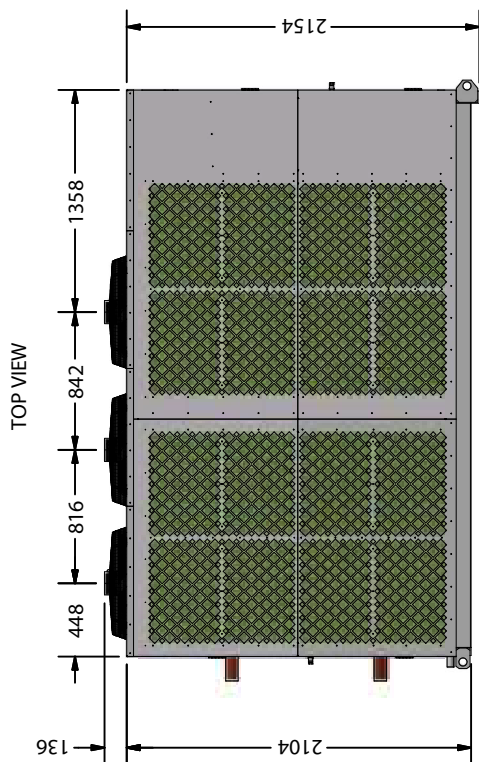
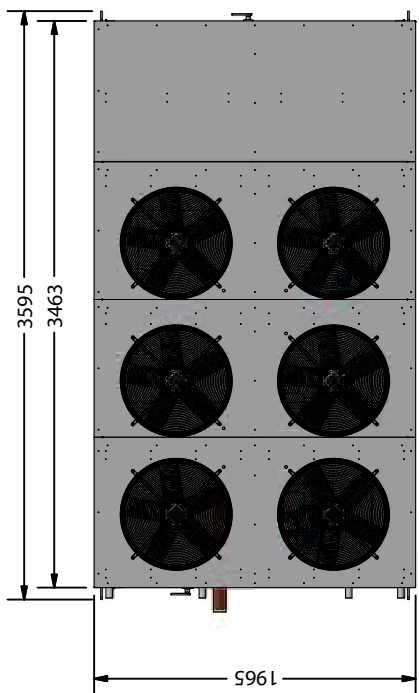
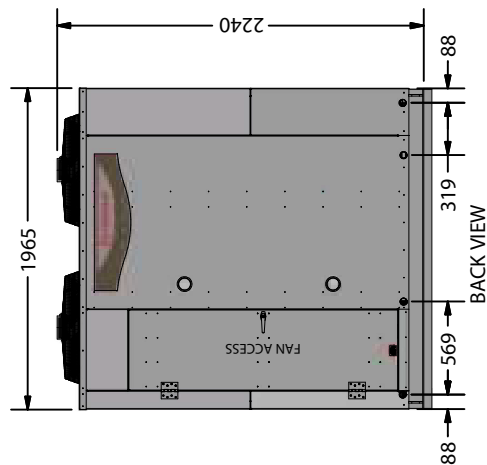
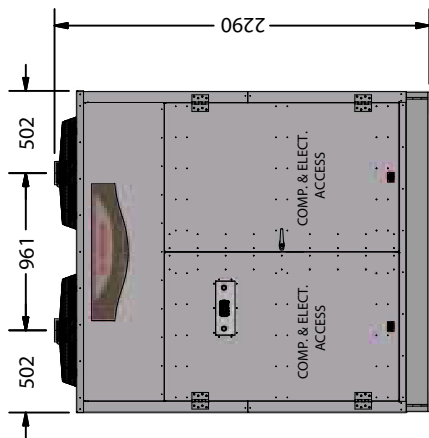
<b>UNIT CLEARANCES</b>	
Direction	Description
1	Evaporator Coil
2	Water Connections
3	Evaporator Coil
4	Compressor Access
5	Top – Fan Discharge
	Minimum Clearance Required
	1000mm
	850mm
	1000mm
	850mm
	3500mm

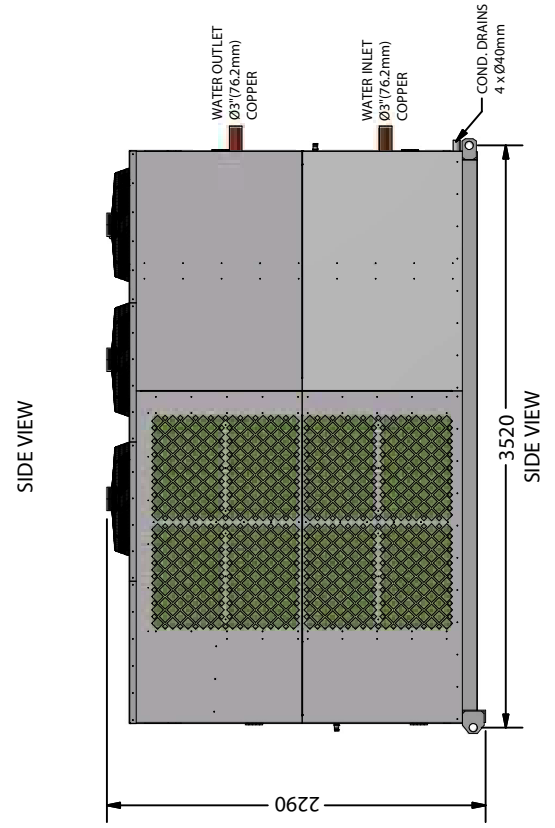
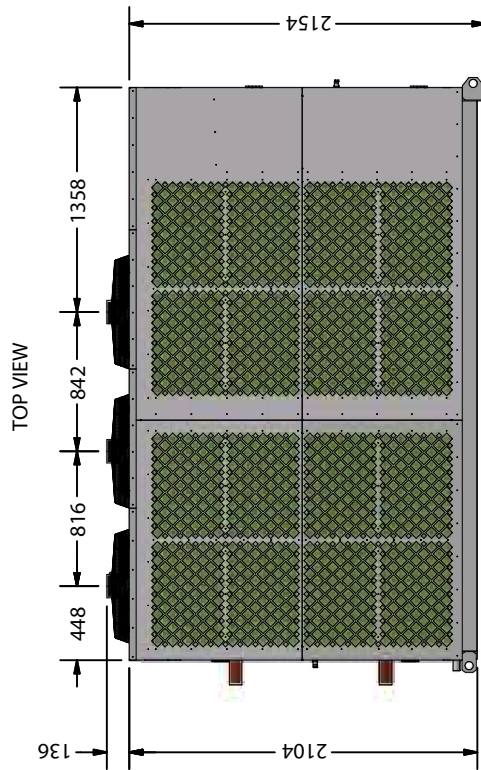
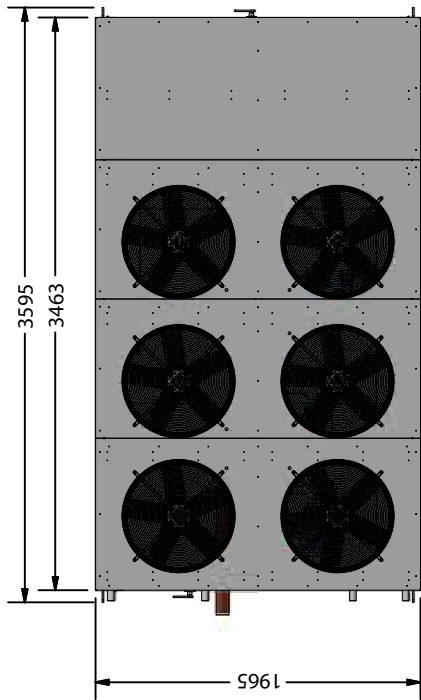
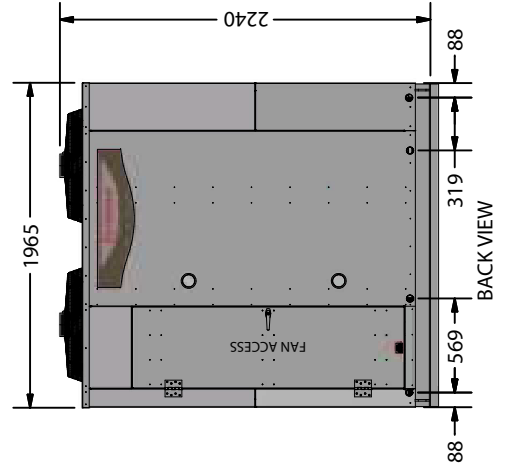
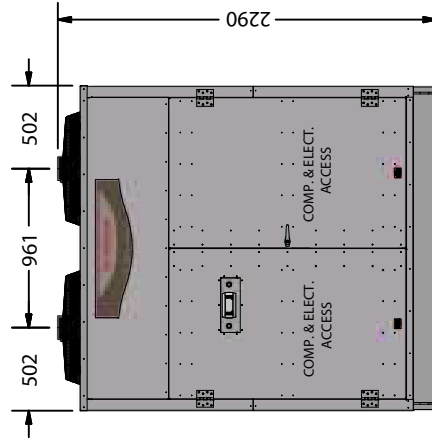
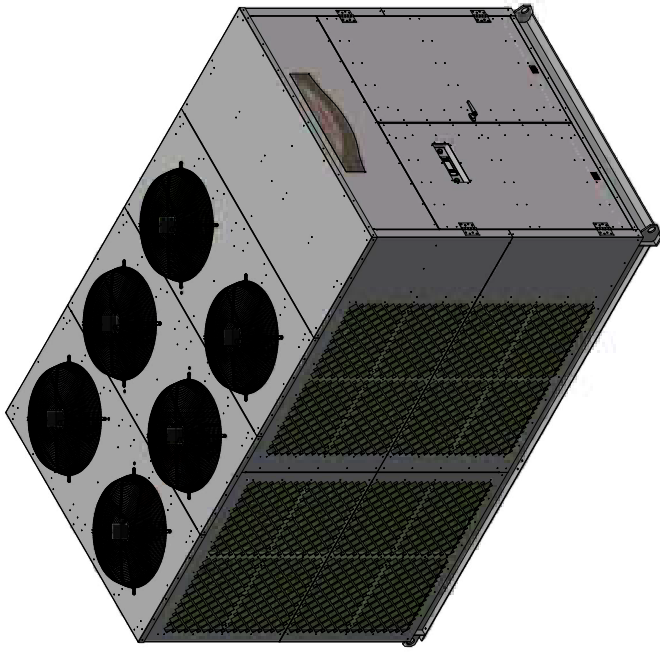
When units placed side by side allow 2000mm between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 20°C



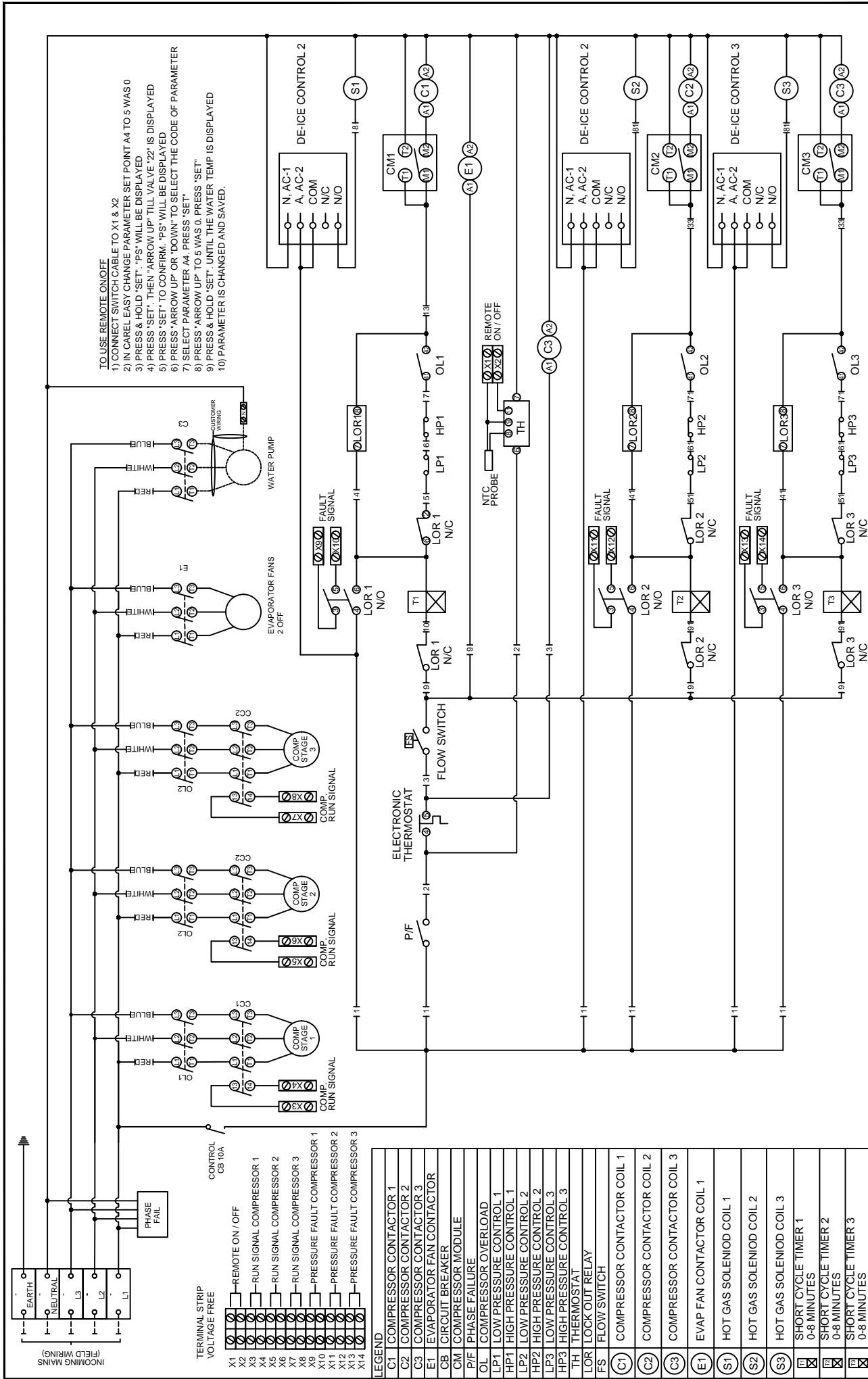


		Description: RHEEM THERMAL HW HEAT PUMP 186KW	
Part No:	RTHW186DS-DEV-1	Rev:	
Material:	As Above	Date:	21/02/2020
Drawn By:	ST	Checked By:	
Checked:	ST	Drawn:	
Scale:	N.T.S	Author:	





Description:	RHEEM THERMAL HW HEAT PUMP 186KW
Part No:	RTHW186DS-DQV-1
Material:	As Above
Drawn By:	ST
Checked By:	As Above
Date:	21/02/2020
Rev:	
Scale:	N.T.S
General Fabrication:	Shimada - Curator - 010388 Benaissa - 010388
Librairie:	Librairie - 010388 Benaissa - 010388



REV	ECN	DESCRIPTION	DATE	Drawn By:	Date:
				J. Bates <td>20/02/2020</td>	20/02/2020



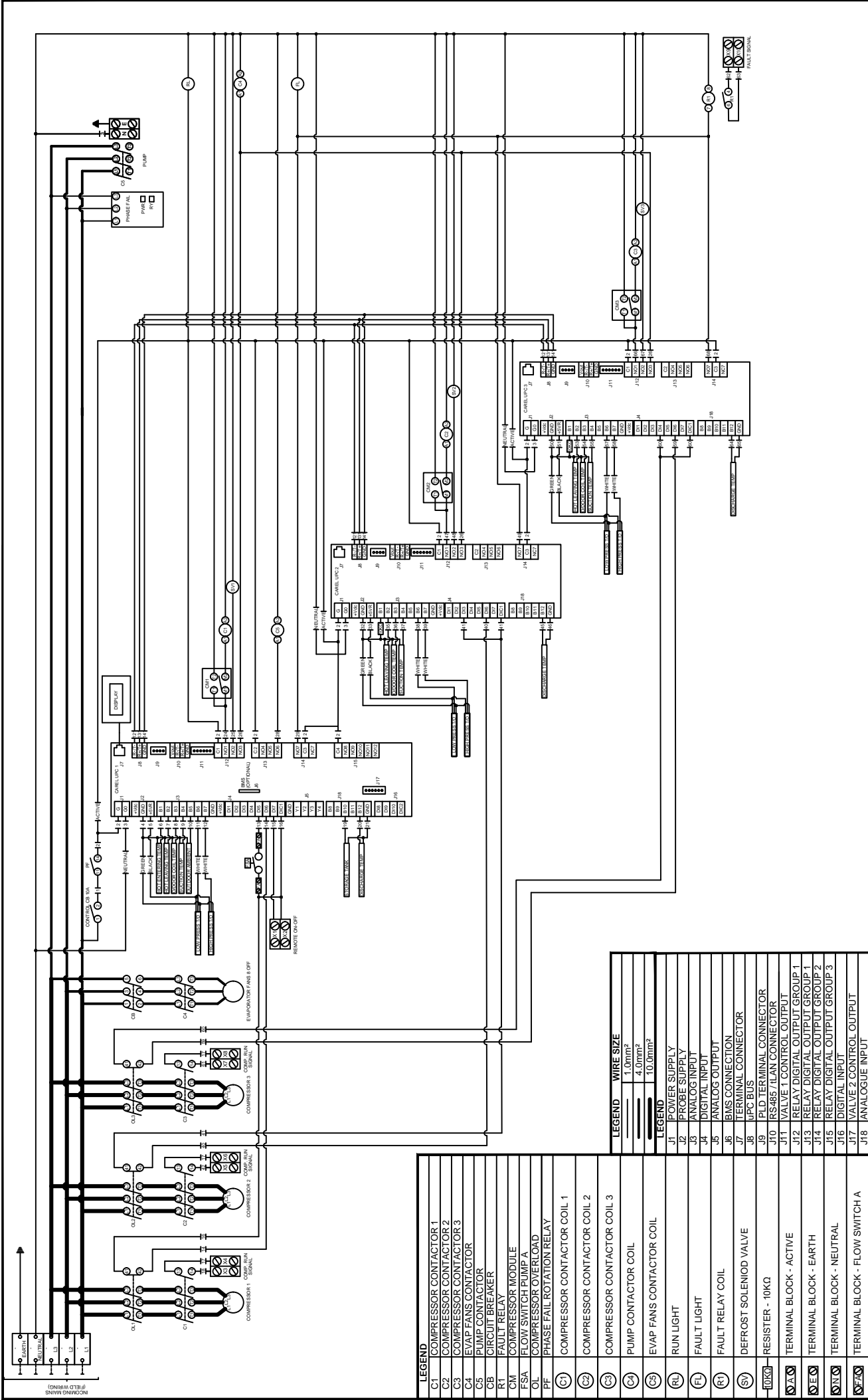
**Rheem**  
THERMAL SYSTEMS GROUP

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Australia  
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**RTHW186 on R134A**

Part No: **47186E** Rev: **00**

Unit specifications are subject to change without notice.



REV	ECN	DESCRIPTION

 <b>Rheem</b> THERMAL SYSTEMS GROUP	DATE	20/02/2020
	Drawn By:	J.Bates
<b>43 Marigold Street</b> <b>Revesby NSW 2212</b> <b>Phone: (02) 9684 3684</b> <b>Fax: (02) 9684 3698</b>		
Part No:	<b>47187E</b>	Rev: <b>00</b>
<b>RTHW186 on R134A</b>		

## 2.4

**WATER TO WATER HEAT PUMP (50Hz),**

***RTWW###SK#-DQ-1***



**HOT WATER HEAT PUMP SPECIFICATIONS**

Single wall heat exchanger condenser / Rheem IQ control	<b>RTWW023SKS-DQ-1</b>
Double wall heat exchanger condenser / Rheem IQ control	<b>RTWW023SKV-DQ-1</b>

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	11.2 FLA / 74 LRA
Min. Circuit Size	20.0 Amps
Refrigerant	R407C
Refrigeration effect	Heating
Nominal capacity	23.62 kW
Power input	4.68 kW
COP	5.05 COP
Noise Level	59 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	8.4 Amps

**TECHNICAL DATA**

Make / Type	<b>Compressor</b>	
Number Per Unit	Copeland / Scroll 20012	
FLA (Full Load Amps)	11.2 Amps	1
Voltage / Phase	380 - 415 / 3	
Pole/RPM	2/2,900	

**HEAT EXCHANGER (Water Side)**

	Hot Side (Condenser)	Cold Side (Evaporator)
Type of Water Tube	Single / Double Wall	Single Wall
Design	Shell & Tube / Co-axial	Shell & Tube
Flow Rate Excl. By Pass	0.94 L/s	0.91 L/s
Max. Outlet Water Temp	61°C	N/A
Min. Outlet Water Temp	N/A	6 °C
Design Pressure Drop	80 kPa / 50 kPa	80 kPa
Max. Operating Pressure	2,450 kPa	

**GENERAL INFORMATION**

Water Connections	32mm (1 1/4") Copper
Drain	20mm aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	100 kg
Size L x W x H	995mm x 700mm x 625mm

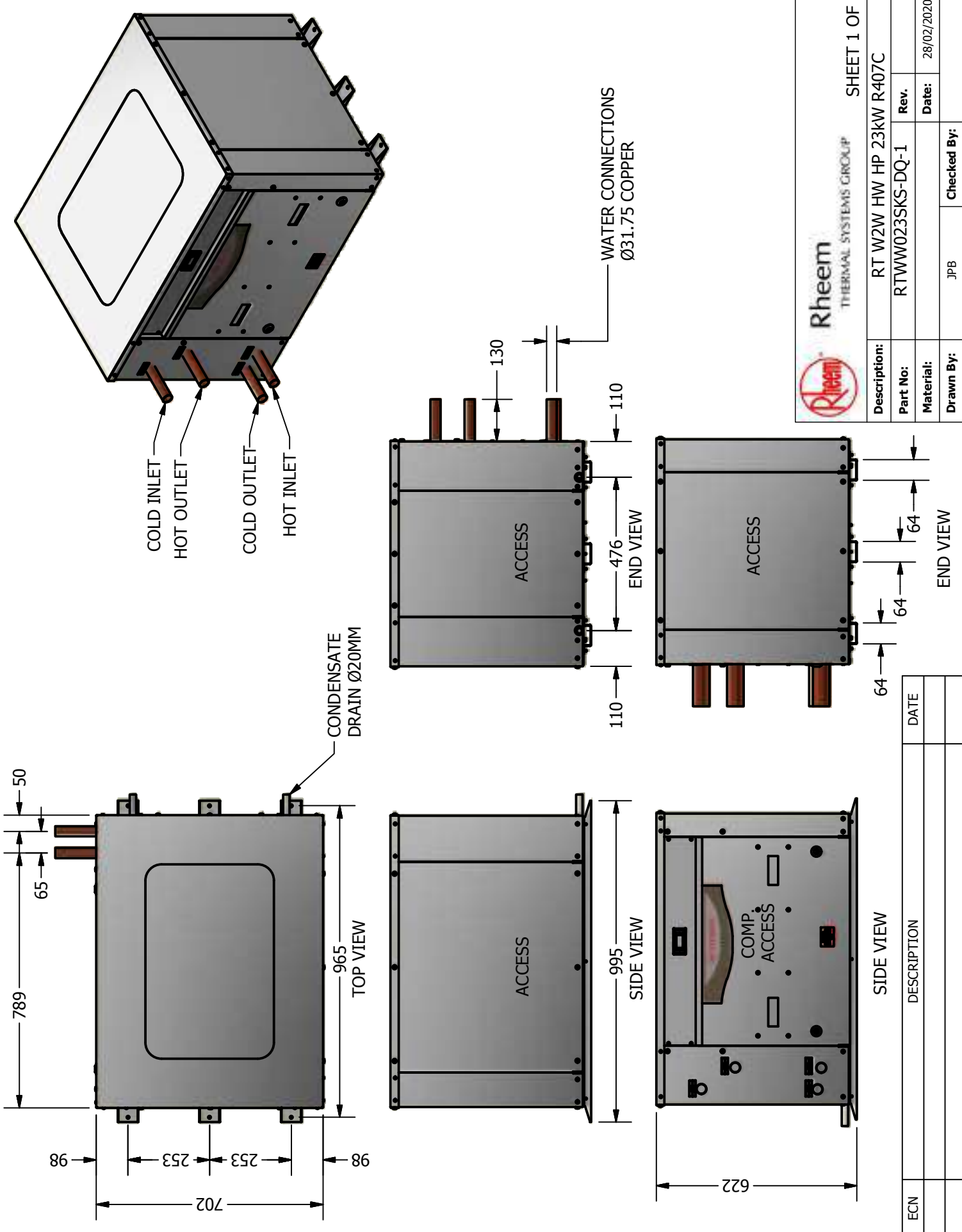
**COP TABLE**

Hot Water Out °C	Cold Water In °C				
	12 °C	14 °C	16 °C	18 °C	20 °C
45 °C	17.31 kW 3.70 COP	18.74 kW 4.01 COP	20.26 kW 4.34 COP	21.91 kW 4.69 COP	23.62 kW 5.05 COP
50 °C	16.93 kW 3.17 COP	18.34 kW 3.43 COP	19.81 kW 3.71 COP	21.38 kW 4.00 COP	22.98 kW 4.30 COP
55 °C	16.56 kW 2.81 COP	17.92 kW 3.04 COP	19.35 kW 3.28 COP	20.90 kW 3.54 COP	22.50 kW 3.81 COP
60 °C	16.12 kW 2.52 COP	17.55 kW 2.75 COP	18.99 kW 2.98 COP	20.49 kW 3.23 COP	22.05 kW 3.47 COP

**UNIT CLEARANCES**

Direction	Description	Minimum Clearance Required
1	Plain Back	200mm
2	Side Access	200mm
3	Compressor Access / Water	850mm
4	Side Access	200mm
5	Top – Height Clearance	500mm

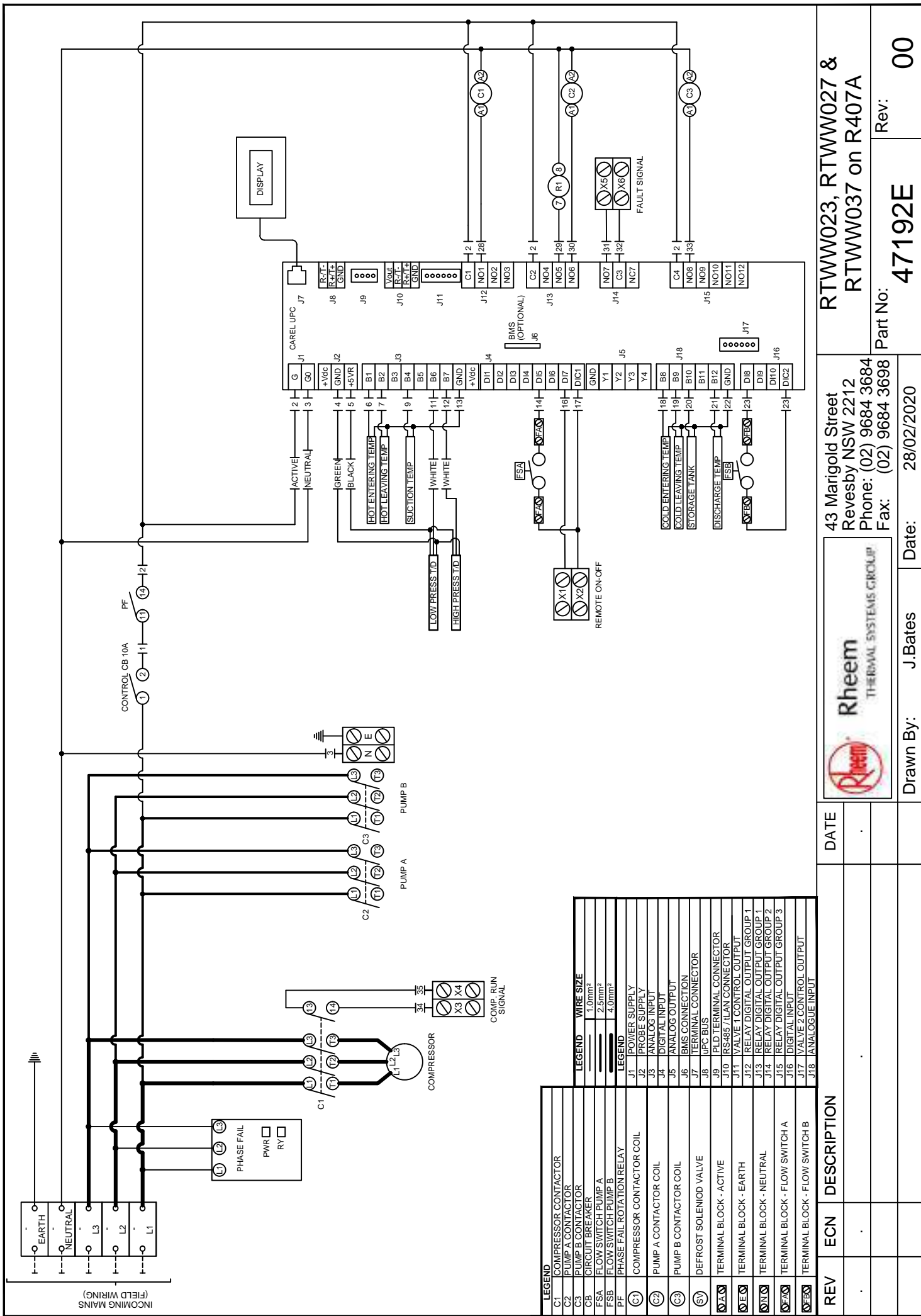
Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT



THE RHEEM THERMAL SYSTEMS GROUP

SHEET 1 OF 3	
<b>Description:</b>	RT W2W HW HP 23kW R407C
<b>Part No:</b>	RTWW023SKS-DQ-1
<b>Material:</b>	Rev.
<b>Drawn By:</b>	Date: 28/02/2020
<b>General Tolerance:</b>	Checked By: JPB
	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm
	Tubes - Dimensions ± 2, Angle ± 2
	Scale: N.T.S

REV	ECN	DESCRIPTION	DATE



RTWW023, RTWW027 &  
 RTWW037 on R407A

43 Marigold Street  
 Revesby NSW 2212  
 Phone: (02) 9684 3684  
 Fax: (02) 9684 3698



DATE

Rev: 00

Part No: 47192E

Date: 28/02/2020

Drawn By: J.Bates



## HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger condenser / Rheem IQ control	<b>RTWW027SKS-DQ-1</b>
Double wall heat exchanger condenser / Rheem IQ control	<b>RTWW027SKV-DQ-1</b>

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	13.6 FLA / 101 LRA
Min. Circuit Size	20.0 Amps
Refrigerant	R407C
Refrigeration effect	Heating
Nominal capacity	27.30 kW
Power input	5.48 kW
COP	4.98 COP
Noise Level	59 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	10.4 Amps

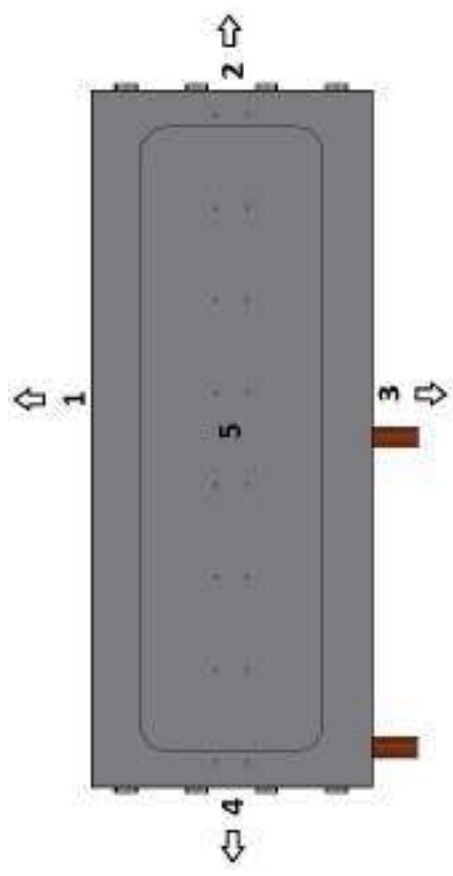
<b>TECHNICAL DATA</b>	
Make / Type	<b>Compressor</b> Copeland / Scroll 20014
Number Per Unit	1
FLA (Full Load Amps)	13.6 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	<b>Hot Side (Condenser)</b> / <b>Cold Side (Evaporator)</b> Single / Double Wall
Design	Shell & Tube / Co-axial
Flow Rate Excl. By Pass	1.09 L/s
Max. Outlet Water Temp	61°C
Min. Outlet Water Temp	N/A
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	32mm (1 1/4") Copper
Drain	20mm aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	110 kg
Size L x W x H	1495mm x 700mm x 775mm

## COP TABLE

Hot Water Out °C	Cold Water In °C				
	12 °C	14 °C	16 °C	18 °C	20 °C
45 °C	21.11 kW 3.91 COP	22.50 kW 4.15 COP	23.98 kW 4.42 COP	25.61 kW 4.70 COP	27.30 kW <b>4.98 COP</b>
50 °C	20.69 kW 3.39 COP	22.00 kW 3.60 COP	23.39 kW 3.83 COP	24.94 kW 4.07 COP	26.55 kW 4.32 COP
55 °C	20.39 kW 3.02 COP	21.63 kW 3.20 COP	22.95 kW 3.40 COP	24.42 kW 3.62 COP	25.95 kW 3.84 COP
60 °C	20.01 kW 2.76 COP	21.32 kW 2.94 COP	22.65 kW 3.12 COP	24.05 kW 3.31 COP	25.50 kW 3.51 COP



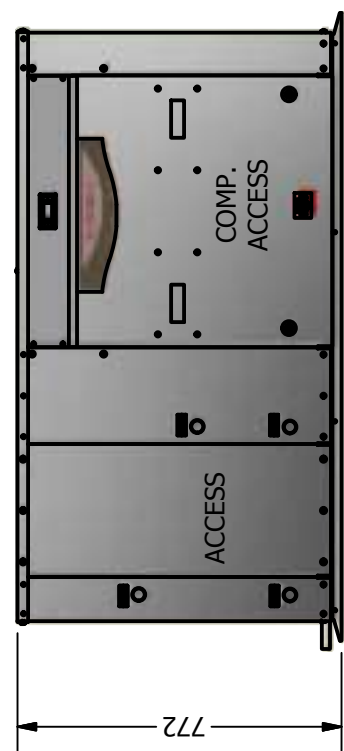
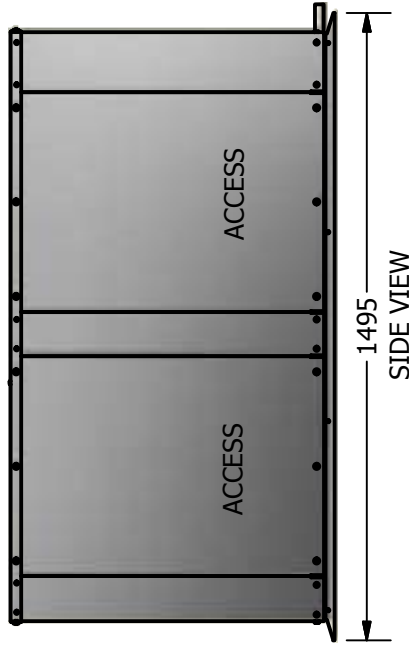
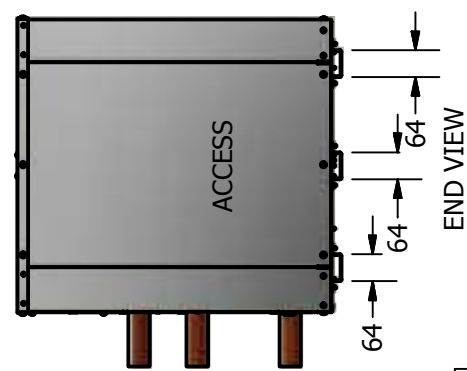
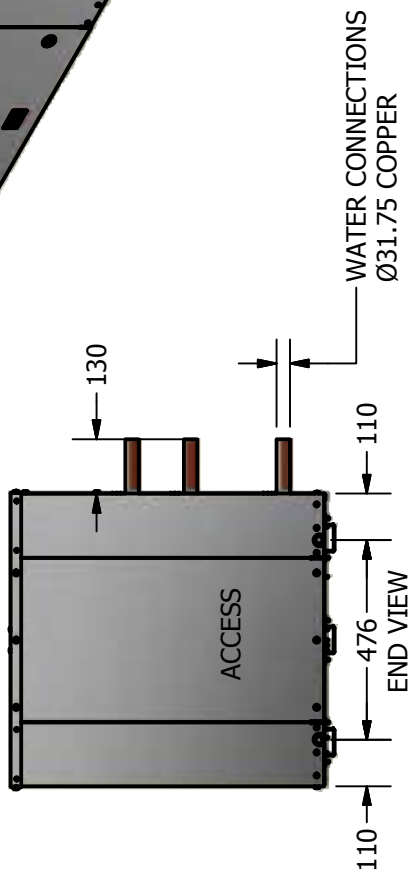
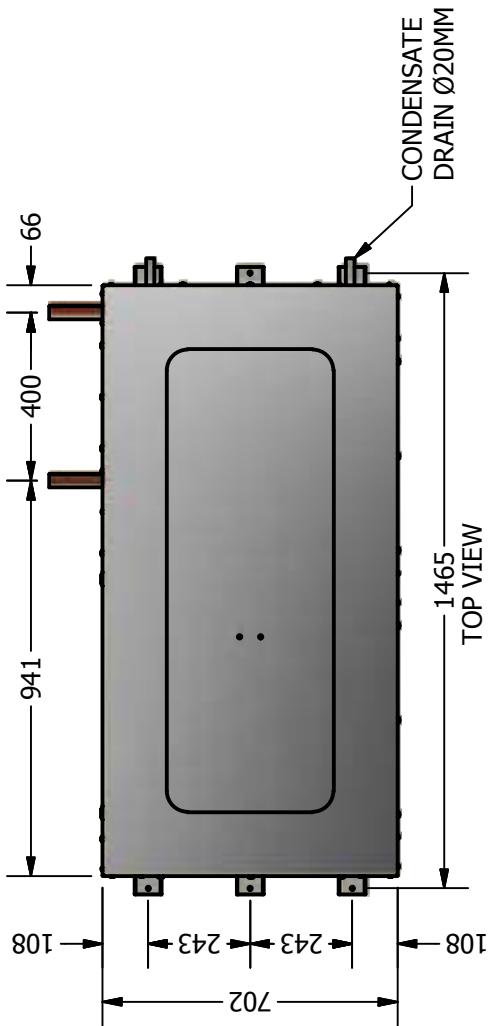
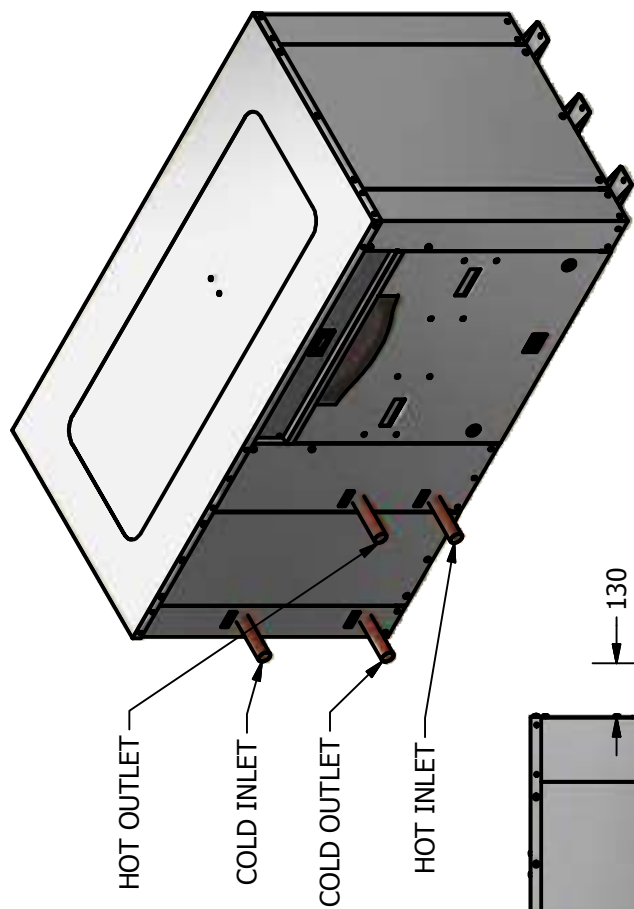
UNIT CLEARANCES	
Direction	Description
1	Plain Back
2	Side Access
3	Compressor Access / Water
4	Side Access
5	Top – Height Clearance
	Minimum Clearance Required
	200mm
	200mm
	850mm
	200mm
	500mm


Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT



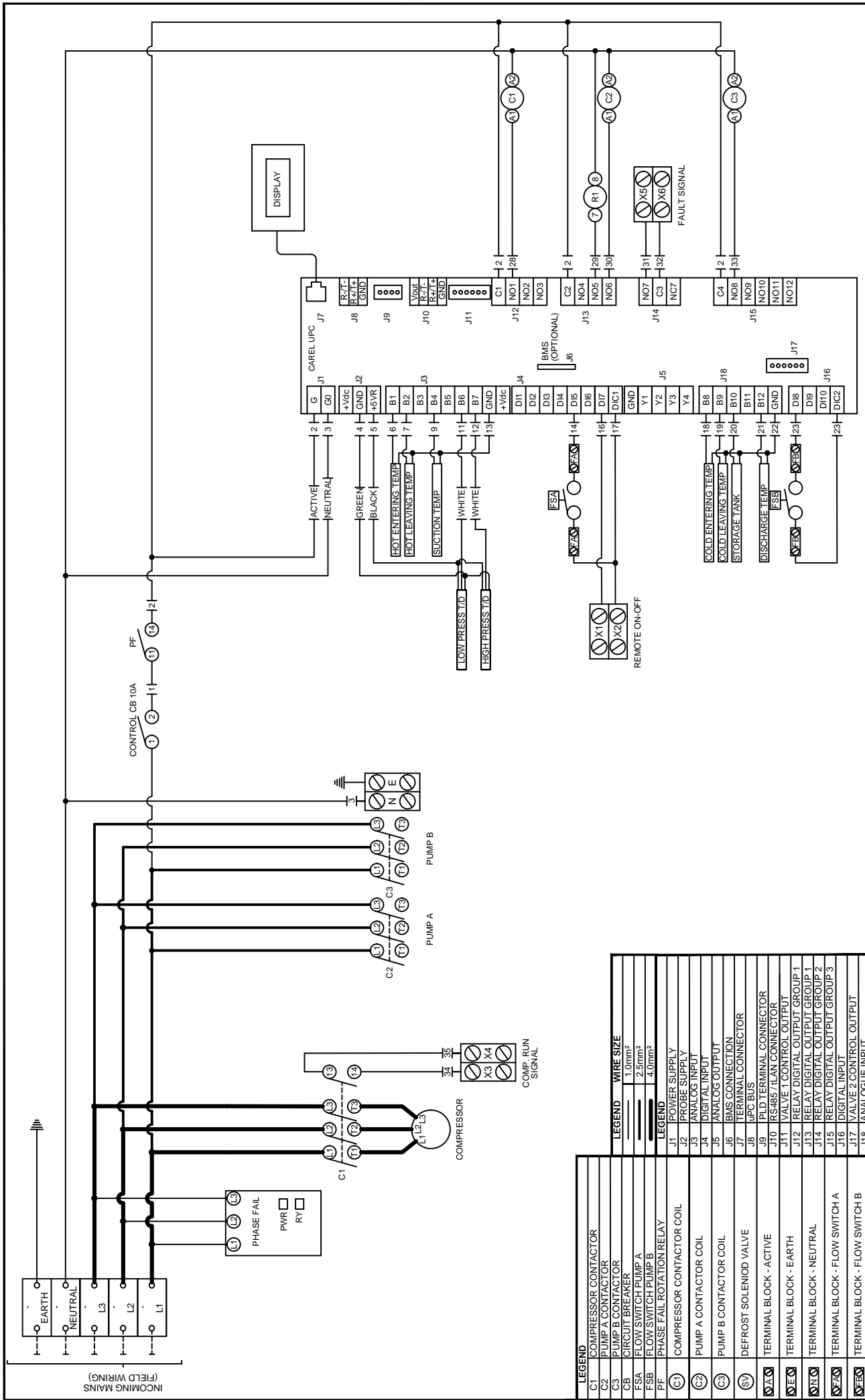
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Unit specifications subject to change without notice. ABN 28 062 383 224



 <b>Rheem</b> THERMAL SYSTEMS GROUP		SHEET 1 OF 3	
		RTW2W HW HP 27kW R407C	
<b>Description:</b>	RTW2W HW HP 27kW R407C	<b>Rev.</b>	
<b>Part No:</b>	RTWW027SKS-DQ-1	<b>Date:</b>	28/02/2020
<b>Material:</b>		<b>Checked By:</b>	JPB
<b>Drawn By:</b>		<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2
<b>Scale:</b>	N.T.S		

REV	ECN	DESCRIPTION	DATE



REV	ECN	DESCRIPTION

LEGEND	WIRE SIZE
C1	1.0mm <sup>2</sup>
C2	2.5mm <sup>2</sup>
C3	4.0mm <sup>2</sup>
FSB	
FSB	
FSB	
PF	
(C1)	
(C2)	
(C3)	
(SV)	
(VA)	
(VE)	
(VNT)	
(VFA)	
(VFC)	

LEGEND	WIRE SIZE
J1	1.0mm <sup>2</sup>
J2	2.5mm <sup>2</sup>
J3	4.0mm <sup>2</sup>
J4	
J5	
J6	
J7	
J8	
J9	
J10	
J11	
J12	
J13	
J14	
J15	
J16	
J17	
J18	

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**RTWW023, RTWW027 &  
RTWW037 on R407A**

Part No: **47192E** Rev: **00**

Date: 28/02/2020

Drawn By: J. Bates

REV	ECN	DESCRIPTION	DATE

<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger condenser / Rheem IQ control	<b>RTWW037SKS-DQ-1</b>
Double wall heat exchanger condenser / Rheem IQ control	<b>RTWW037SKV-DQ-1</b>

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	16.6 FLA / 111 LRA
Min. Circuit Size	25.0 Amps
Refrigerant	R407C
Refrigeration effect	Heating
Nominal capacity	36.98 kW
Power input	7.04 kW
COP	5.25 COP
Noise Level	59 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	13.1 Amps

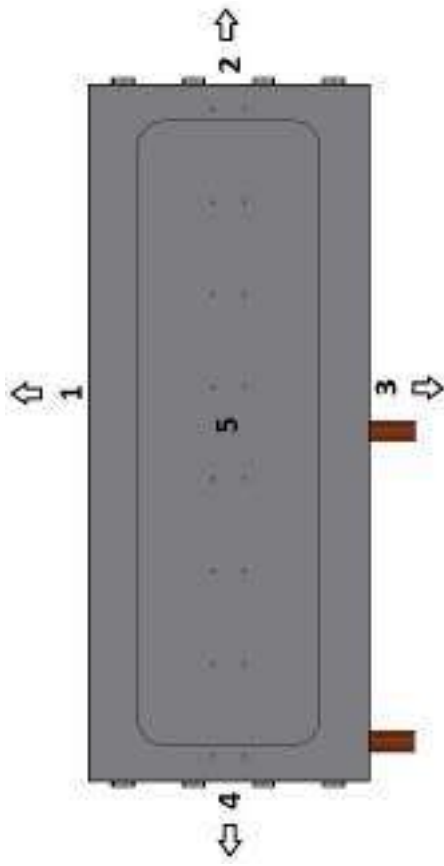
<b>TECHNICAL DATA</b>	
Make / Type	<b>Compressor</b> Copeland / Scroll 20016
Number Per Unit	1
FLA (Full Load Amps)	16.6 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	<b>Hot Side (Condenser)</b> Single / Double Wall <b>Cold Side (Evaporator)</b> Single Wall
Design	Shell & Tube / Co-axial Shell & Tube
Flow Rate Excl. By Pass	1.47 L/s 1.43 L/s
Max. Outlet Water Temp	61°C N/A
Min. Outlet Water Temp	N/A 6 °C
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	50.8mm (2") Copper
Drain	20mm aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	170 kg
Size L x W x H	1495mm x 700mm x 775mm

**COP TABLE**

Hot Water Out °C	Cold Water In °C				
	12 °C	14 °C	16 °C	18 °C	20 °C
45 °C	29.12 kW 4.15 COP	30.91 kW 4.40 COP	32.80 kW 4.67 COP	34.85 kW 4.95 COP	36.98 kW 5.25 COP
50 °C	28.47 kW 3.62 COP	30.17 kW 3.84 COP	31.96 kW 4.06 COP	33.92 kW 4.31 COP	35.96 kW 4.57 COP
55 °C	27.95 kW 3.26 COP	29.58 kW 3.44 COP	31.30 kW 3.64 COP	33.16 kW 3.86 COP	35.09 kW 4.08 COP
60 °C	27.42 kW 2.98 COP	29.13 kW 3.17 COP	30.85 kW 3.35 COP	32.65 kW 3.55 COP	34.50 kW 3.75 COP



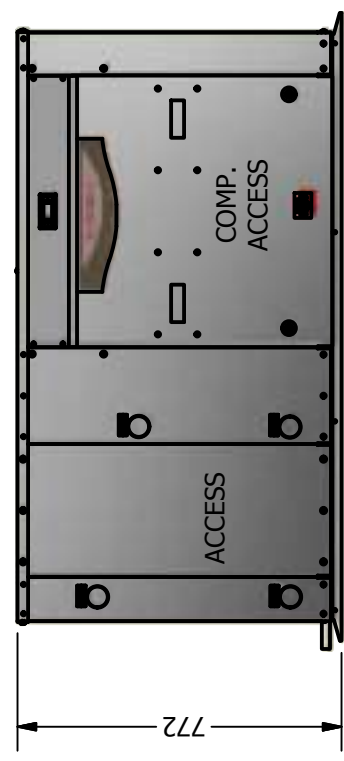
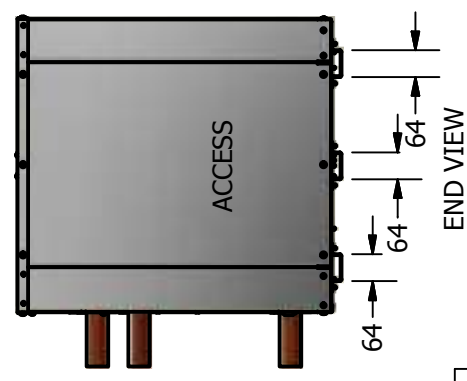
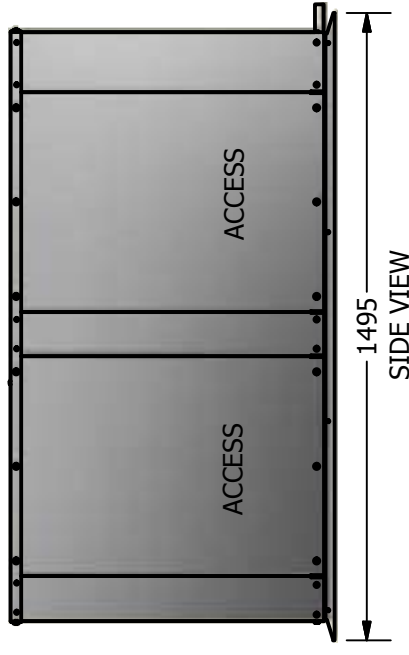
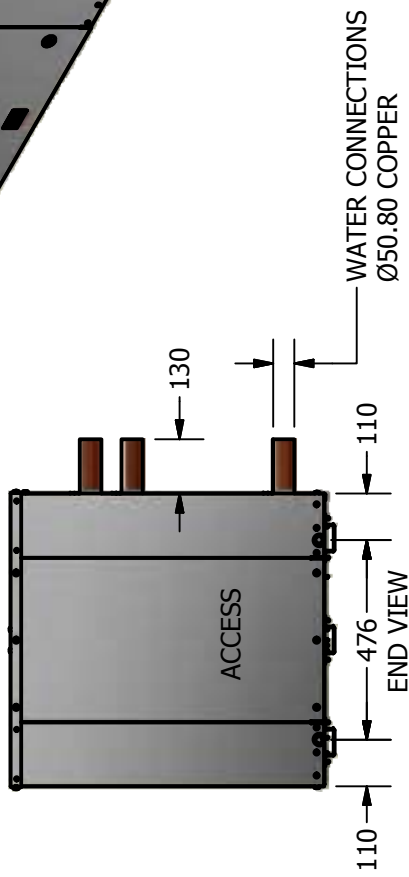
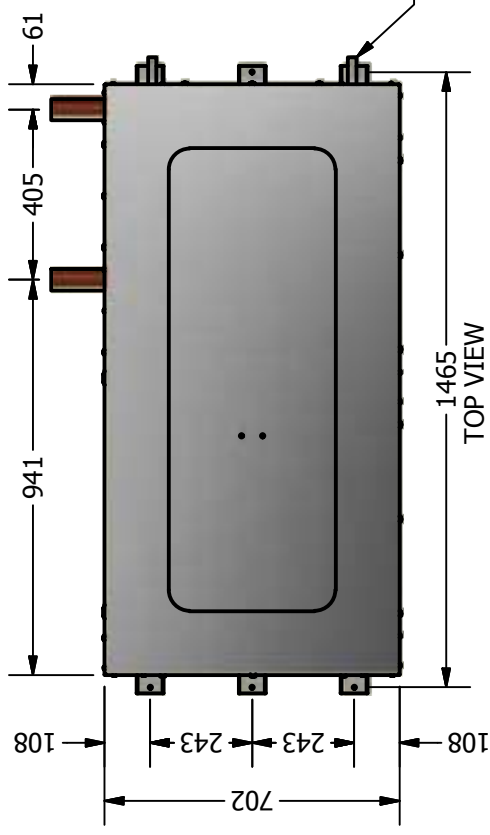
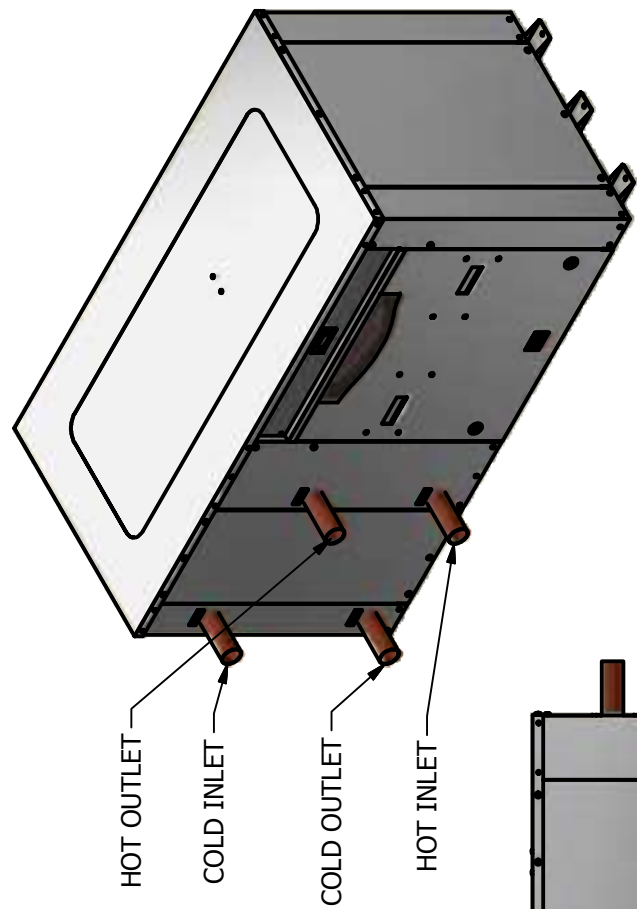
<b>UNIT CLEARANCES</b>	
Direction	Description
1	Plain Back
2	Side Access
3	Compressor Access / Water
4	Side Access
5	Top – Height Clearance
	Minimum Clearance Required
	200mm
	200mm
	850mm
	200mm
	500mm

Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT



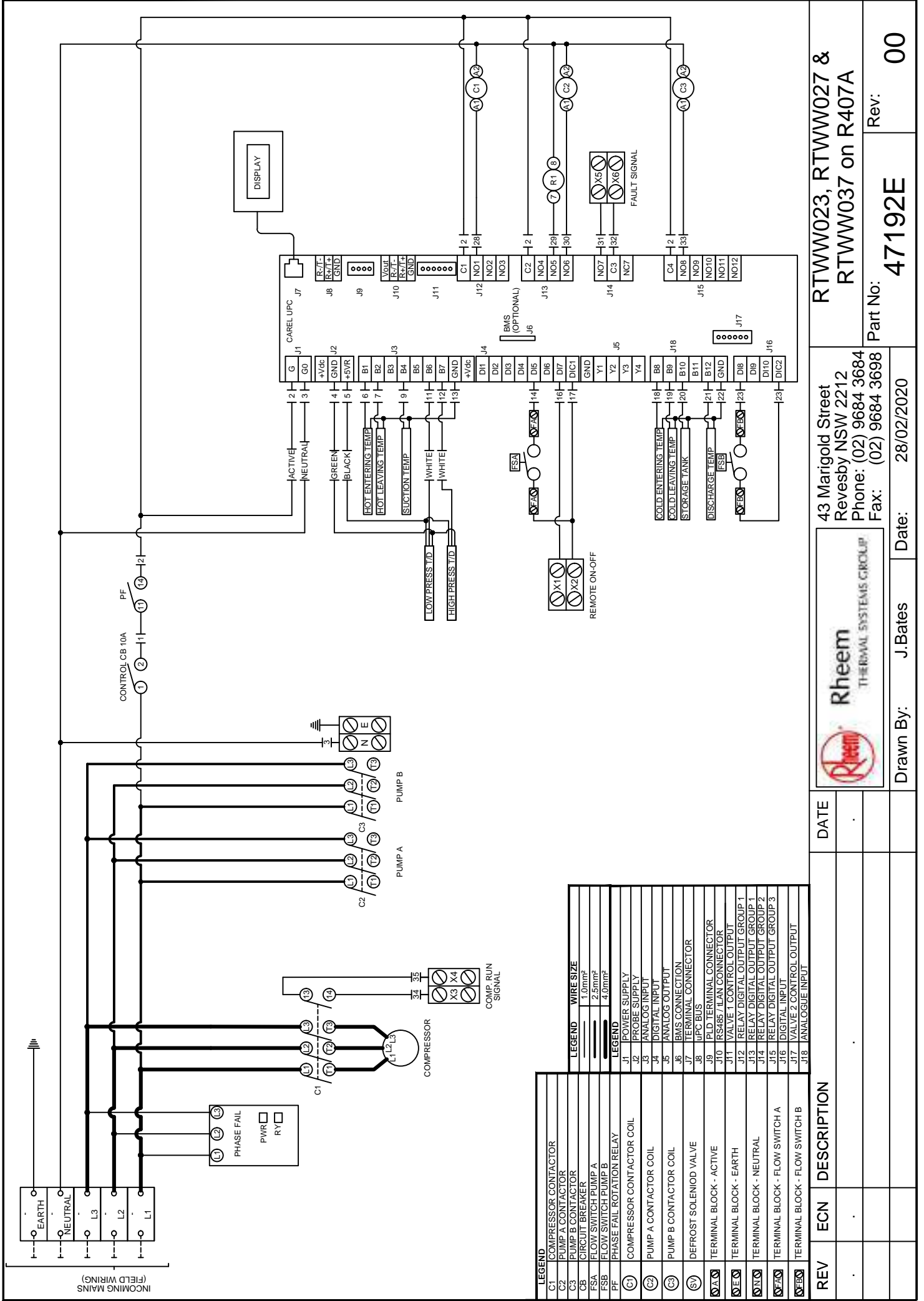
**Manufactured In Australia by Rheem Thermal Systems Group**

Unit specifications subject to change without notice. ABN 28 062 383 224



		Rheem		THERMAL SYSTEMS GROUP	
SHEET 1 OF 3					
<b>Description:</b>	RT W2W HW HP 37kW R407C				
<b>Part No:</b>	RTWW037SKS-DQ-1				
<b>Material:</b>					
<b>Rev.:</b>					
<b>Date:</b>	28/02/2020				
<b>Drawn By:</b>	JPB				
<b>Checked By:</b>					
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2				
<b>Scale:</b>	N.T.S				

REV	ECN	DESCRIPTION	DATE



REV	ECN	DESCRIPTION	DATE

LEGEND	WIRE SIZE
C1	1.0mm <sup>2</sup>
C2	2.5mm <sup>2</sup>
C3	4.0mm <sup>2</sup>
CB	
FSB	
PF	
(C1)	
(C2)	
(C3)	
(S)	
(S.A)	
(S.E)	
(S.N)	
(S.F)	
(S.E)	

LEGEND	WIRE SIZE
J1	POWER SUPPLY
J2	PROBE SUPPLY
J3	ANALOG INPUT
J4	DIGITAL INPUT
J5	ANALOG OUTPUT
J6	BMS CONNECTION
J7	TERMINAL CONNECTOR
J8	UPC BUS
J9	PLD TERMINAL CONNECTOR
J10	BS485 / ILAN CONNECTOR
J11	VALVE 1 CONTROL OUTPUT
J12	RELAY DIGITAL OUTPUT GROUP 1
J13	RELAY DIGITAL OUTPUT GROUP 1
J14	RELAY DIGITAL OUTPUT GROUP 2
J15	RELAY DIGITAL OUTPUT GROUP 3
J16	DIGITAL INPUT
J17	VALVE 2 CONTROL OUTPUT
J18	ANALOGUE INPUT

43 Marigold Street  
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**RTWW023, RTWW027 &  
RTWW037 on R407A**

Part No: **47192E** Rev: **00**

Drawn By: **J.Bates** Date: **28/02/2020**

## HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger condenser / Rheem IQ control | **RTWW049SKS-DQ-1**  
 Double wall heat exchanger condenser / Rheem IQ control | **RTWW049SKV-DQ-1**

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	21.8 FLA / 118 LRA
Min. Circuit Size	40.0 Amps
Refrigerant	R407C
Refrigeration effect	Heating
Nominal capacity	49.63 kW
Power input	9.37 kW
COP	5.30 COP
Noise Level	61 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	16.6 Amps

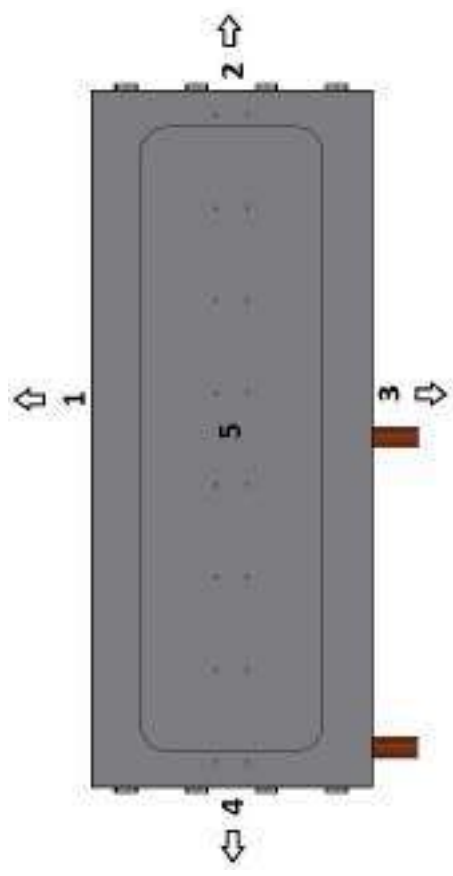
<b>TECHNICAL DATA</b>	
Make / Type	<b>Compressor</b> Copeland / Scroll 20018
Number Per Unit	1
FLA (Full Load Amps)	21.8 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	<b>Hot Side (Condenser)</b> Single / Double Wall
Design	Shell & Tube / Co-axial
Flow Rate Excl. By Pass	1.97 L/s
Max. Outlet Water Temp	61°C
Min. Outlet Water Temp	N/A
Design Pressure Drop	80 kPa / 50 kPa
Max. Operating Pressure	2,450 kPa
<b>Cold Side (Evaporator)</b>	
Type of Water Tube	Single Wall
Design	Shell & Tube
Flow Rate Excl. By Pass	1.93 L/s
Max. Outlet Water Temp	N/A
Min. Outlet Water Temp	6 °C
Design Pressure Drop	80 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	50.8mm (2") Copper
Drain	20mm aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	230 kg
Size L x W x H	1845mm x 800mm x 825mm

## COP TABLE

Hot Water Out °C	Cold Water In °C					
	12 °C	14 °C	16 °C	18 °C	20 °C	35 °C
45 °C	38.87 kW 4.16 COP	41.35 kW 4.43 COP	43.94 kW 4.70 COP	46.73 kW 4.99 COP	49.63 kW <b>5.30 COP</b>	55.43 kW 5.90 COP
50 °C	37.78 kW 3.59 COP	40.19 kW 3.82 COP	42.71 kW 4.05 COP	45.38 kW 4.30 COP	48.10 kW 4.55 COP	53.69 kW 5.08 COP
55 °C	36.92 kW 3.18 COP	39.24 kW 3.38 COP	41.65 kW 3.59 COP	44.23 kW 3.81 COP	46.90 kW 4.04 COP	52.27 kW 4.51 COP
60 °C	35.87 kW 2.87 COP	38.32 kW 3.07 COP	40.80 kW 3.26 COP	43.35 kW 3.47 COP	45.94 kW 3.68 COP	51.21 kW 4.10 COP



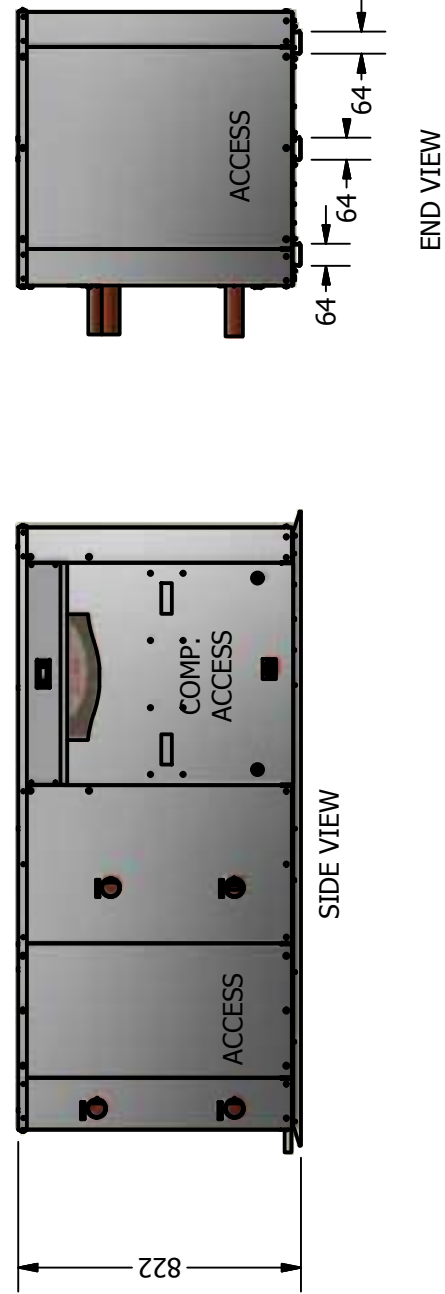
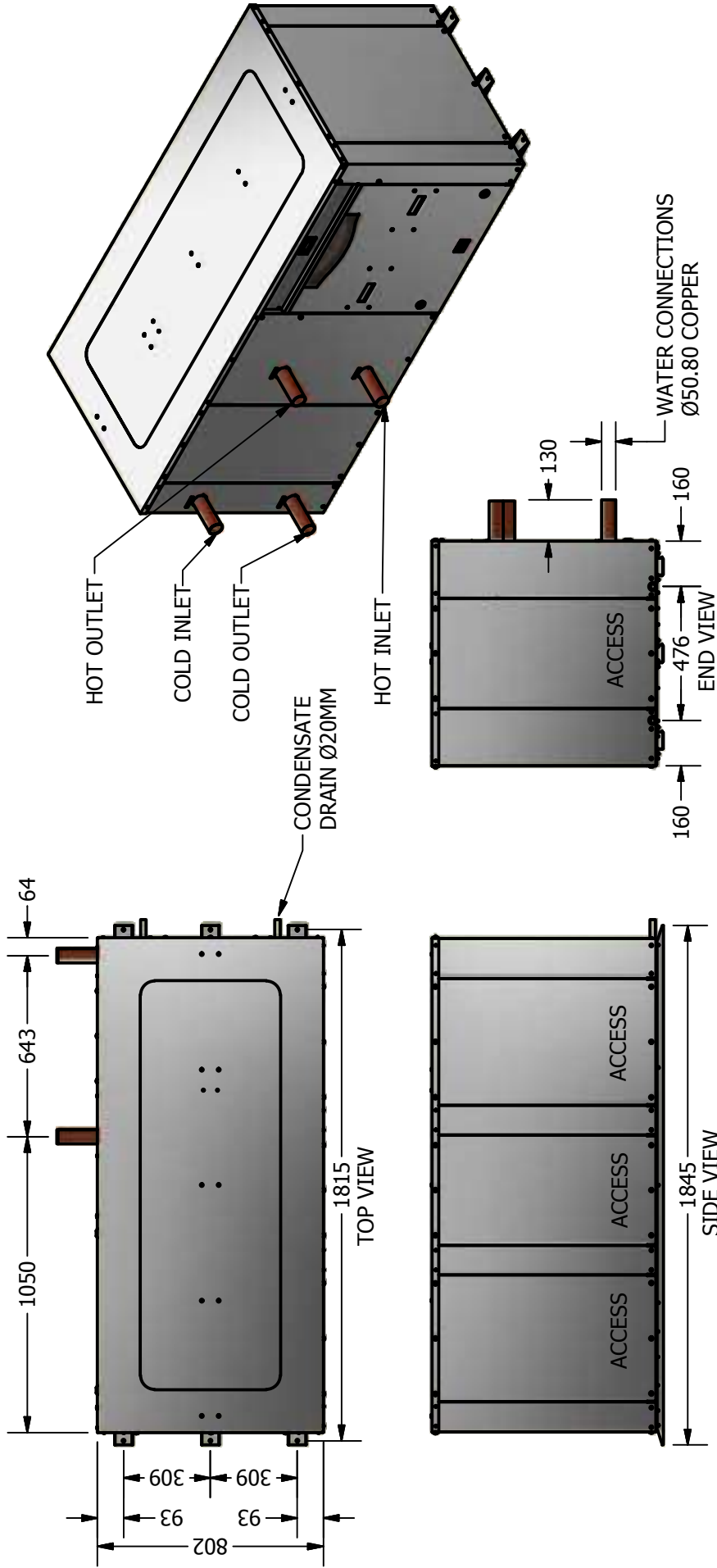
<b>UNIT CLEARANCES</b>	
Direction	Description
1	Plain Back
2	Side Access
3	Compressor Access / Water
4	Side Access
5	Top – Height Clearance
	Minimum Clearance Required
	200mm
	200mm
	850mm
	200mm
	500mm

Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT



**Manufactured In Australia by Rheem Thermal Systems Group**

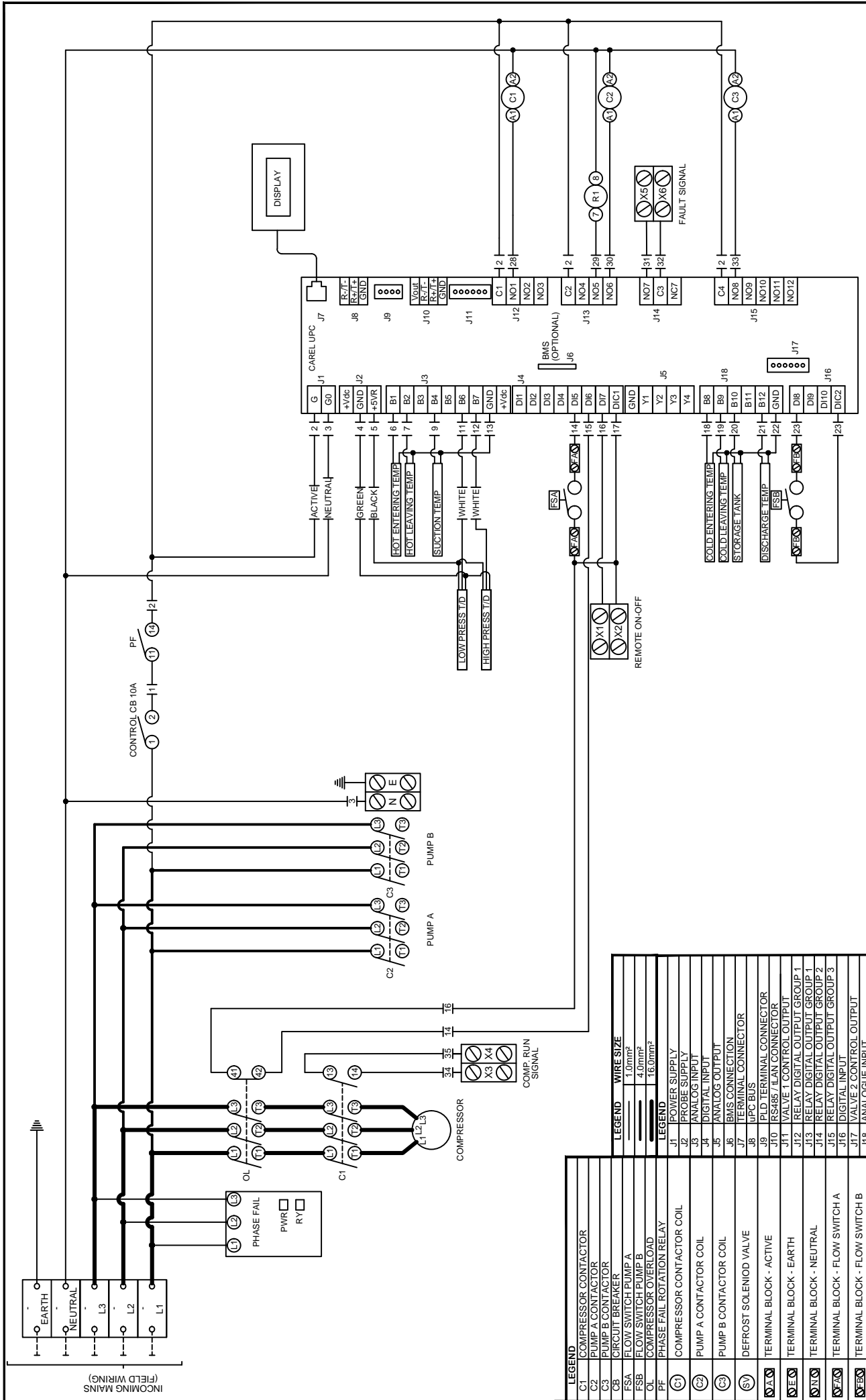
Unit specifications subject to change without notice. ABN 28 062 383 224



		SHEET 1 OF 3	
		RT W2W HW HP 49kW R407C	
<b>Description:</b>	RTWW049SKS-DQ-1	<b>Rev.</b>	
<b>Part No:</b>		<b>Date:</b>	24/02/2020
<b>Material:</b>		<b>Checked By:</b>	JPB
<b>Drawn By:</b>		<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions ± 2, Angle ± 2
<b>Scale:</b>	N.T.S		

REV	ECN	DESCRIPTION	DATE





RTWW049 on R407C  
RTWW045 on R134A

43 Marigold Street  
Revesby NSW 2212  
Phone: (02) 9684 3684  
Fax: (02) 9684 3698

Part No: 47193E  
Rev: 00

REV	ECN	DESCRIPTION	DATE

Drawn By: J.Bates  
Date: 28/02/2020



LEGEND	WIRE SIZE
C1 COMPRESSOR CONTACTOR	1.0mm <sup>2</sup>
C2 PUMP A CONTACTOR	4.0mm <sup>2</sup>
C3 PUMP B CONTACTOR	16.0mm <sup>2</sup>
CB CIRCUIT BREAKER	
FSB FLOW SWITCH PUMP A	
FSB FLOW SWITCH PUMP B	
OL COMPRESSOR OVERLOAD	
PF PHASE FAIL ROTATION RELAY	
(C1) COMPRESSOR CONTACTOR COIL	
(C2) PUMP A CONTACTOR COIL	
(C3) PUMP B CONTACTOR COIL	
(S) DEFROST SOLENOID VALVE	
(S/A) TERMINAL BLOCK - ACTIVE	
(S/E) TERMINAL BLOCK - EARTH	
(S/N) TERMINAL BLOCK - NEUTRAL	
(S/O) TERMINAL BLOCK - FLOW SWITCH A	
(S/E) TERMINAL BLOCK - FLOW SWITCH B	

LEGEND	WIRE SIZE
J1 POWER SUPPLY	1.0mm <sup>2</sup>
J2 PROBE SUPPLY	4.0mm <sup>2</sup>
J3 ANALOG INPUT	16.0mm <sup>2</sup>
J4 DIGITAL INPUT	
J5 ANALOG OUTPUT	
J6 BMS CONNECTION	
J7 TERMINAL CONNECTOR	
J8 UPIC BUS	
J9 PLD TERMINAL CONNECTOR	
J10 PS485 / I-LINK CONNECTOR	
J11 VALVE 1 CONTROL OUTPUT	
J12 RELAY DIGITAL OUTPUT GROUP 1	
J13 RELAY DIGITAL OUTPUT GROUP 1	
J14 RELAY DIGITAL OUTPUT GROUP 2	
J15 RELAY DIGITAL OUTPUT GROUP 3	
J16 DIGITAL INPUT	
J17 VALVE 2 CONTROL OUTPUT	
J18 ANALOGUE INPUT	

## HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger condenser / Rheem IQ control		<b>RTWW064SKS-DQ-1</b>	
Double wall heat exchanger condenser / Rheem IQ control		<b>RTWW064SKV-DQ-1</b>	
<b>ELECTRICAL INPUT</b>			
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz		
Full Load / Locked Rotor (Amps Per Phase)	31.2 FLA / 174 LRA		
Min. Circuit Size	40.0 Amps		
Refrigerant	R407C		
Refrigeration effect	Heating	Cooling	
Nominal capacity	64.01 kW	51.32 kW	
Power input	12.69 kW		
COP	5.04 COP	4.04 COP	
Noise Level	61 dBa @ 3 m		
Rated Load Amps @ 10°C SST / 51°C SCT	25.3 Amps		

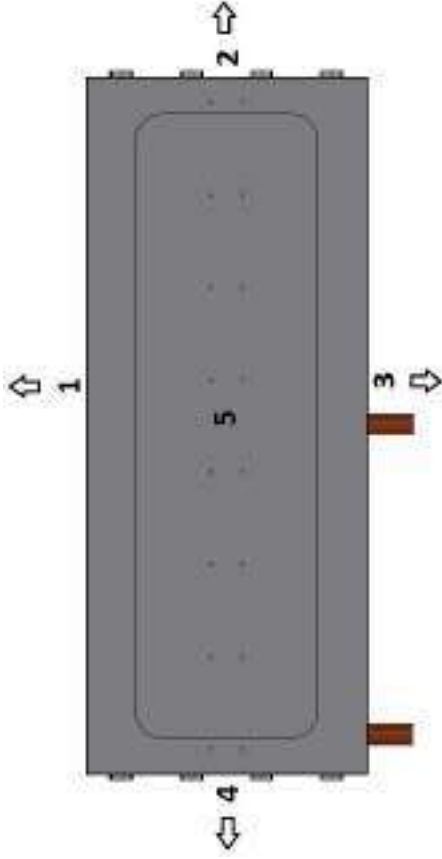
<b>TECHNICAL DATA</b>			
Make / Type	Copeland / Scroll 20056		
Number Per Unit	1		
FLA (Full Load Amps)	31.2 Amps		
Voltage / Phase	380 - 415 / 3		
Pole/RPM	2/2,900		

<b>HEAT EXCHANGER (Water Side)</b>			
Type of Water Tube	<b>Hot Side (Condenser)</b>	<b>Cold Side (Evaporator)</b>	
Design	Single / Double Wall	Single Wall	
Flow Rate Excl. By Pass	Shell & Tube / Co-axial	Shell & Tube	
Max. Outlet Water Temp	2.55 L/s	2.46 L/s	
Min. Outlet Water Temp	61°C	N/A	
Design Pressure Drop	N/A	50 kPa	
Max. Operating Pressure	2,450 kPa		

<b>GENERAL INFORMATION</b>			
Water Connections	50.8mm (2") Copper		
Drain	20mm aluminium		
Cabinet Construction	1.2mm Stucco Aluminium		
Approx. shipping weight	300 kg		
Size L x W x H	1845mm x 800mm x 825mm		

## COP TABLE

Hot Water Out °C	Cold Water In °C					
	12 °C	14 °C	16 °C	18 °C	20 °C	35 °C
45 °C	50.11 kW 3.98 COP	53.29 kW 4.23 COP	56.64 kW 4.49 COP	60.27 kW 4.76 COP	<b>64.01 kW</b> <b>5.04 COP</b>	71.60 kW 5.61 COP
50 °C	48.68 kW 3.45 COP	51.75 kW 3.66 COP	54.97 kW 3.89 COP	58.45 kW 4.13 COP	62.04 kW 4.38 COP	69.28 kW 4.88 COP
55 °C	47.59 kW 3.08 COP	50.53 kW 3.26 COP	53.65 kW 3.46 COP	57.00 kW 3.68 COP	60.40 kW 3.90 COP	67.40 kW 4.35 COP
60 °C	46.35 kW 2.80 COP	49.46 kW 2.98 COP	52.60 kW 3.17 COP	55.86 kW 3.36 COP	59.20 kW 3.56 COP	66.00 kW 3.96 COP



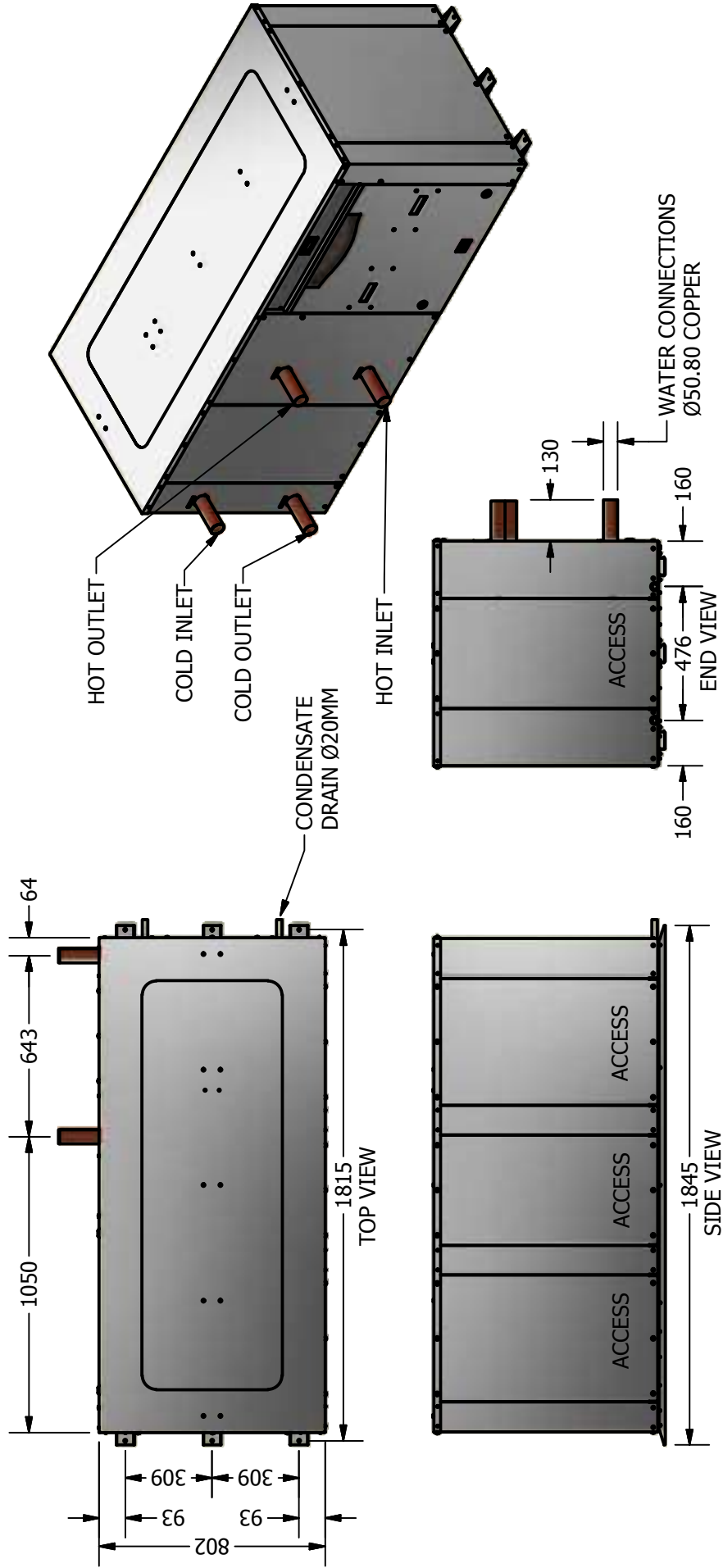
<b>UNIT CLEARANCES</b>	
Direction	Description
1	Plain Back
2	Side Access
3	Compressor Access / Water
4	Side Access
5	Top – Height Clearance
	Minimum Clearance Required
	200mm
	200mm
	850mm
	200mm
	500mm


Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT

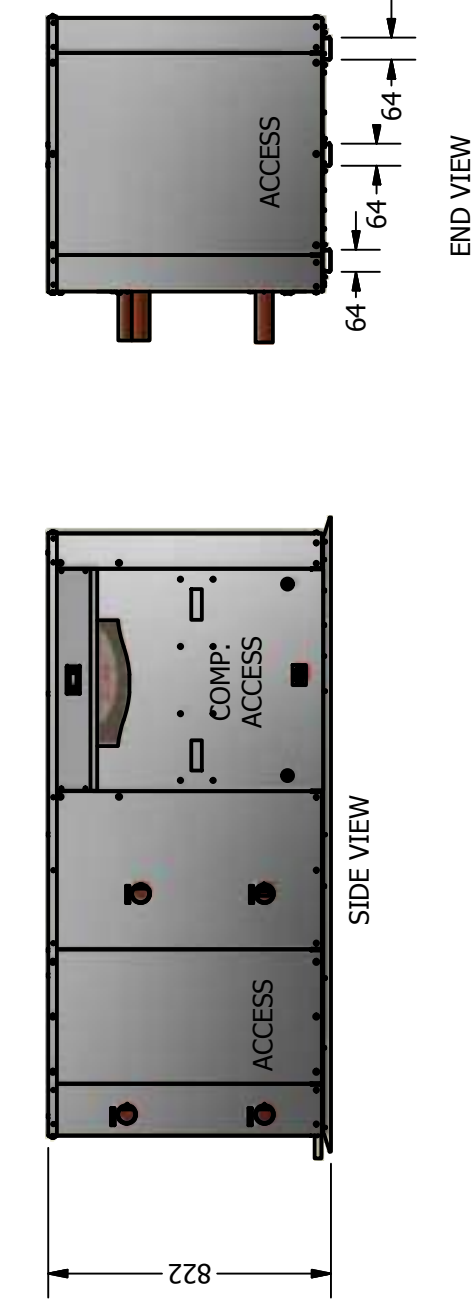


**Manufactured In Australia by Rheem Thermal Systems Group**

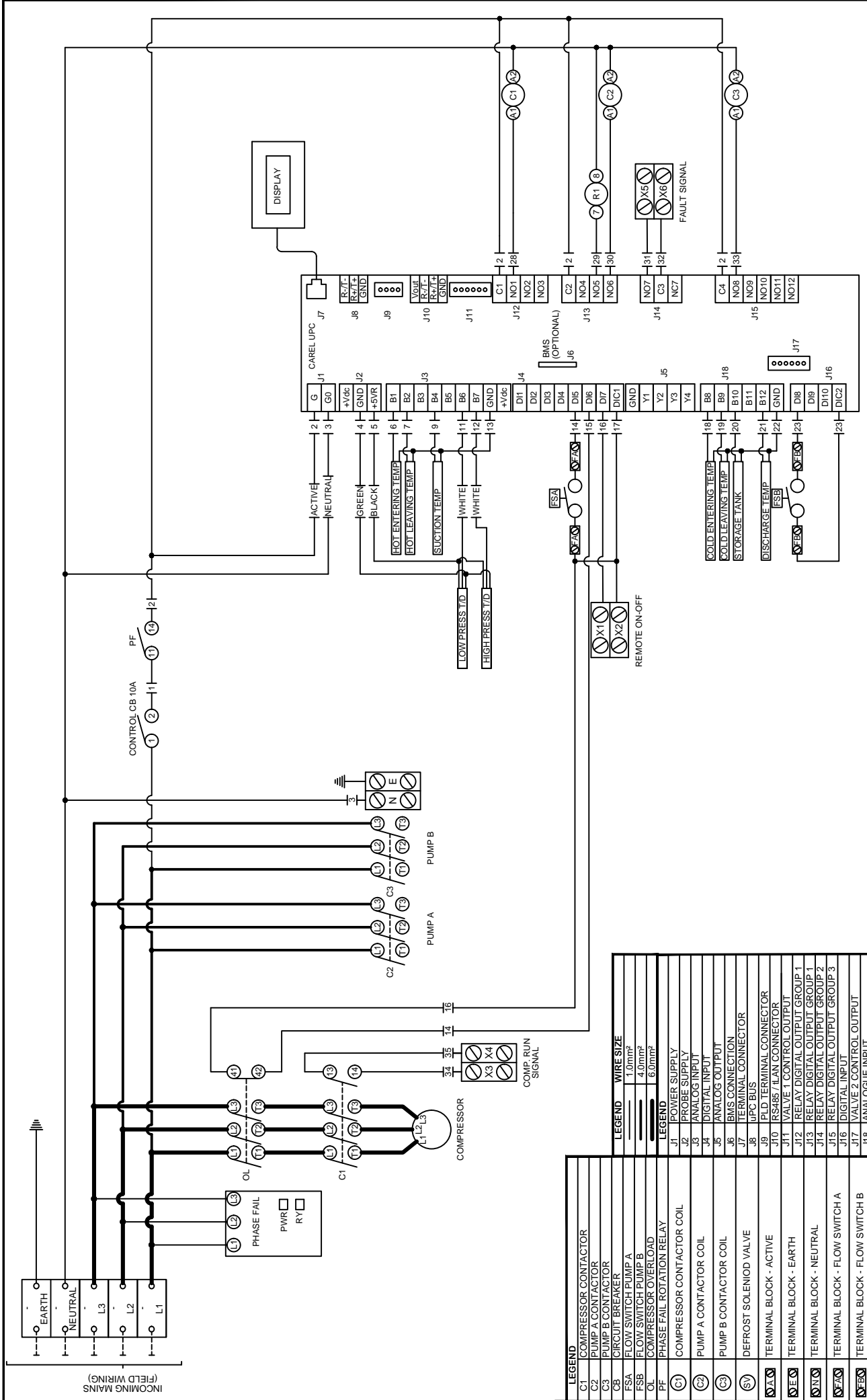
Unit specifications subject to change without notice. ABN 28 062 383 224



		<b>Rheem</b> THERMAL SYSTEMS GROUP	
SHEET 1 OF 3			
<b>Description:</b>	RT W2W HW HP 64kW R407C		
<b>Part No:</b>	RTWW064SKS-DQ-1	<b>Rev.</b>	1
<b>Material:</b>		<b>Date:</b>	12/02/2020
<b>Drawn By:</b>	JPB	<b>Checked By:</b>	
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2		
		<b>Scale:</b>	N.T.S



REV	ECN	DESCRIPTION	DATE
01	0383	ADDED RHEEM IQ	24/02/20



REV	ECN	DESCRIPTION	DATE	Drawn By:	Date:	Part No:	Rev:
				J.Bates	28/02/2020	47194E	00

43 Marigold Street  
Revesby NSW 2212  
Phone: (02) 9684 3684  
Fax: (02) 9684 3698



# RTWW064 on R407C

<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger condenser / Rheem IQ control	<b>RTWW085SKS-DQ-1</b>
Double wall heat exchanger condenser / Rheem IQ control	<b>RTWW085SKV-DQ-1</b>

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	37.6 FLA / 225 LRA
Min. Circuit Size	50.0 Amps
Refrigerant	R407C
Refrigeration effect	Heating
Nominal capacity	84.81 kW
Power input	16.85 kW
COP	5.03 COP
Noise Level	61 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	28.4 Amps

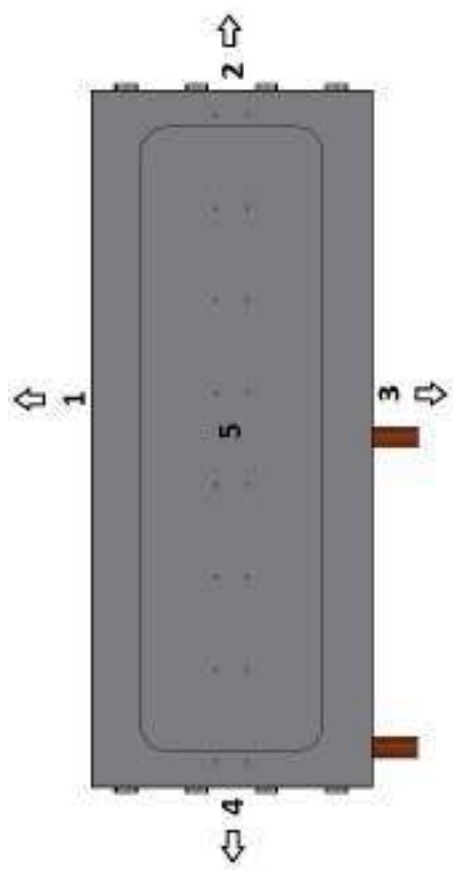
<b>TECHNICAL DATA</b>	
Make / Type	<b>Compressor</b> Copeland / Scroll 20092
Number Per Unit	1
FLA (Full Load Amps)	37.6 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	<b>Hot Side (Condenser)</b> Single / Double Wall
Design	<b>Cold Side (Evaporator)</b> Single Wall
Flow Rate Excl. By Pass	Shell & Tube / Co-axial
Max. Outlet Water Temp	Shell & Tube
Min. Outlet Water Temp	3.27 L/s
Design Pressure Drop	61°C
Max. Operating Pressure	N/A
	80 kPa / 50 kPa
	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	65mm (2 1/2") Copper
Drain	20mm aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	330 kg
Size L x W x H	2315mm x 800mm x 825mm

**COP TABLE**

Hot Water Out °C	Cold Water in °C					
	12 °C	14 °C	16 °C	18 °C	20 °C	35 °C
45 °C	66.58 kW 4.02 COP	70.73 kW 4.26 COP	75.14 kW 4.50 COP	79.91 kW 4.76 COP	<b>84.81 kW</b> <b>5.03 COP</b>	95.88 kW 5.64 COP
50 °C	65.13 kW 3.50 COP	69.12 kW 3.70 COP	73.33 kW 3.92 COP	77.90 kW 4.14 COP	82.62 kW 4.37 COP	93.26 kW 4.89 COP
55 °C	64.10 kW 3.14 COP	67.90 kW 3.32 COP	71.95 kW 3.50 COP	76.37 kW 3.70 COP	80.90 kW 3.91 COP	91.21 kW 4.37 COP
60 °C	62.86 kW 2.86 COP	66.93 kW 3.04 COP	71.05 kW 3.21 COP	75.35 kW 3.40 COP	79.76 kW 3.58 COP	89.79 kW 4.00 COP



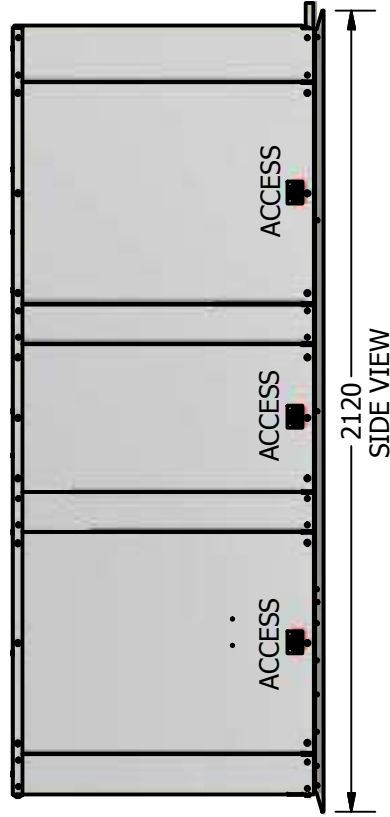
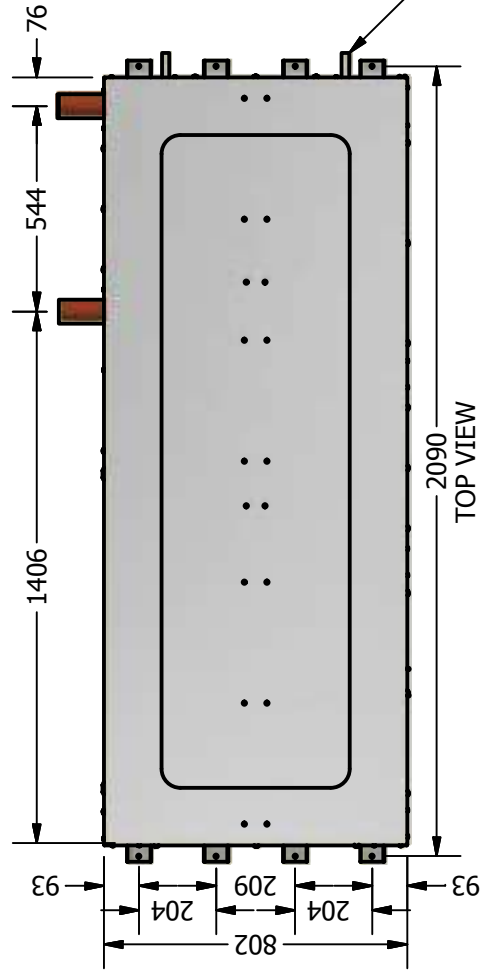
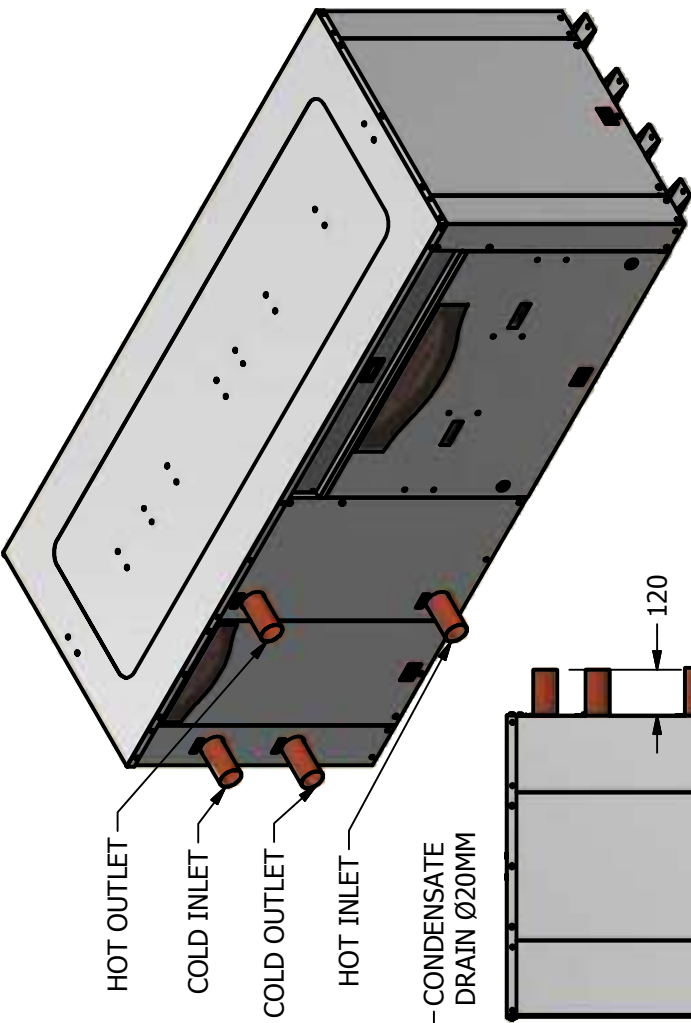
<b>UNIT CLEARANCES</b>	
Direction	Description
1	Plain Back
2	Side Access
3	Compressor Access / Water
4	Side Access
5	Top – Height Clearance
	Minimum Clearance Required
	200mm
	200mm
	850mm
	200mm
	500mm

Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT

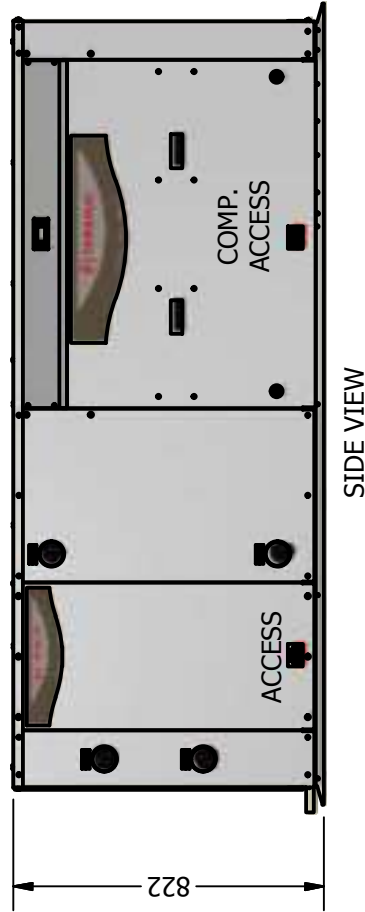
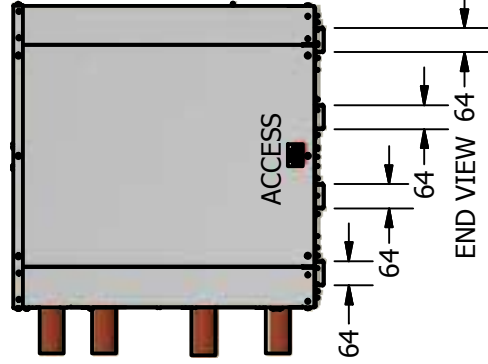


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Unit specifications subject to change without notice. ABN 28 062 383 224



WATER CONNECTIONS  
 Ø63.50 COPPER (2-1/2")

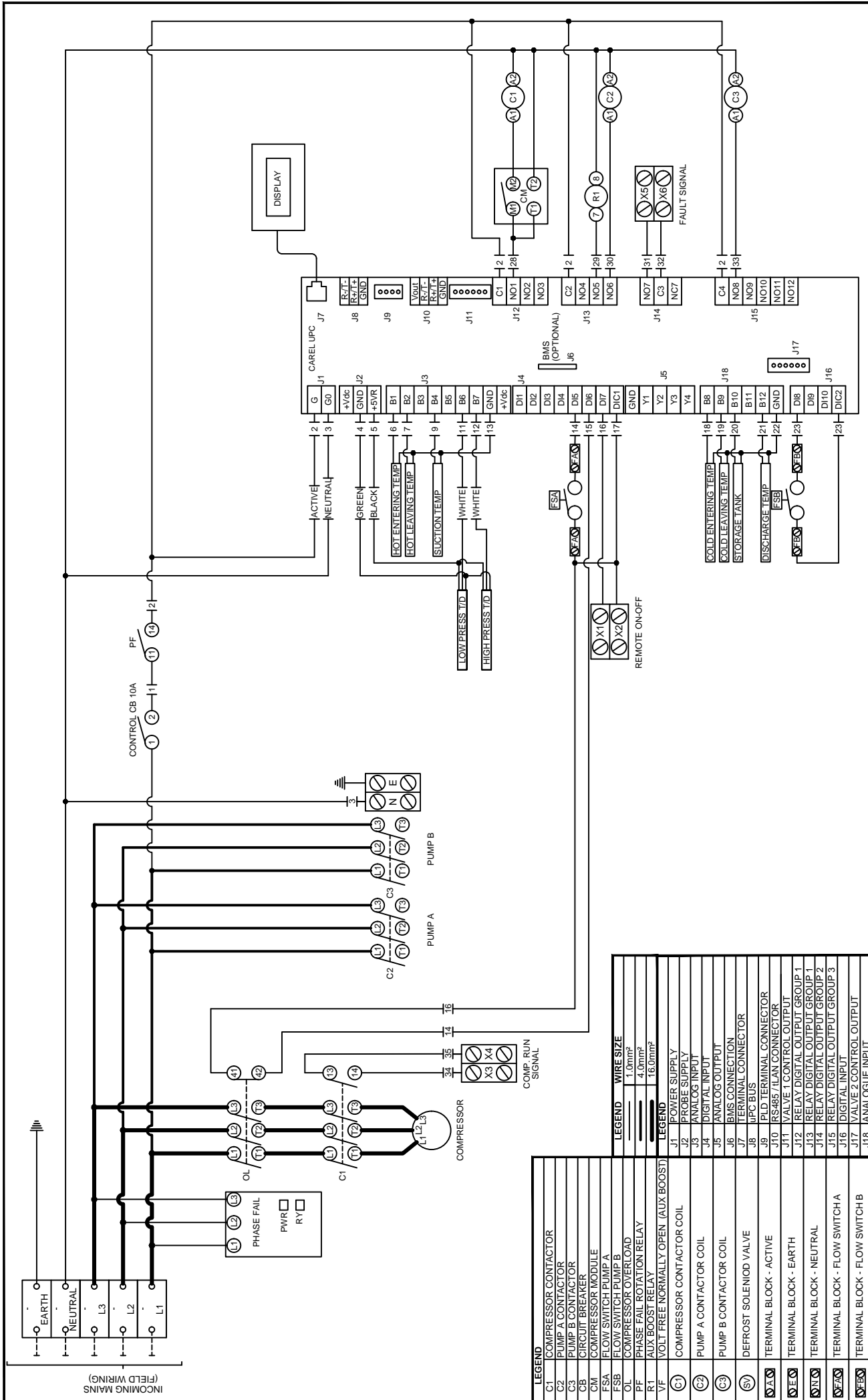


REV	ECN	DESCRIPTION	DATE

**Rheem**  
THERMAL SYSTEMS GROUP

SHEET 1 OF 3

<b>Description:</b>	RHEEM THERMAL W2W 85KW	<b>Rev.</b>	
<b>Part No:</b>	RTWW085SKS-DQ-1	<b>Date:</b>	30/10/2019
<b>Material:</b>		<b>Checked By:</b>	JPB
<b>Drawn By:</b>		<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2
			<b>Scale:</b> N.T.S



REV	ECN	DESCRIPTION	DATE
01	0383	Changed unit description & cable numbers	28/02/20

		43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698	RTWW085 on R407C RTWW071 on R134A
Drawn By: J.Bates	Date: 26/09/2019	Part No: 47130E	Rev: 01

LEGEND	WIRE SIZE
C1 COMPRESSOR CONTACTOR	1.0mm <sup>2</sup>
C2 PUMP A CONTACTOR	4.0mm <sup>2</sup>
C3 PUMP B CONTACTOR	16.0mm <sup>2</sup>
CB CIRCUIT BREAKER	
CM COMPRESSOR MODULE	
FSA FLOW SWITCH PUMP A	
FSB FLOW SWITCH PUMP B	
OL COMPRESSOR OVERLOAD	
PF PHASE FAILURE RELAY	
R1 AUX BOOST RELAY	
VF VOLT FREE NORMALLY OPEN (AUX BOOST)	
(C) COMPRESSOR CONTACTOR COIL	
(C2) PUMP A CONTACTOR COIL	
(C3) PUMP B CONTACTOR COIL	
(SV) DEFROST SOLENOID VALVE	
(A) TERMINAL BLOCK - ACTIVE	
(E) TERMINAL BLOCK - EARTH	
(N) TERMINAL BLOCK - NEUTRAL	
(FA) TERMINAL BLOCK - FLOW SWITCH A	
(FB) TERMINAL BLOCK - FLOW SWITCH B	

## HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger condenser / Rheem IQ control	<b>RTWW098SKS-DQ-1</b>
Double wall heat exchanger condenser / Rheem IQ control	<b>RTWW098SKV-DQ-1</b>

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	43.6 FLA / 118 LRA
Min. Circuit Size	63.0 Amps
Refrigerant	R407C
Refrigeration effect	Heating
Nominal capacity	99.26 kW
Power input	18.74 kW
COP	5.30 COP
Noise Level	61 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	33.2 Amps

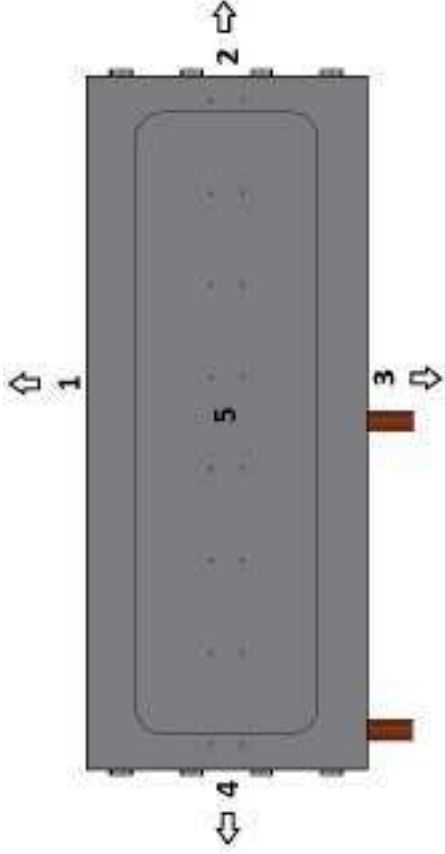
<b>TECHNICAL DATA</b>	
Make / Type	Compressor Copeland / Scroll 20018
Number Per Unit	2
FLA (Full Load Amps)	21.8 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Hot Side (Condenser)    Cold Side (Evaporator)
Design	Single / Double Wall    Single Wall
Flow Rate Excl. By Pass	Shell & Tube / Co-axial    Shell & Tube
Max. Outlet Water Temp	3.95 L/s    3.85 L/s
Min. Outlet Water Temp	61°C    N/A
Design Pressure Drop	N/A    6 °C
Max. Operating Pressure	80 kPa / 50 kPa    80 kPa
	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	65mm (2 1/2") Copper
Drain	20mm aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	500 kg
Size L x W x H	2315mm x 800mm x 825mm

## COP TABLE

Hot Water Out °C	Cold Water in °C				
	12 °C	14 °C	16 °C	18 °C	20 °C
45 °C	77.74 kW 4.16 COP	82.69 kW 4.43 COP	87.87 kW 4.70 COP	93.47 kW 4.99 COP	99.26 kW 5.30 COP
50 °C	75.55 kW 3.59 COP	80.38 kW 3.82 COP	85.42 kW 4.05 COP	90.76 kW 4.30 COP	96.20 kW 4.55 COP
55 °C	73.84 kW 3.18 COP	78.48 kW 3.38 COP	83.30 kW 3.59 COP	88.47 kW 3.81 COP	93.80 kW 4.04 COP
60 °C	71.74 kW 2.87 COP	76.63 kW 3.07 COP	81.60 kW 3.26 COP	86.71 kW 3.47 COP	91.88 kW 3.68 COP
					110.86 kW 5.90 COP
					107.38 kW 5.08 COP
					104.54 kW 4.51 COP
					102.42 kW 4.10 COP



<b>UNIT CLEARANCES</b>	
Direction	Description
1	Plain Back
2	Side Access
3	Compressor Access / Water
4	Side Access
5	Top – Height Clearance
	Minimum Clearance Required
	200mm
	200mm
	850mm
	200mm
	500mm

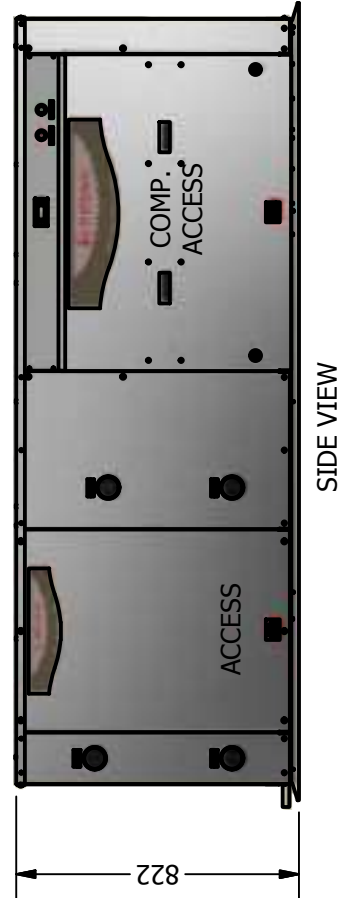
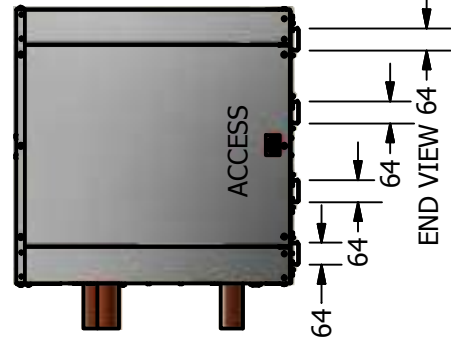
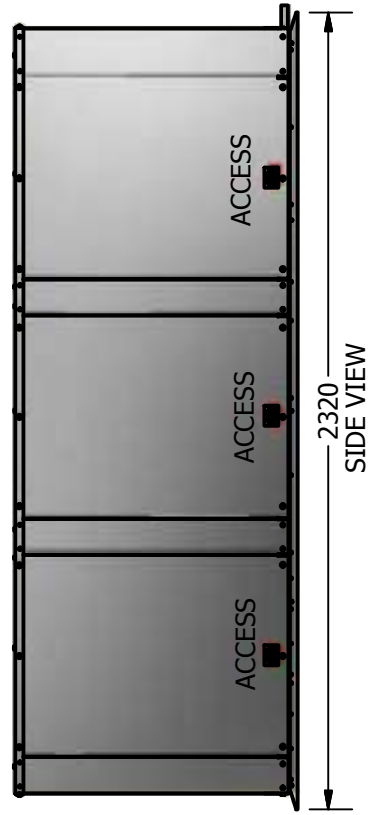
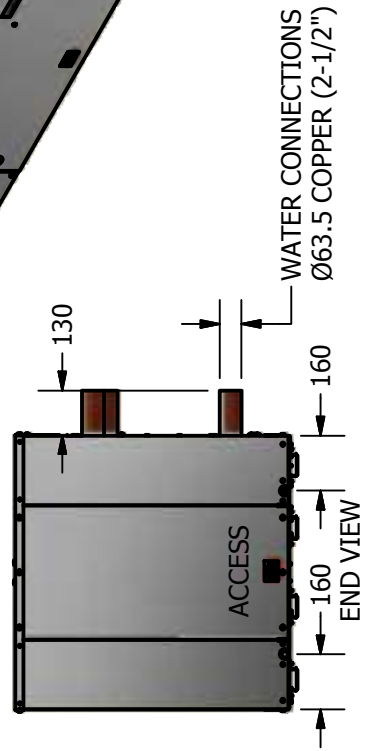
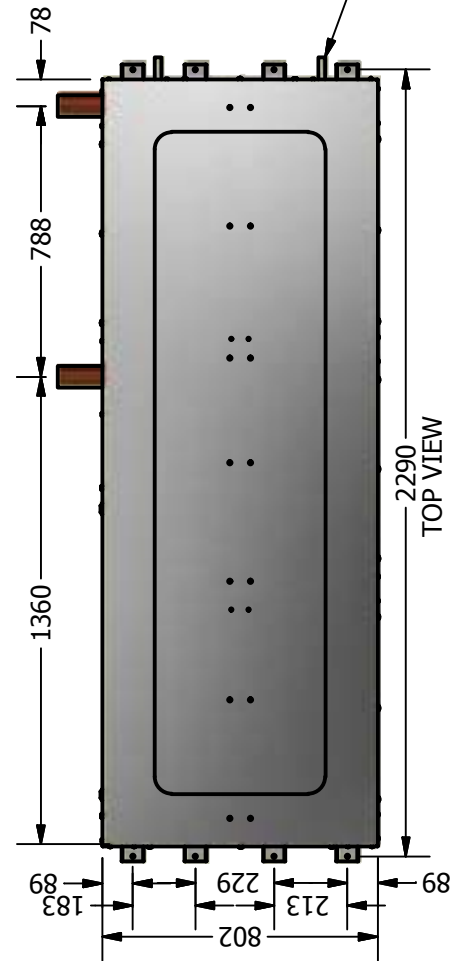
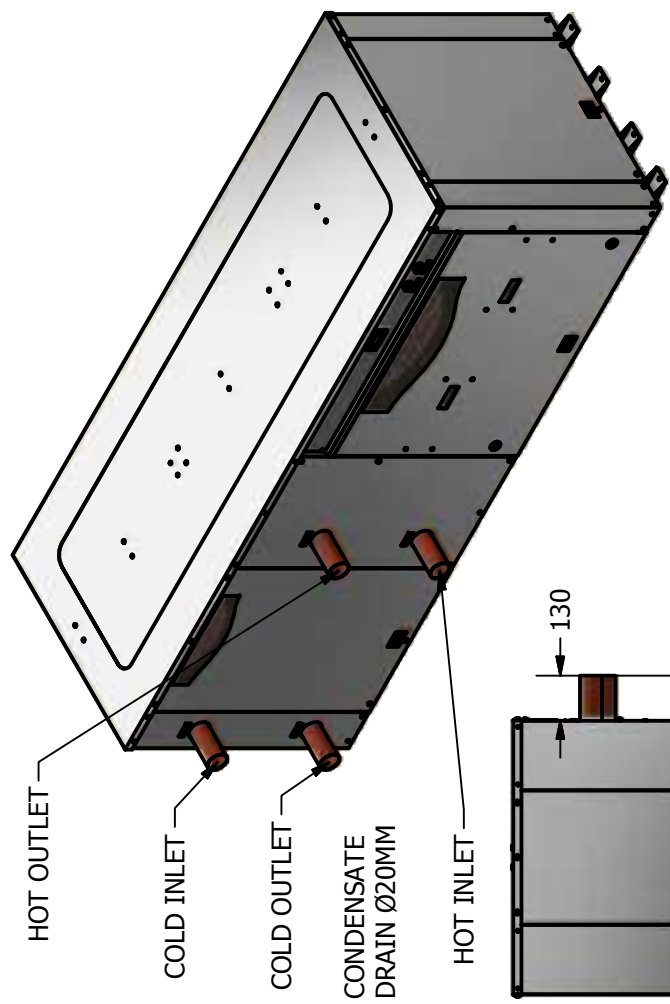
Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT



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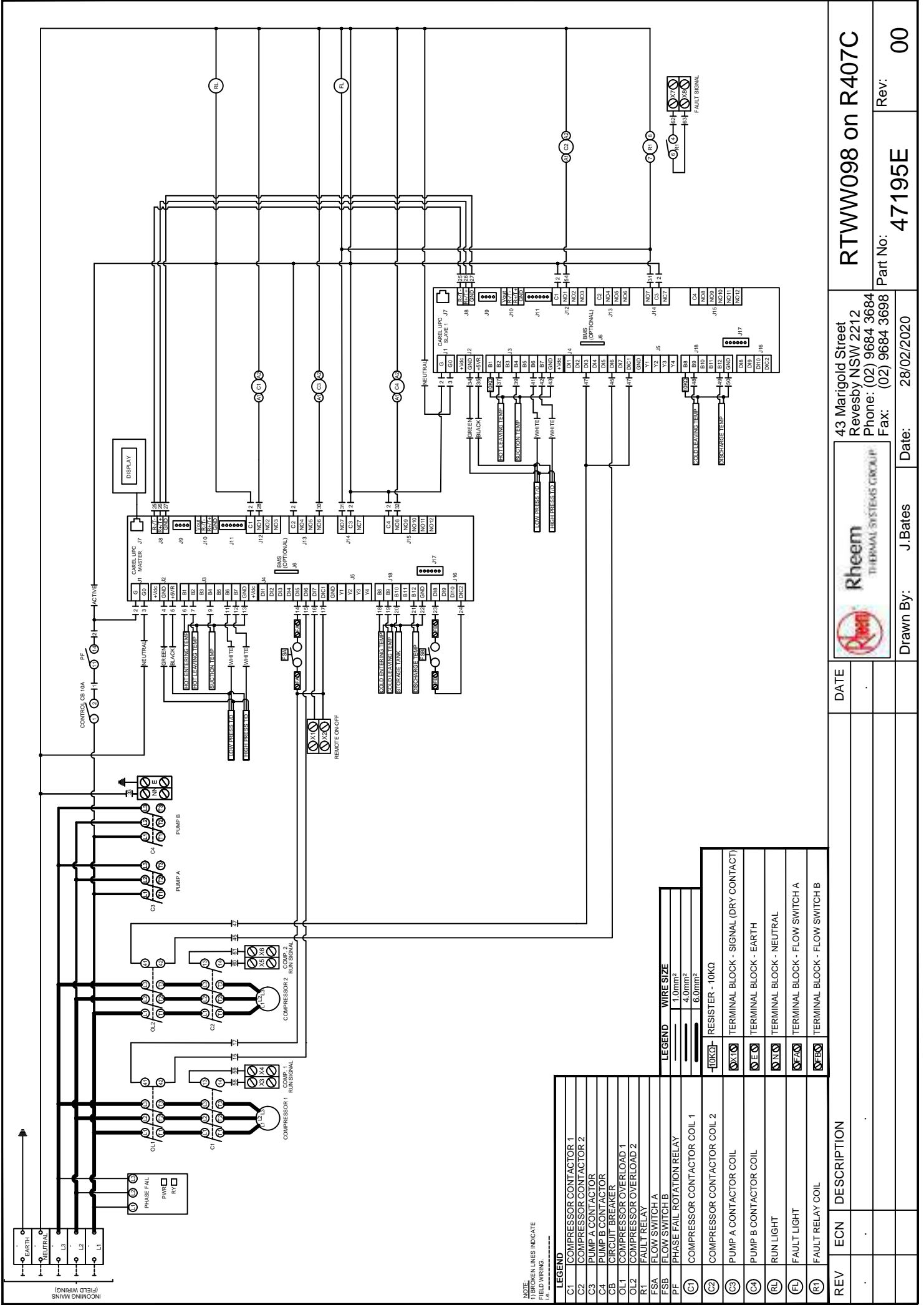
Unit specifications subject to change without notice. ABN 28 062 383 224





		SHEET 1 OF 4	
		RHEEM THERMAL W2W 98KW	
<b>Description:</b>	RHEEM THERMAL W2W 98KW	<b>Rev.</b>	
<b>Part No:</b>	RTWW098SKS-DQ-1	<b>Date:</b>	24/02/2020
<b>Material:</b>		<b>Checked By:</b>	JPB
<b>Drawn By:</b>		<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2
<b>Scale:</b>	N.T.S		

REV	ECN	DESCRIPTION	DATE



RTWW098 on R407C

43 Marigold Street  
Revesby NSW 2212  
Phone: (02) 9684 3684  
Fax: (02) 9684 3698



Part No: 47195E Rev: 00

Date: 28/02/2020

Drawn By: J.Bates

REV	ECN	DESCRIPTION	DATE

## HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger condenser / Rheem IQ control	RTWW128SKS-DQ-1
Double wall heat exchanger condenser / Rheem IQ control	RTWW128SKV-DQ-1
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	62.4 FLA / 174 LRA
Min. Circuit Size	80.0 Amps
Refrigerant	R407C
Refrigeration effect	Heating
Nominal capacity	128.02 kW
Power input	25.38 kW
COP	5.04 COP
Noise Level	61 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	50.6 Amps

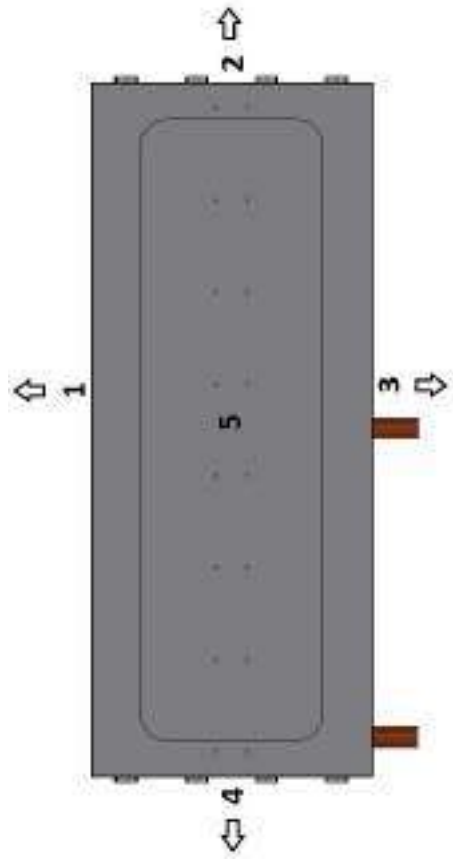
<b>TECHNICAL DATA</b>	
Make / Type	Compressor Copeland / Scroll 20056
Number Per Unit	2
FLA (Full Load Amps)	31.2 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Hot Side (Condenser) / Cold Side (Evaporator)
Design	Single / Double Wall / Shell & Tube / Co-axial
Flow Rate Excl. By Pass	5.09 L/s
Max. Outlet Water Temp	61°C
Min. Outlet Water Temp	N/A
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	65mm (2 1/2") Copper
Drain	20mm aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	550 kg
Size L x W x H	2315mm x 800mm x 825mm

## COP TABLE

Hot Water Out °C	Cold Water In °C				
	12 °C	14 °C	16 °C	18 °C	20 °C
45 °C	100.22 kW 3.98 COP	106.58 kW 4.23 COP	113.28 kW 4.49 COP	120.54 kW 4.76 COP	128.02 kW 5.04 COP
50 °C	97.36 kW 3.45 COP	103.49 kW 3.66 COP	109.94 kW 3.89 COP	116.91 kW 4.13 COP	124.08 kW 4.38 COP
55 °C	95.18 kW 3.08 COP	101.06 kW 3.26 COP	107.30 kW 3.46 COP	114.00 kW 3.68 COP	120.80 kW 3.90 COP
60 °C	92.70 kW 2.80 COP	98.91 kW 2.98 COP	105.20 kW 3.17 COP	111.72 kW 3.36 COP	118.40 kW 3.56 COP



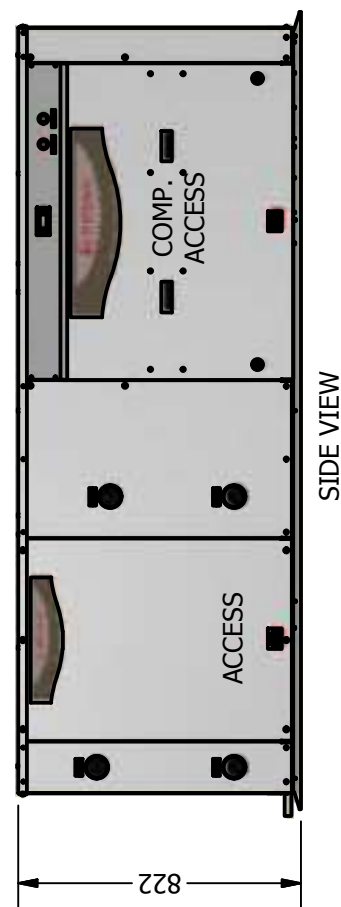
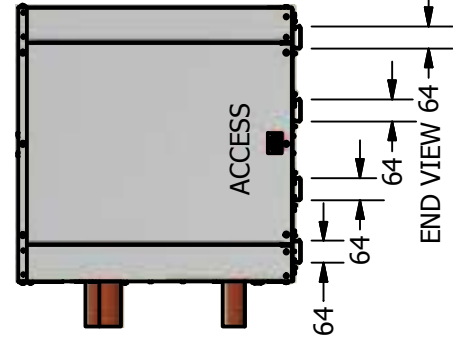
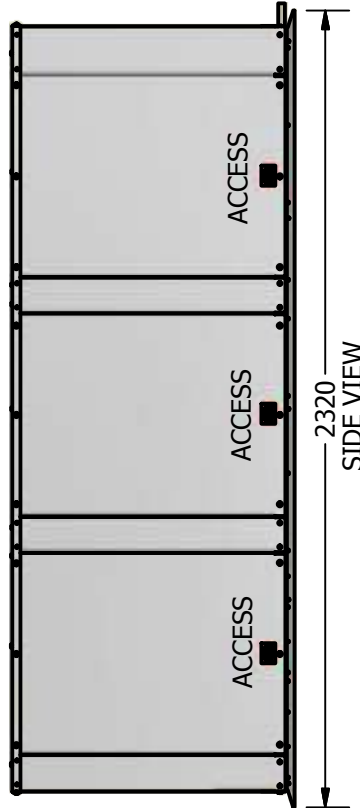
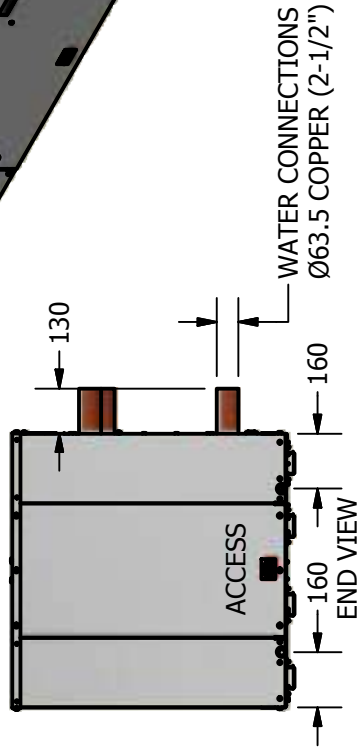
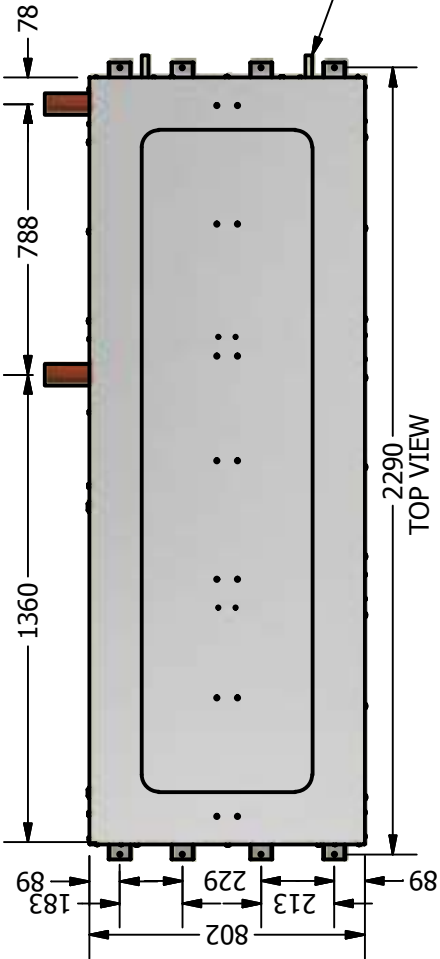
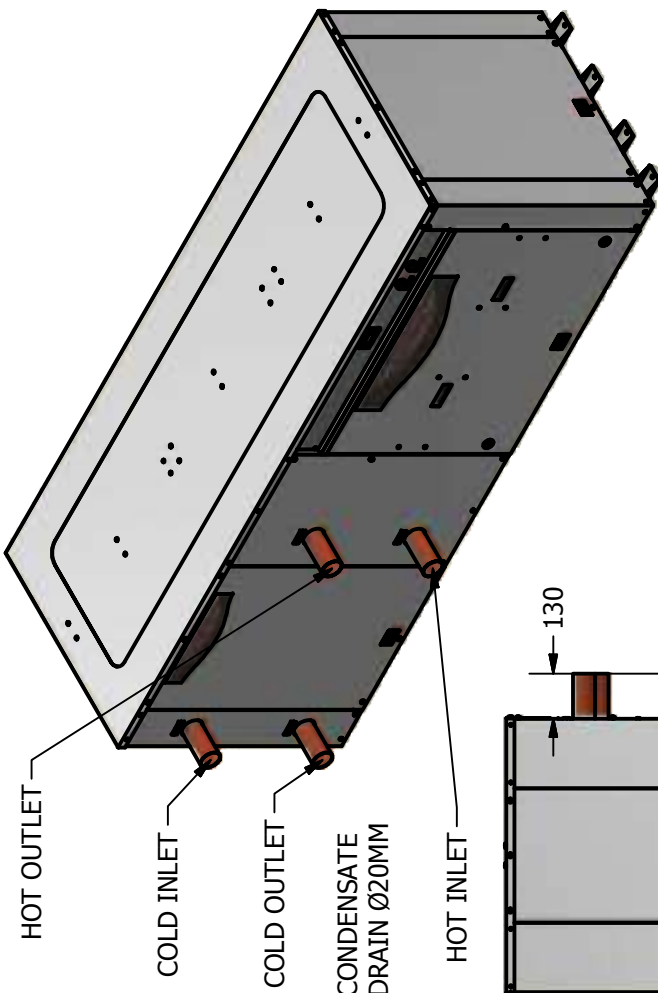
UNIT CLEARANCES	
Direction	Description
1	Plain Back
2	Side Access
3	Compressor Access / Water
4	Side Access
5	Top - Height Clearance

Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT



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Unit specifications subject to change without notice. ABN 28 062 383 224

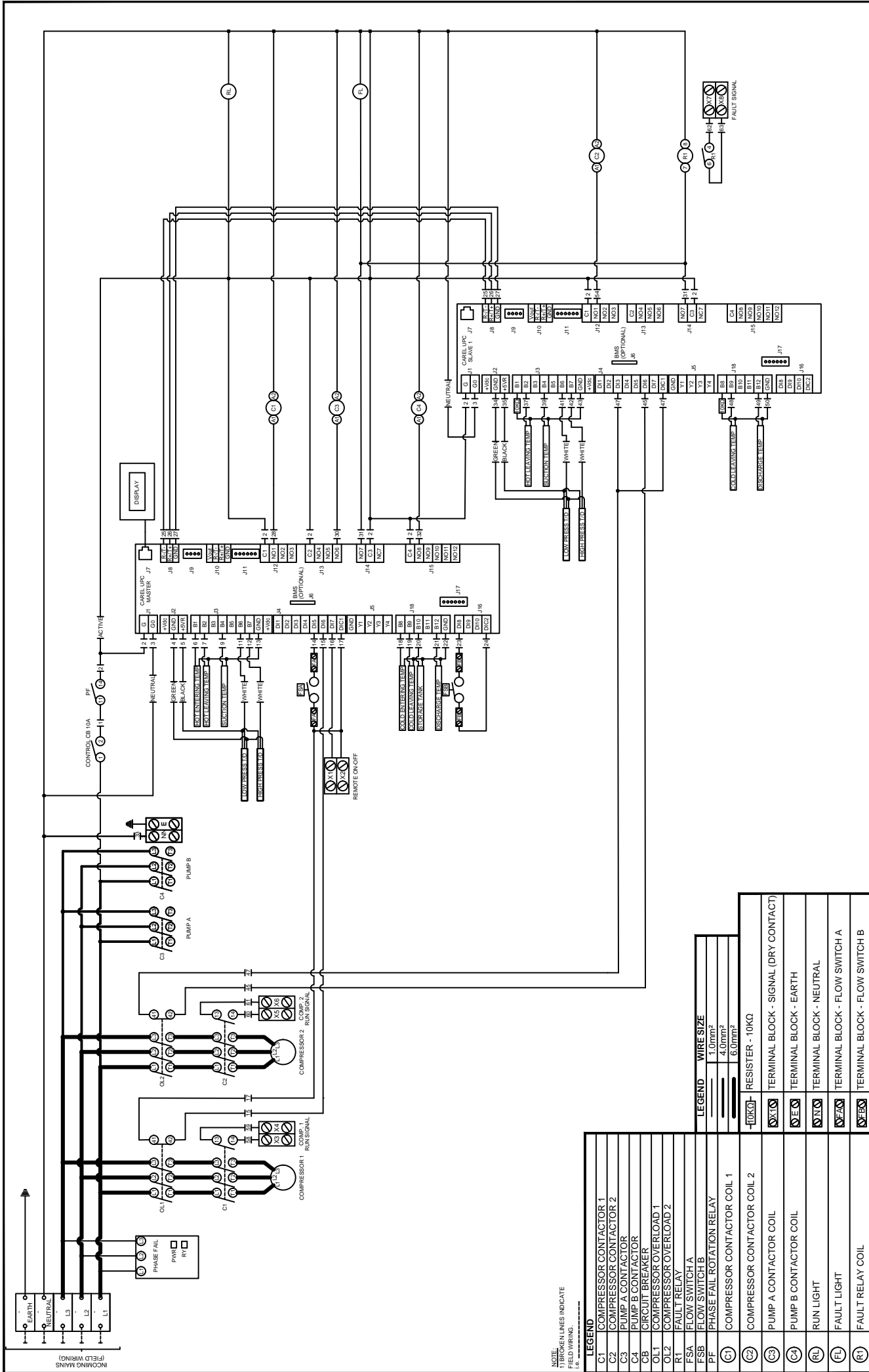


RHEEM THERMAL SYSTEMS GROUP  
 RHEEM THERMAL W2W 128kW

SHEET 1 OF 4

<b>Description:</b>	RHEEM THERMAL W2W 128kW	
<b>Part No:</b>	RTWW128SKS-DQ-1	<b>Rev.</b> 1
<b>Material:</b>		<b>Date:</b> 06/11/2019
<b>Drawn By:</b>	JPB	<b>Checked By:</b>
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2	
<b>Scale:</b>	N.T.S	

REV	ECN	DESCRIPTION	DATE
01	0383	ADDED RHEEM IQ	24/02/20



REV	ECN	DESCRIPTION	DATE	Drawn By:	Date:
01	0383	Changed unit description	28/02/20	J.Bates	05/11/2019
				43 Marigold Street Revesby NSW 2212 Phone: (02) 9684 3684 Fax: (02) 9684 3698	
		<b>RTWW128 on R407C</b>		Part No: <b>47143E</b> Rev: <b>01</b>	

## 2.5

### WATER TO WATER HEAT PUMP

(50Hz, HIGH TEMP), *RTWW###SD#-DQ-1*



### HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger condenser / Rheem IQ control		RTWW033SDS-DQ-1
Double wall heat exchanger condenser / Rheem IQ control		RTWW033SDV-DQ-1
<b>ELECTRICAL INPUT</b>		
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz	
Full Load / Locked Rotor (Amps Per Phase)	17.8 FLA / 174 LRA	
Min. Circuit Size	25.0 Amps	
Refrigerant	R134a	
Refrigeration effect	Heating	Cooling
Nominal capacity	33.20 kW	26.73 kW
Power input	6.47 kW	
COP	5.13 COP	4.13 COP
Combined COP	9.26 COP	
Noise Level	61 dBa @ 3 m	
Rated Load Amps @ 10°C SST / 51°C SCT	12.1 Amps	

### TECHNICAL DATA

<b>Compressor</b>		
Make / Type	Copeland / Scroll 20018	
Number Per Unit	1	
FLA (Full Load Amps)	17.8 Amps	
Voltage / Phase	380 - 415 / 3	
Pole/RPM	2/2,900	

### HEAT EXCHANGER (Water Side)

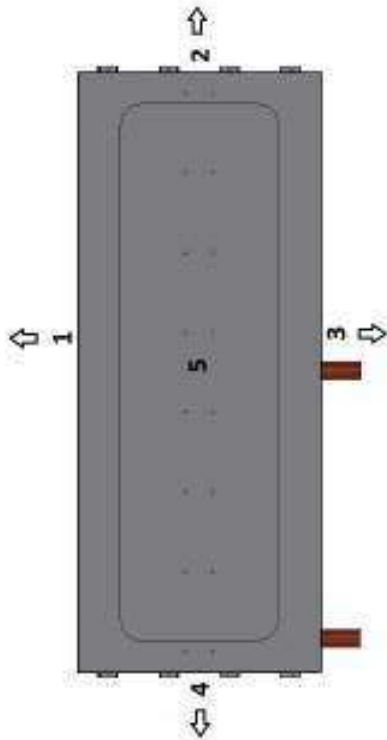
<b>Hot Side (condenser)</b>		<b>Cold Side (Evaporator)</b>	
Type of Water Tube	Single / Double Wall	Single Wall	
Design	Shell & Tube / Co-axial	Shell & Tube	
Flow Rate Excl. By Pass	1.32 L/s	1.28 L/s	
Max. Outlet Water Temp	70°C	N/A	
Min. Outlet Water Temp	N/A	7 °C	
Design Pressure Drop	50 kPa		
Max. Operating Pressure	2,450 kPa		

### GENERAL INFORMATION

Water Connections	50.8mm (2") Copper		
Drain	20mm aluminium		
Cabinet Construction	1.2mm Stucco Aluminium		
Approx. shipping weight	170 kg		
Size L x W x H	1845 mm x 800 mm x 825 mm		

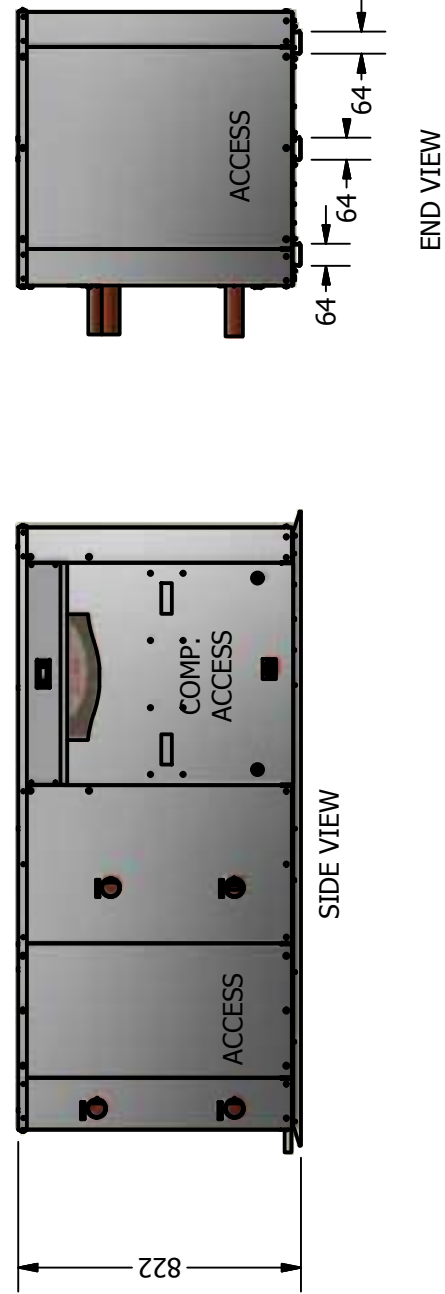
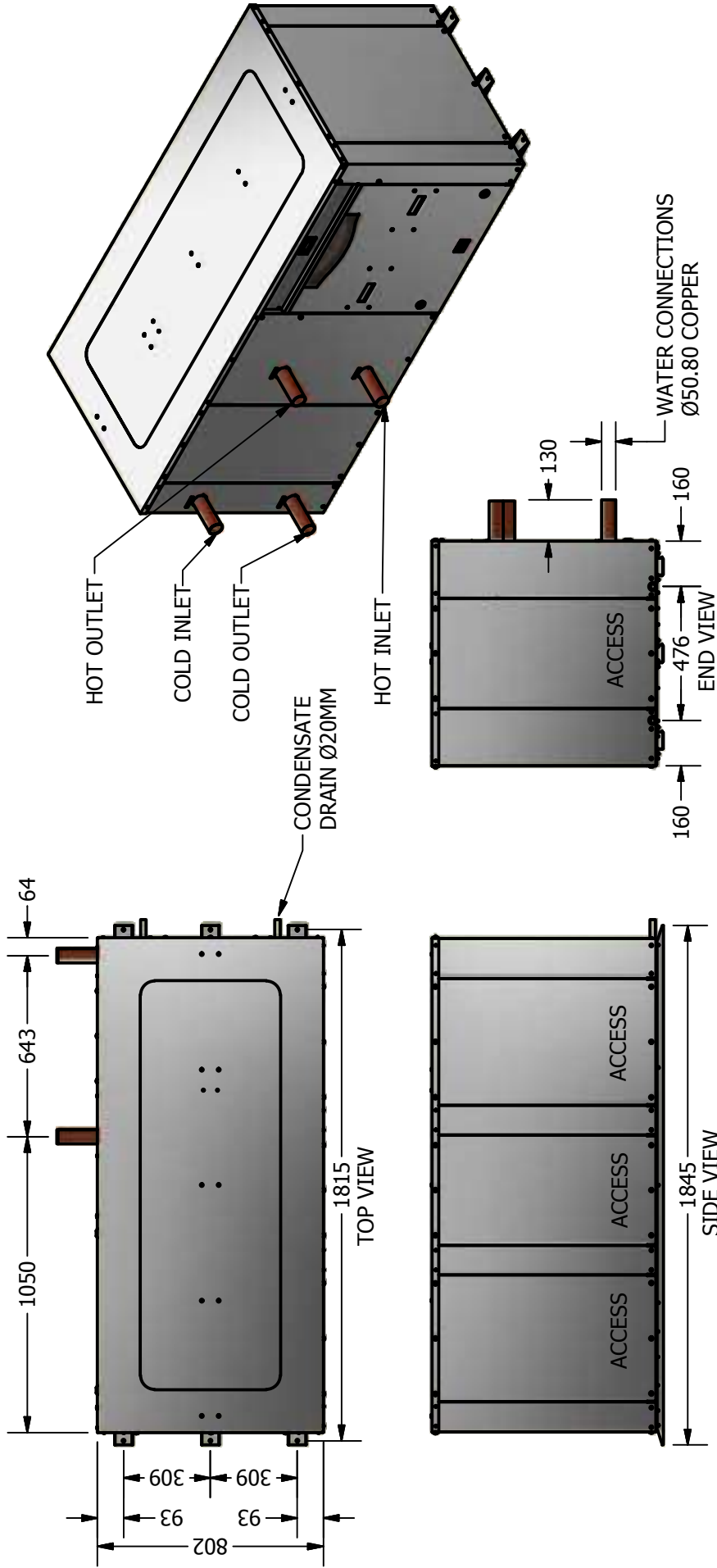
### COP TABLE

Hot Water Out °C	Cold Water In °C									
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	35 °C			
45 °C	27.58 kW 4.26 COP	29.12 kW 4.50 COP	29.90 kW 4.62 COP	31.52 kW 4.88 COP	33.20 kW 5.13 COP	37.75 kW 5.76 COP	42.88 kW 6.32 COP			
50 °C	26.97 kW 3.82 COP	28.44 kW 4.03 COP	29.20 kW 4.14 COP	30.74 kW 4.37 COP	32.34 kW 4.60 COP	36.63 kW 5.20 COP	41.44 kW 5.78 COP			
55 °C	26.10 kW 3.34 COP	27.50 kW 3.52 COP	28.21 kW 3.61 COP	29.66 kW 3.81 COP	31.15 kW 4.01 COP	35.12 kW 4.55 COP	39.52 kW 5.11 COP			
60 °C	25.32 kW 3.01 COP	26.66 kW 3.17 COP	27.34 kW 3.25 COP	28.71 kW 3.42 COP	30.11 kW 3.60 COP	33.81 kW 4.08 COP	37.88 kW 4.60 COP			
65 °C	24.23 kW 2.65 COP	25.49 kW 2.78 COP	26.12 kW 2.85 COP	27.39 kW 2.99 COP	28.68 kW 3.15 COP	32.04 kW 3.56 COP	35.69 kW 4.01 COP			
70 °C	22.98 kW 2.34 COP	24.16 kW 2.45 COP	24.74 kW 2.51 COP	25.91 kW 2.63 COP	27.09 kW 2.75 COP	30.11 kW 3.09 COP	33.33 kW 3.48 COP			



UNIT CLEARANCES	
Direction	Description / Minimum Clearance Required
1	Plain Back / 200mm
2	Side Access / 200mm
3	Compressor Access / Water / 850mm
4	Side Access / 200mm
5	Top - Height Clearance / 500mm

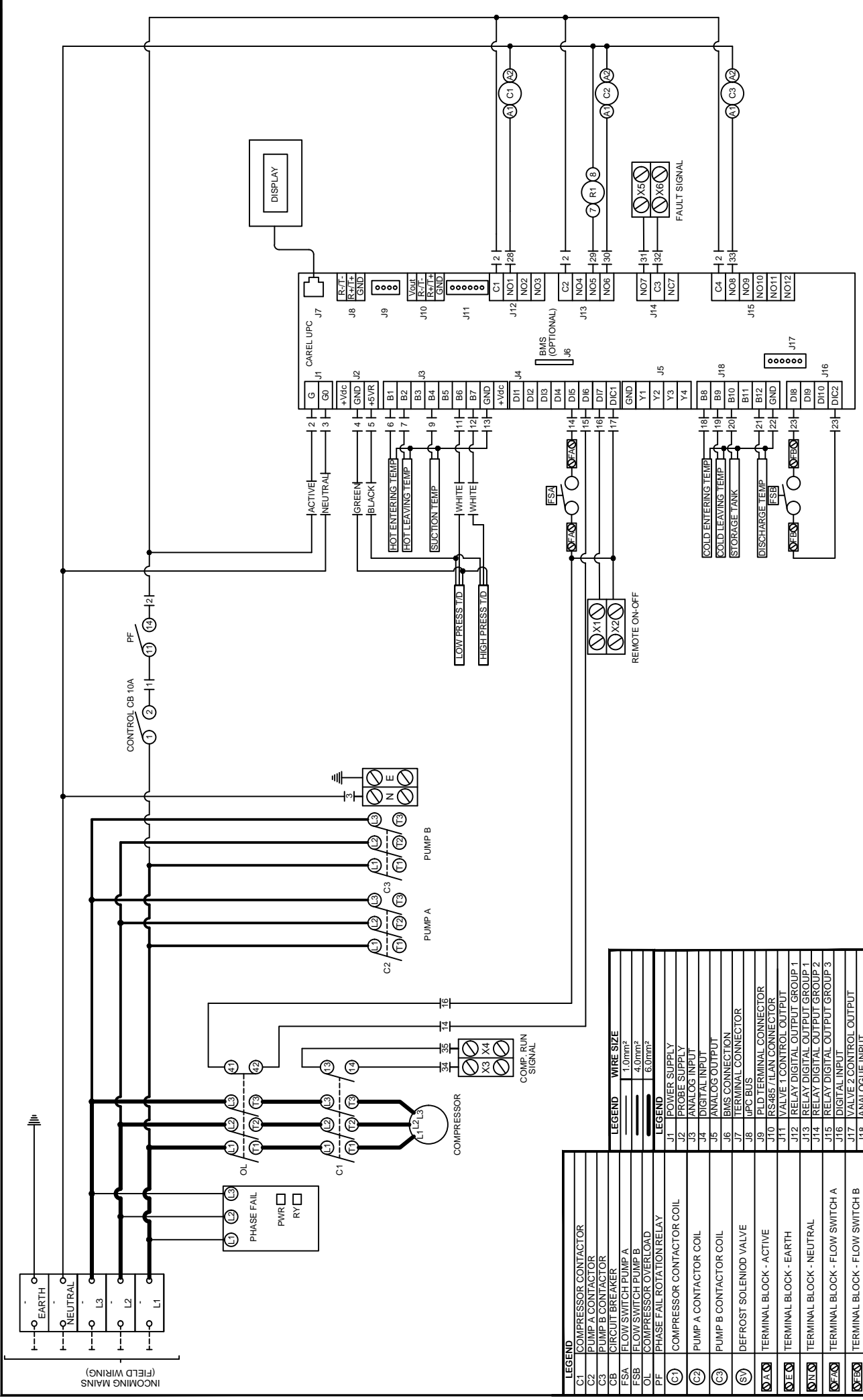
Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT



REV	ECN	DESCRIPTION	DATE

		SHEET 1 OF 3	
		RT W2W HW HP 33kW R134A	
Description:	Part No:	Rev.	Date:
	RTWW033SDS-DQ-1		24/02/2020
Material:	Drawn By:	Checked By:	
	JPB		
General Tolerance:	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm		Scale:
	Tubes - Dimensions ± 2, Angle ± 2		N.T.S





**RTWW033 on R134A**

Part No: **47196E** Rev: **00**

43 Marigold Street  
Revesby NSW 2212  
Phone: (02) 9684 3684  
Fax: (02) 9684 3698



REV	ECN	DESCRIPTION	DATE

Drawn By: **J. Bates** Date: **28/02/2020**

### HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger condenser / Rheem IQ control	RTWW045SDS-DQ-1
Double wall heat exchanger condenser / Rheem IQ control	RTWW045SDV-DQ-1

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	26.8 FLA / 174 LRA
Min. Circuit Size	32.0 Amps
Refrigerant	R134a
Refrigeration effect	Heating
Nominal capacity	44.59 kW
Power input	8.84 kW
COP	5.04 COP
Combined COP	9.09 COP
Noise Level	61 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	21.5 Amps

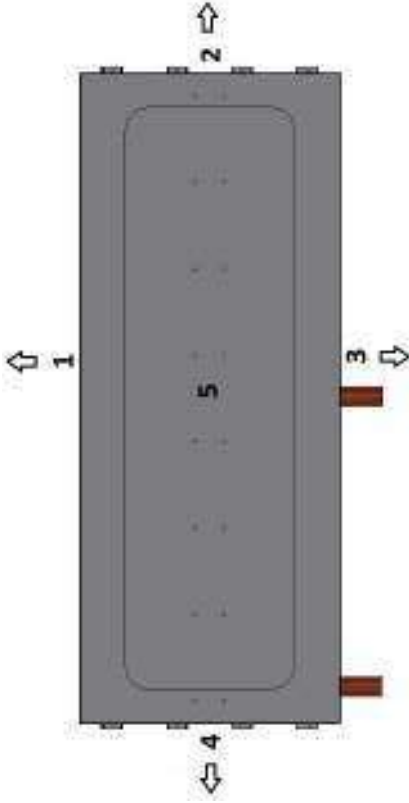
<b>TECHNICAL DATA</b>	
Make / Type	Copeland / Scroll 20056
Number Per Unit	1
FLA (Full Load Amps)	26.8 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Hot Side (condenser) Single / Double Wall
Design	Hot Side (Evaporator) Single Wall
Flow Rate Excl. By Pass	Shell & Tube / Co-axial
Max. Outlet Water Temp	1.71 L/s
Min. Outlet Water Temp	70°C
Design Pressure Drop	N/A
Max. Operating Pressure	50 kPa
	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	50.8mm (2") Copper
Drain	20mm aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	300 kg
Size L x W x H	1845mm x 800mm x 825mm

### COP TABLE

Hot Water Out °C	Cold Water In °C							
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	35 °C	
45 °C	35.78 kW 4.08 COP	38.12 kW 4.34 COP	39.34 kW 4.47 COP	41.89 kW 4.75 COP	44.59 kW 5.04 COP	52.10 kW 5.84 COP	60.79 kW 6.70 COP	
50 °C	35.09 kW 3.67 COP	37.35 kW 3.91 COP	38.53 kW 4.03 COP	40.99 kW 4.28 COP	43.60 kW 4.55 COP	50.83 kW 5.26 COP	59.21 kW 6.06 COP	
55 °C	34.24 kW 3.22 COP	36.40 kW 3.43 COP	37.52 kW 3.53 COP	39.88 kW 3.75 COP	42.36 kW 3.98 COP	49.26 kW 4.61 COP	57.24 kW 5.31 COP	
60 °C	33.58 kW 2.90 COP	35.66 kW 3.08 COP	36.74 kW 3.17 COP	39.01 kW 3.37 COP	41.40 kW 3.57 COP	48.02 kW 4.14 COP	55.69 kW 4.77 COP	
65 °C	32.79 kW 2.55 COP	34.77 kW 2.70 COP	35.81 kW 2.78 COP	37.96 kW 2.95 COP	40.23 kW 3.12 COP	46.51 kW 3.61 COP	53.78 kW 4.16 COP	
70 °C	32.06 kW 2.24 COP	33.95 kW 2.37 COP	34.92 kW 2.44 COP	36.96 kW 2.58 COP	39.11 kW 2.73 COP	45.05 kW 3.15 COP	51.92 kW 3.62 COP	



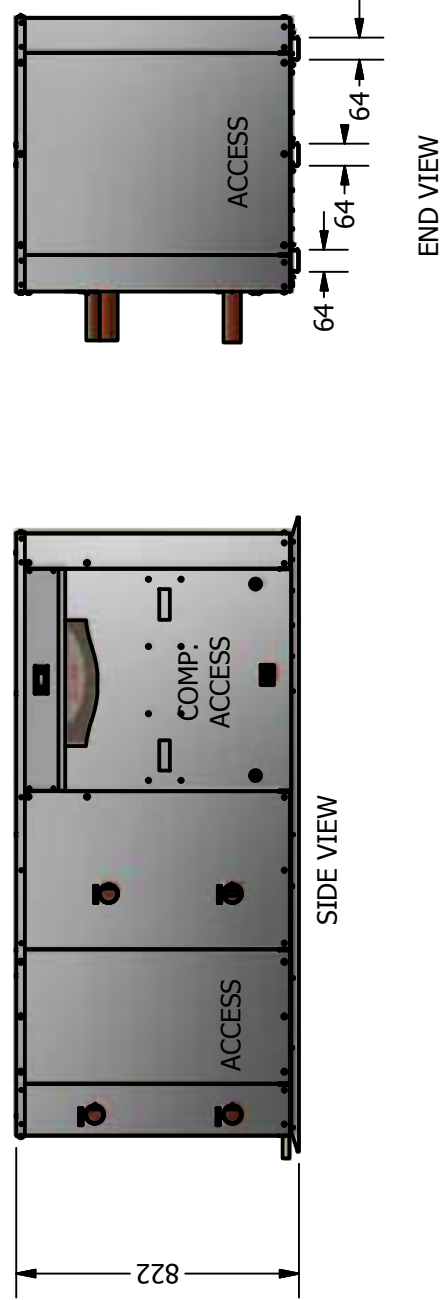
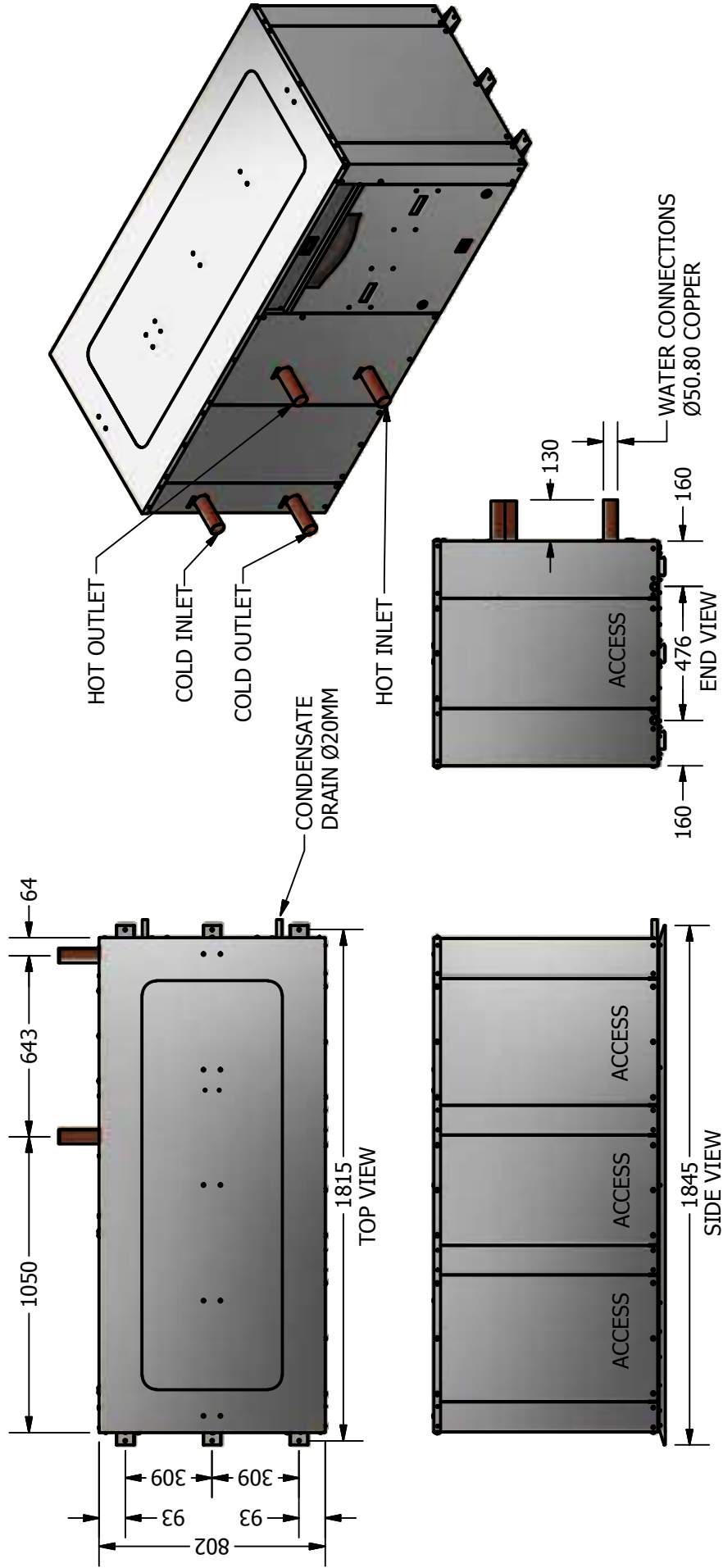
<b>UNIT CLEARANCES</b>	
Direction	Description
1	Plain Back
2	Side Access
3	Compressor Access / Water
4	Side Access
5	Top - Height Clearance
	Minimum Clearance Required
	200mm
	200mm
	850mm
	200mm
	500mm


Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT



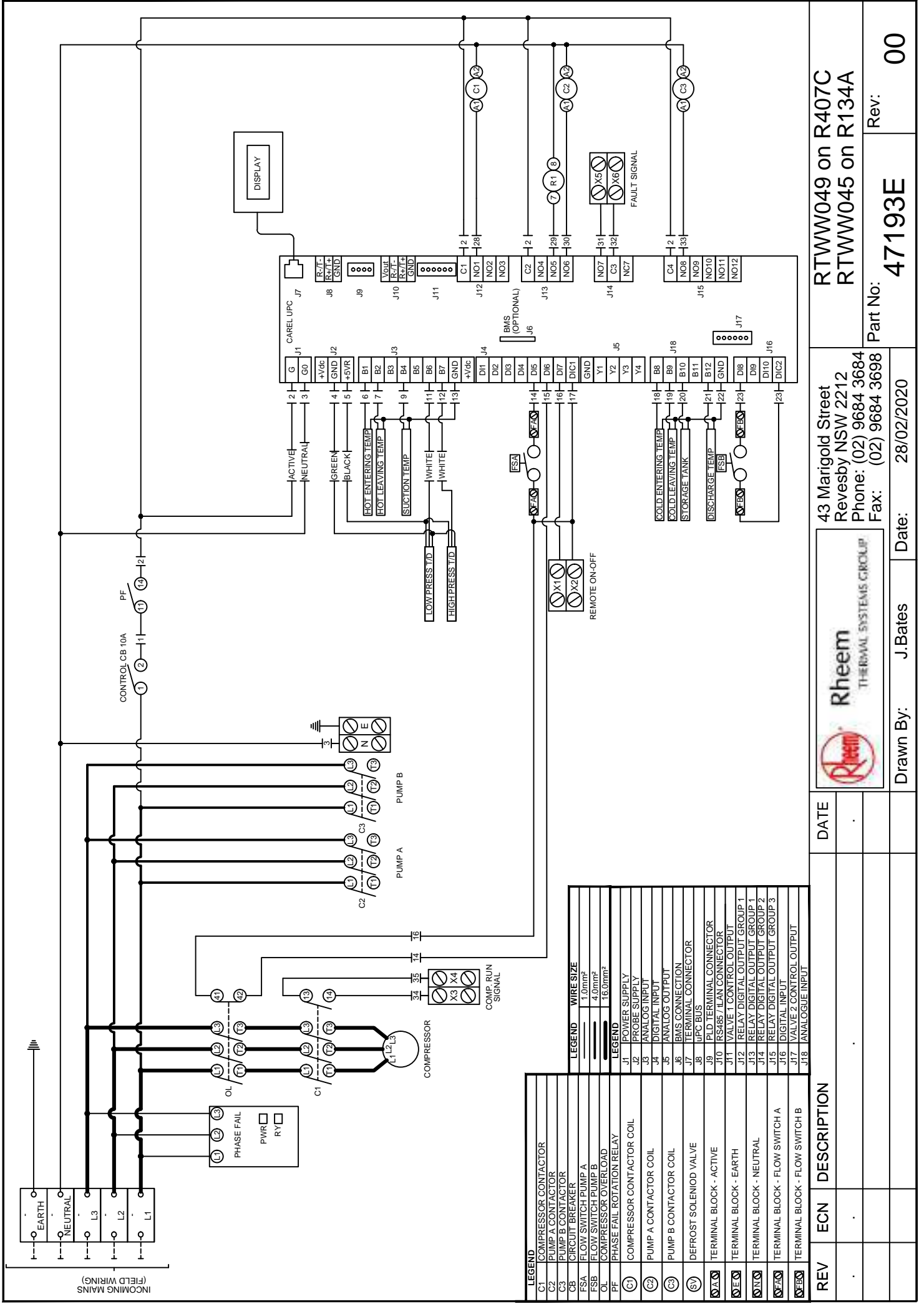
Manufactured In Australia by Rheem Thermal Systems Group

Unit specifications subject to change without notice. ABN 28 062 383 224



		Rheem THERMAL SYSTEMS GROUP	
SHEET 1 OF 3			
<b>Description:</b>	RT W2W HW HP 45kW R134A		
<b>Part No:</b>	RTWW045SDS-DQ-1		
<b>Material:</b>	Rev.		
<b>Drawn By:</b>	Date: 24/02/2020		
<b>General Tolerance:</b>	JPB	<b>Checked By:</b>	
Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm			<b>Scale:</b> N.T.S
Tubes - Dimensions ± 2, Angle ± 2			

REV	ECN	DESCRIPTION	DATE



RTWW049 on R407C  
RTWW045 on R134A

43 Marigold Street  
Revesby NSW 2212  
Phone: (02) 9684 3684  
Fax: (02) 9684 3698



REV	ECN	DESCRIPTION	DATE

Part No: 47193E  
Rev: 00

Drawn By: J.Bates  
Date: 28/02/2020



<b>HOT WATER HEAT PUMP SPECIFICATIONS</b>	
Single wall heat exchanger condenser / Rheem IQ control	<b>RTWW058SDS-DQ-1</b>
Double wall heat exchanger condenser / Rheem IQ control	<b>RTWW058SDV-DQ-1</b>

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	30.9 FLA / 225 LRA
Min. Circuit Size	40.0 Amps
Refrigerant	R134a
Refrigeration effect	Heating Cooling
Nominal capacity	57.26 kW 45.74 kW
Power input	11.52 kW
COP	4.97 COP 3.97 COP
Combined COP	8.94 COP
Noise Level	61 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	21.6 Amps

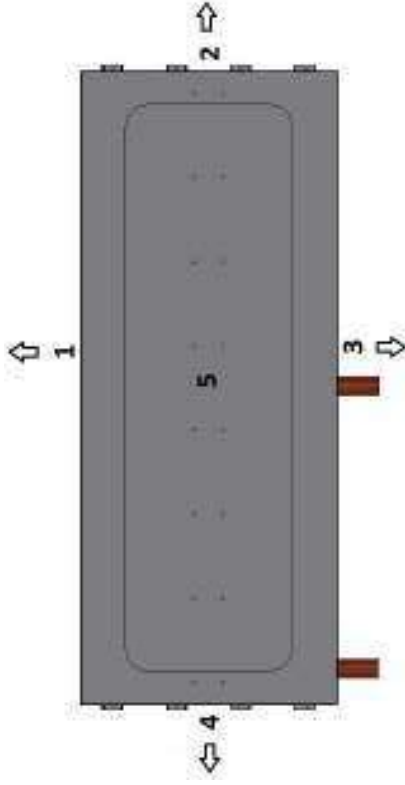
<b>TECHNICAL DATA</b>	
Make / Type	<b>Compressor</b> Copeland / Scroll 20092
Number Per Unit	1
FLA (Full Load Amps)	30.9 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	<b>Hot Side (condenser)</b> Single / Double Wall <b>Cold Side (Evaporator)</b> Single Wall
Design	Shell & Tube / Co-axial Shell & Tube
Flow Rate Excl. By Pass	2.28 L/s 2.19 L/s
Max. Outlet Water Temp	70°C N/A
Min. Outlet Water Temp	N/A 7 °C
Design Pressure Drop	50 kPa
Max. Operating Pressure	2.450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	50.8mm (2") Copper
Drain	20mm aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	350 kg
Size L x W x H - RTWW058SDS-DQ-1	2120 mm x 805 mm x 825 mm
Size L x W x H - RTWW058SDV-DQ-1	2270 mm x 805 mm x 825 mm

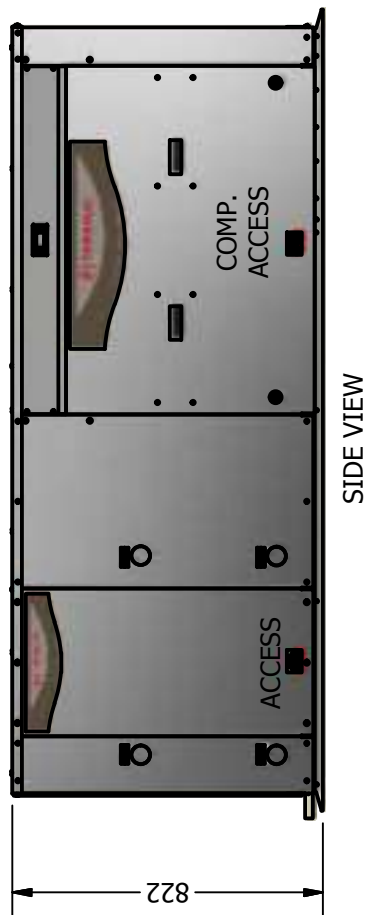
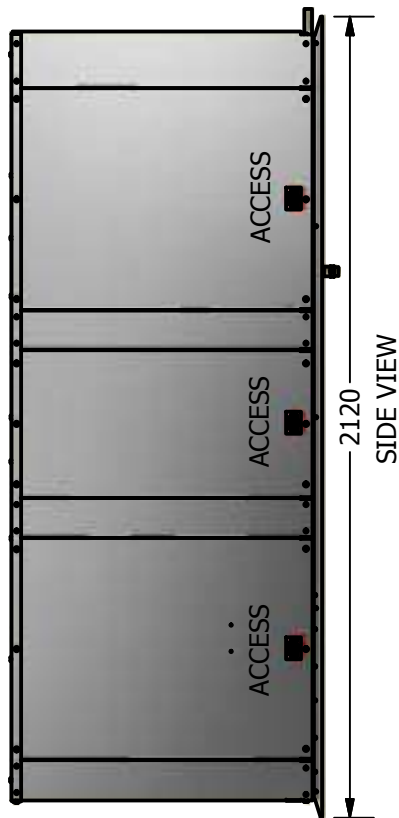
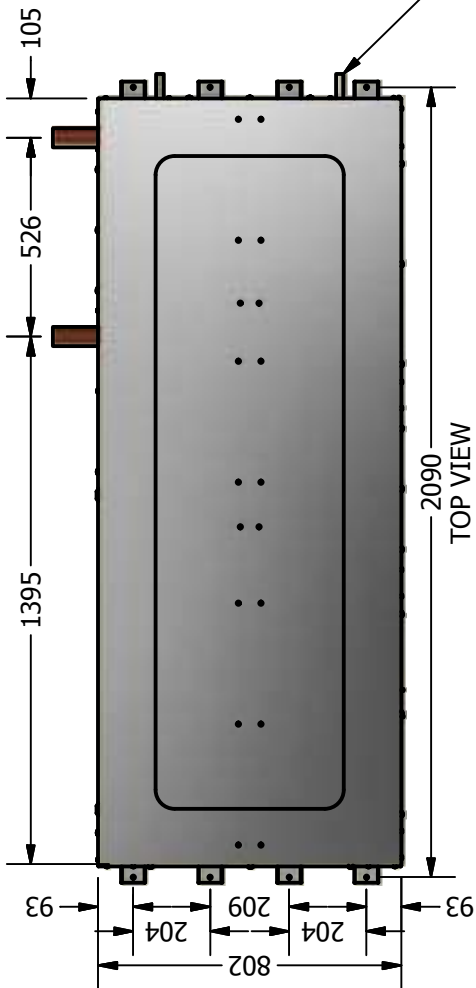
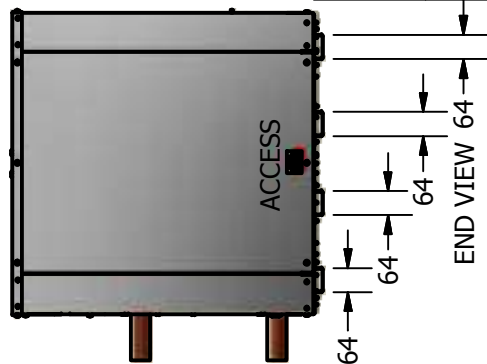
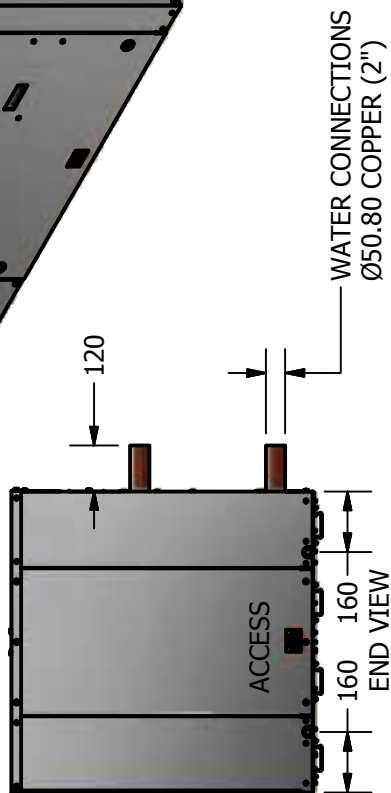
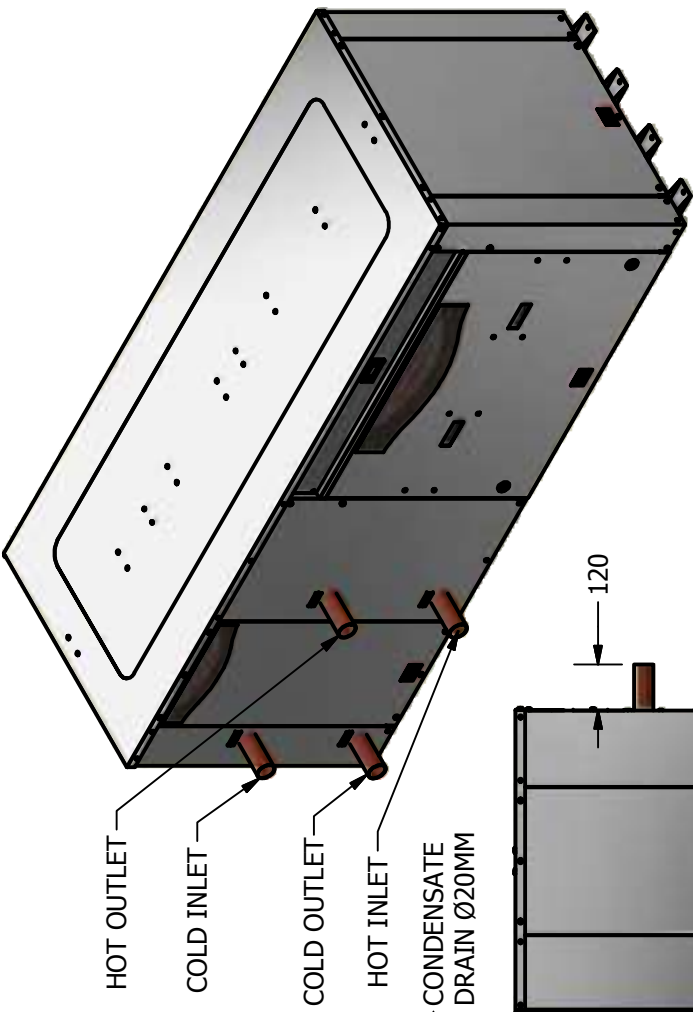
**COP TABLE**

Hot Water Out °C	Cold Water In °C						
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	35 °C
45 °C	46.00 kW 4.05 COP	48.98 kW 4.30 COP	50.54 kW 4.43 COP	53.80 kW 4.69 COP	57.26 kW 4.97 COP	66.84 kW 5.74 COP	77.89 kW 6.60 COP
50 °C	45.34 kW 3.68 COP	48.20 kW 3.90 COP	49.70 kW 4.01 COP	52.84 kW 4.25 COP	56.16 kW 4.50 COP	65.36 kW 5.18 COP	75.96 kW 5.96 COP
55 °C	44.57 kW 3.27 COP	47.30 kW 3.45 COP	48.72 kW 3.55 COP	51.69 kW 3.75 COP	54.85 kW 3.96 COP	63.57 kW 4.55 COP	73.62 kW 5.23 COP
60 °C	44.01 kW 2.97 COP	46.62 kW 3.13 COP	47.99 kW 3.21 COP	50.83 kW 3.39 COP	53.85 kW 3.58 COP	62.19 kW 4.10 COP	71.81 kW 4.70 COP
65 °C	43.37 kW 2.64 COP	45.85 kW 2.77 COP	47.14 kW 2.84 COP	49.83 kW 2.99 COP	52.68 kW 3.15 COP	60.55 kW 3.59 COP	69.62 kW 4.11 COP
70 °C	42.81 kW 2.34 COP	45.15 kW 2.46 COP	46.36 kW 2.52 COP	48.90 kW 2.64 COP	51.58 kW 2.77 COP	58.99 kW 3.15 COP	67.51 kW 3.58 COP



<b>UNIT CLEARANCES</b>	
Direction	Description Minimum Clearance Required
1	Plain Back 200mm
2	Side Access 200mm
3	Compressor Access / Water 850mm
4	Side Access 200mm
5	Top - Height Clearance 500mm

Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT



**Rheem**  
THERMAL SYSTEMS GROUP

SHEET 1 OF 3

Description: RT W2W HW HP 58kw R134A

Part No: RTWW058SDS-DQ-1

Rev.

Date: 24/02/2020

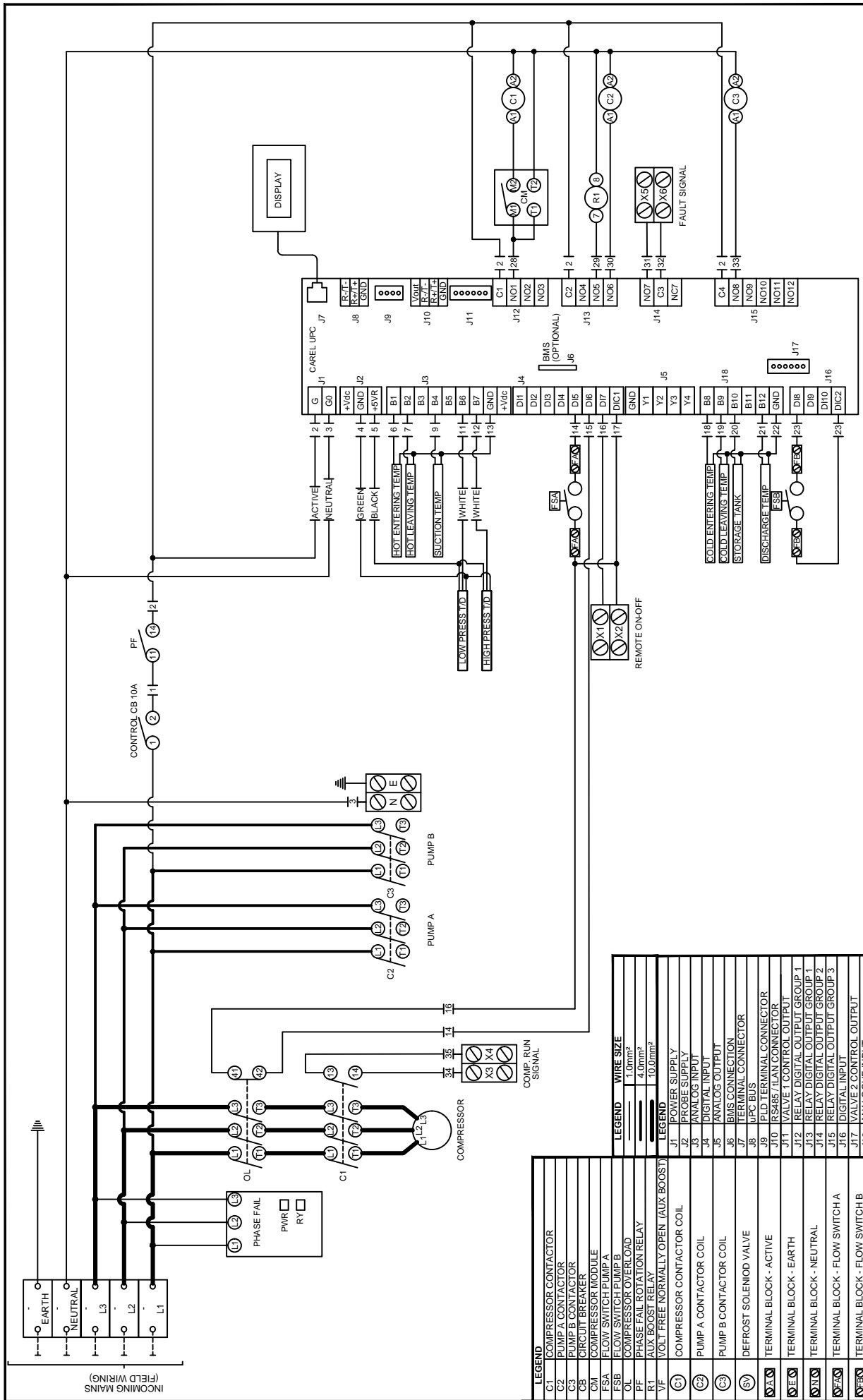
Drawn By: JPB

Checked By:

General Tolerance: Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm  
Tubes - Dimensions +2, Angle ±2

Scale: N.T.S

REV	ECN	DESCRIPTION	DATE



**RTWW058 on R134A**

Part No: **47197E** Rev: **00**

43 Marigold Street  
 Revesby NSW 2212  
 Phone: (02) 9684 3684  
 Fax: (02) 9684 3698

**Rheem**  
THERMAL SYSTEMS GROUP

REV	ECN	DESCRIPTION	DATE

Drawn By: **J.Bates** Date: **28/02/2020**

## HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger condenser / Rheem IQ control	RTWW071SDS-DQ-1
Double wall heat exchanger condenser / Rheem IQ control	RTWW071SDV-DQ-1

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	40.2 FLA / 272 LRA
Min. Circuit Size	50.0 Amps
Refrigerant	R134a
Refrigeration effect	Heating
Nominal capacity	71.15 kW
Power input	14.19 kW
COP	5.02 COP
Combined COP	9.03 COP
Noise Level	61 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	28.1 Amps

### TECHNICAL DATA

Make / Type	<b>Compressor</b>	
Number Per Unit	Copeland / Scroll 20103	
FLA (Full Load Amps)	40.2 Amps	
Voltage / Phase	380 - 415 / 3	
Pole/RPM	2/2,900	

### HEAT EXCHANGER (Water Side)

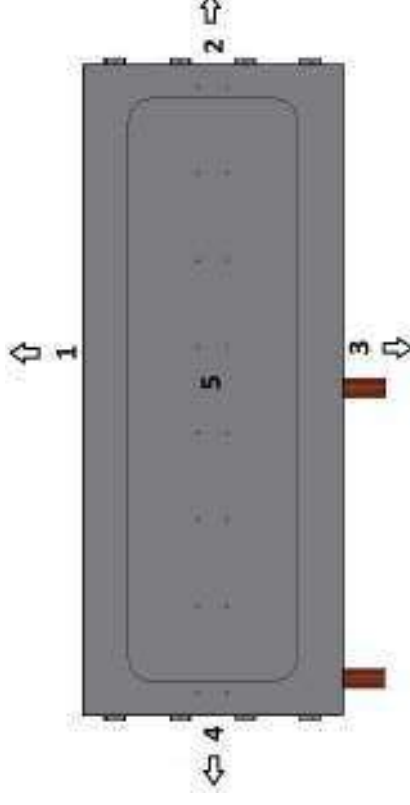
Type of Water Tube	<b>Hot Side (condenser)</b>	<b>Cold Side (Evaporator)</b>
Design	Single / Double Wall	Single Wall
Flow Rate Excl. By Pass	Shell & Tube / Co-axial	Shell & Tube
Max. Outlet Water Temp	2.84 L/s	2.73 L/s
Min. Outlet Water Temp	70°C	N/A
Design Pressure Drop	N/A	7 °C
Max. Operating Pressure	50 kPa	2,450 kPa

### GENERAL INFORMATION

Water Connections	63.5mm (2 1/2") Copper
Drain	20mm aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	400 kg
Size L x W x H - RTWW071SDS-DQ-1	2120 mm x 805 mm x 1000 mm
Size L x W x H - RTWW071SDV-DQ-1	2270 mm x 805 mm x 1000 mm

## COP TABLE

Hot Water Out °C	Cold Water In °C						
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	35 °C
45 °C	57.19 kW 4.09 COP	60.88 kW 4.34 COP	62.82 kW 4.47 COP	66.86 kW 4.73 COP	71.15 kW 5.02 COP	83.07 kW 5.78 COP	96.85 kW 6.64 COP
50 °C	56.35 kW 3.71 COP	59.90 kW 3.93 COP	61.76 kW 4.04 COP	65.65 kW 4.28 COP	69.77 kW 4.54 COP	81.20 kW 5.23 COP	94.42 kW 6.01 COP
55 °C	55.38 kW 3.27 COP	58.76 kW 3.46 COP	60.53 kW 3.56 COP	64.21 kW 3.77 COP	68.12 kW 3.99 COP	78.96 kW 4.60 COP	91.48 kW 5.29 COP
60 °C	54.67 kW 2.95 COP	57.92 kW 3.12 COP	59.61 kW 3.21 COP	63.14 kW 3.40 COP	66.88 kW 3.59 COP	77.24 kW 4.13 COP	89.21 kW 4.75 COP
65 °C	53.88 kW 2.60 COP	56.95 kW 2.75 COP	58.55 kW 2.82 COP	61.89 kW 2.98 COP	65.42 kW 3.15 COP	75.19 kW 3.61 COP	86.47 kW 4.14 COP
70 °C	53.19 kW 2.29 COP	56.10 kW 2.41 COP	57.61 kW 2.48 COP	60.75 kW 2.61 COP	64.08 kW 2.75 COP	73.26 kW 3.15 COP	83.86 kW 3.60 COP

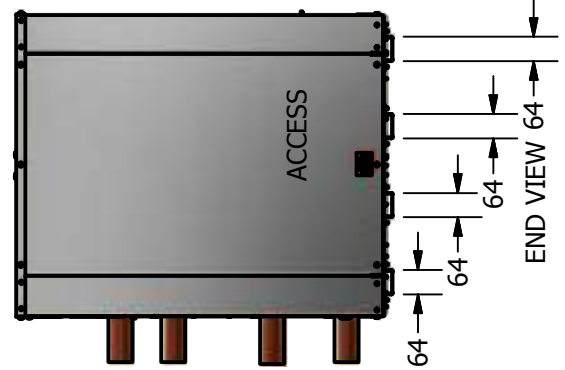
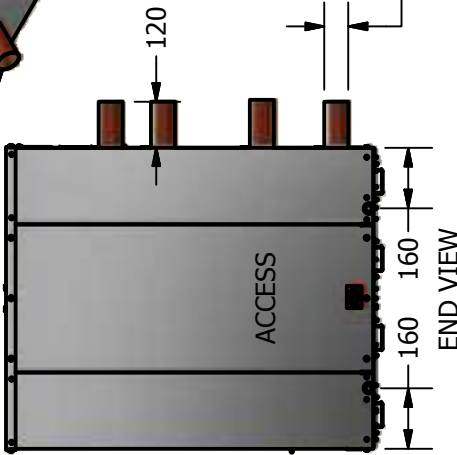
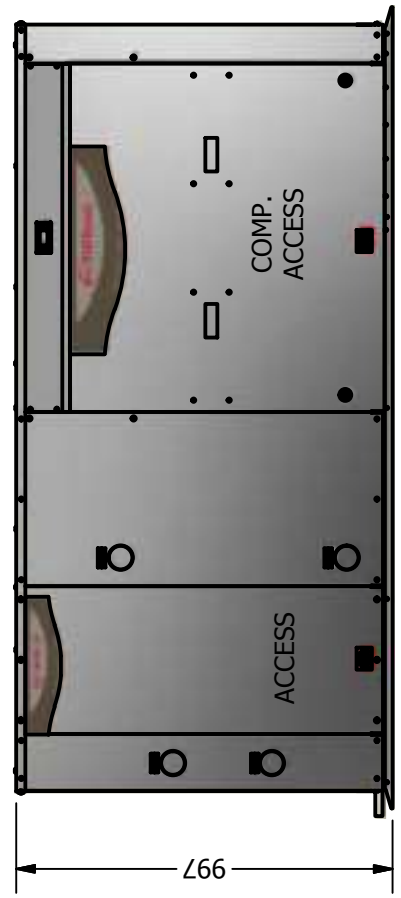
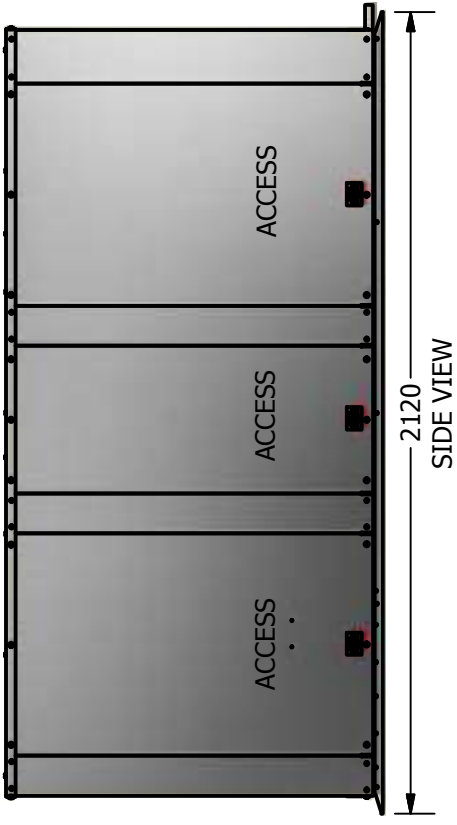
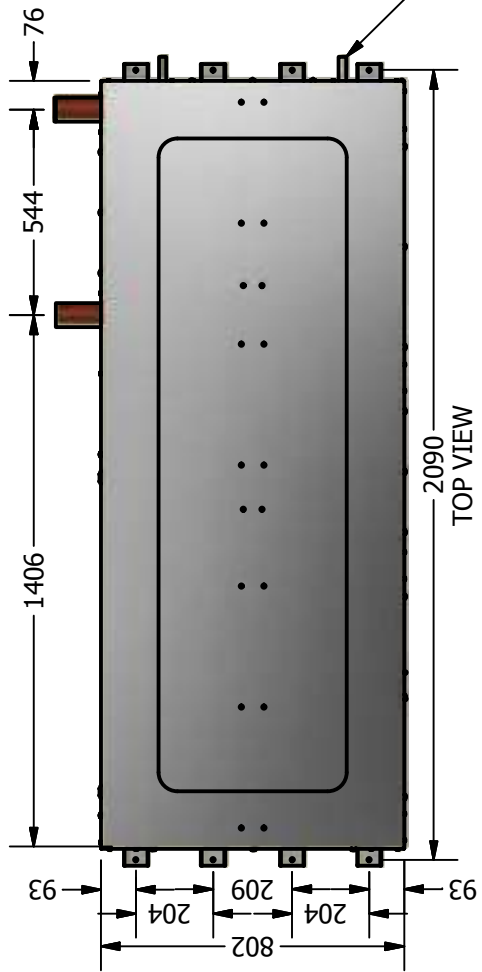
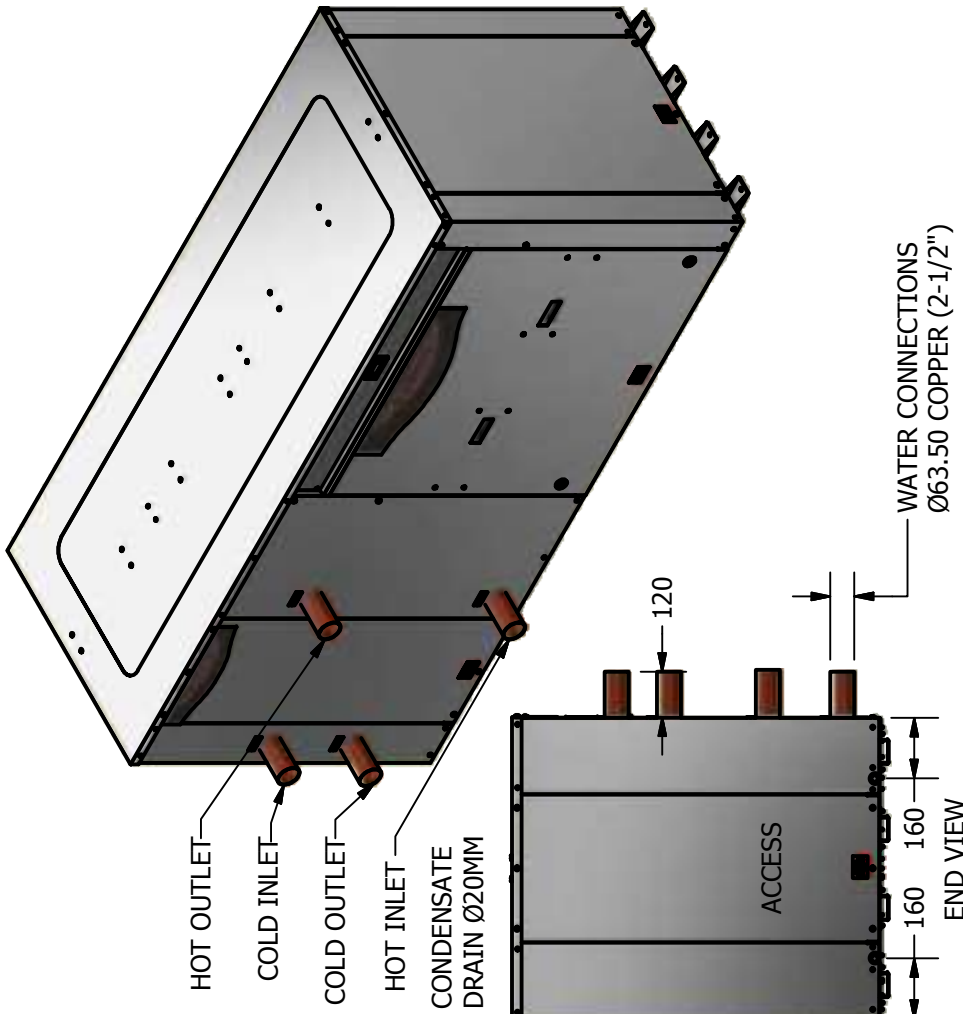


### UNIT CLEARANCES

Direction	Description	Minimum Clearance Required
1	Plain Back	200mm
2	Side Access	200mm
3	Compressor Access / Water	850mm
4	Side Access	200mm
5	Top - Height Clearance	500mm

Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT



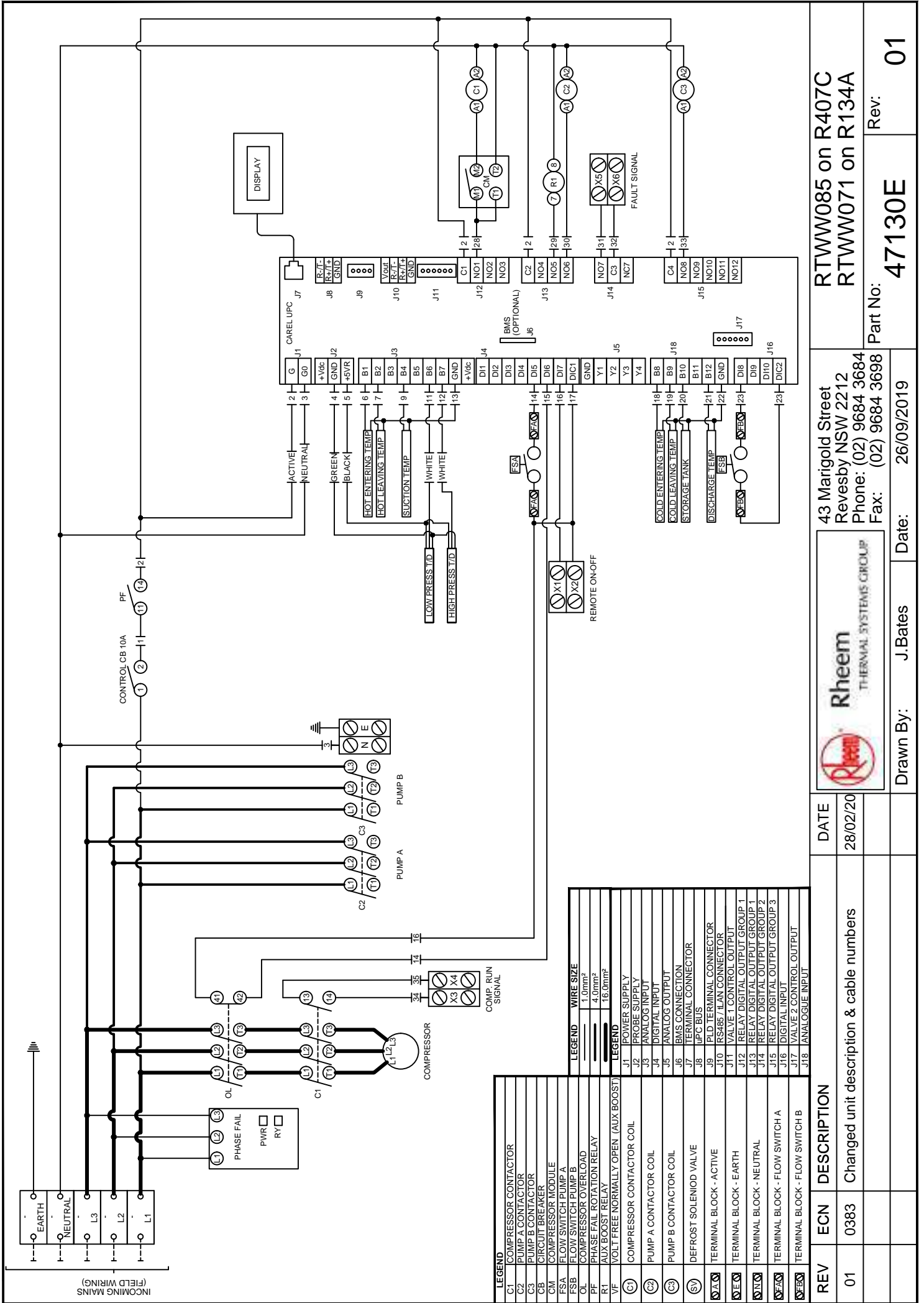


**Rheem**  
THERMAL SYSTEMS GROUP

**SHEET 1 OF 3**

<b>Description:</b>	RT W2W HW HP 71kw R134A	
<b>Part No:</b>	RTWW071SDS-DQ-1	<b>Rev.</b>
<b>Material:</b>		<b>Date:</b> 25/02/2020
<b>Drawn By:</b>	JPB	<b>Checked By:</b>
<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2	
<b>Scale:</b>	N.T.S	

REV	ECN	DESCRIPTION	DATE



RTWW085 on R407C  
RTWW071 on R134A

43 Marigold Street  
Revesby NSW 2212  
Phone: (02) 9684 3684  
Fax: (02) 9684 3698



DATE  
28/02/20

REV	ECN	DESCRIPTION
01	0383	Changed unit description & cable numbers

Drawn By: J.Bates

Date: 26/09/2019

Part No: 47130E  
Rev: 01

### HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger condenser / Rheem IQ control	RTWW088SDS-DQ-1
Double wall heat exchanger condenser / Rheem IQ control	RTWW088SDV-DQ-1
<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	46.1 FLA / 310 LRA
Min. Circuit Size	63.0 Amps
Refrigerant	R134a
Refrigeration effect	Heating
Nominal capacity	87.79 kW
Power input	17.32 kW
COP	5.07 COP
Combined COP	9.14 COP
Noise Level	61 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	31.4 Amps

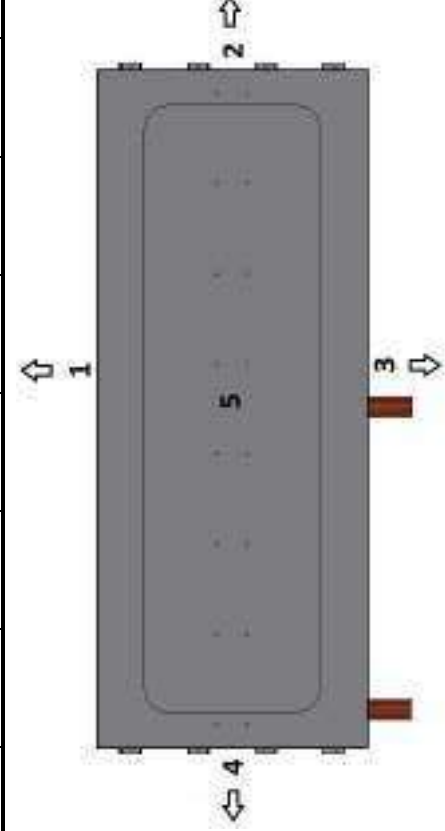
<b>TECHNICAL DATA</b>	
Make / Type	Copeland / Scroll 20105
Number Per Unit	1
FLA (Full Load Amps)	46.1 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900

<b>HEAT EXCHANGER (Water Side)</b>	
Type of Water Tube	Hot Side (condenser) / Cold Side (Evaporator)
Design	Single / Double Wall / Shell & Tube
Flow Rate Excl. By Pass	3.49 L/s
Max. Outlet Water Temp	70°C
Min. Outlet Water Temp	N/A
Design Pressure Drop	50 kPa
Max. Operating Pressure	2,450 kPa

<b>GENERAL INFORMATION</b>	
Water Connections	63.5mm (2 1/2") Copper
Drain	20mm aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	450 kg
Size L x W x H - RTWW088SDS-DQ-1	2120 mm x 805 mm x 1000 mm
Size L x W x H - RTWW088SDV-DQ-1	2270 mm x 805 mm x 1000 mm

### COP TABLE

Hot Water Out °C	Cold Water In °C						
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	35 °C
45 °C	70.66 kW 4.17 COP	75.19 kW 4.41 COP	77.56 kW 4.54 COP	82.52 kW 4.79 COP	87.79 kW 5.07 COP	102.41 kW 5.81 COP	119.33 kW 6.62 COP
50 °C	69.65 kW 3.79 COP	74.00 kW 4.00 COP	76.28 kW 4.11 COP	81.05 kW 4.35 COP	86.10 kW 4.59 COP	100.14 kW 5.26 COP	116.38 kW 6.01 COP
55 °C	68.47 kW 3.37 COP	72.62 kW 3.55 COP	74.78 kW 3.65 COP	79.31 kW 3.85 COP	84.11 kW 4.06 COP	97.42 kW 4.64 COP	112.82 kW 5.30 COP
60 °C	67.60 kW 3.07 COP	71.58 kW 3.23 COP	73.66 kW 3.32 COP	78.00 kW 3.49 COP	82.60 kW 3.68 COP	95.35 kW 4.19 COP	110.08 kW 4.79 COP
65 °C	66.61 kW 2.74 COP	70.39 kW 2.88 COP	72.36 kW 2.95 COP	76.47 kW 3.10 COP	80.82 kW 3.26 COP	92.86 kW 3.70 COP	106.78 kW 4.21 COP
70 °C	65.70 kW 2.46 COP	69.28 kW 2.57 COP	71.15 kW 2.63 COP	75.03 kW 2.76 COP	79.14 kW 2.89 COP	90.50 kW 3.26 COP	103.61 kW 3.70 COP

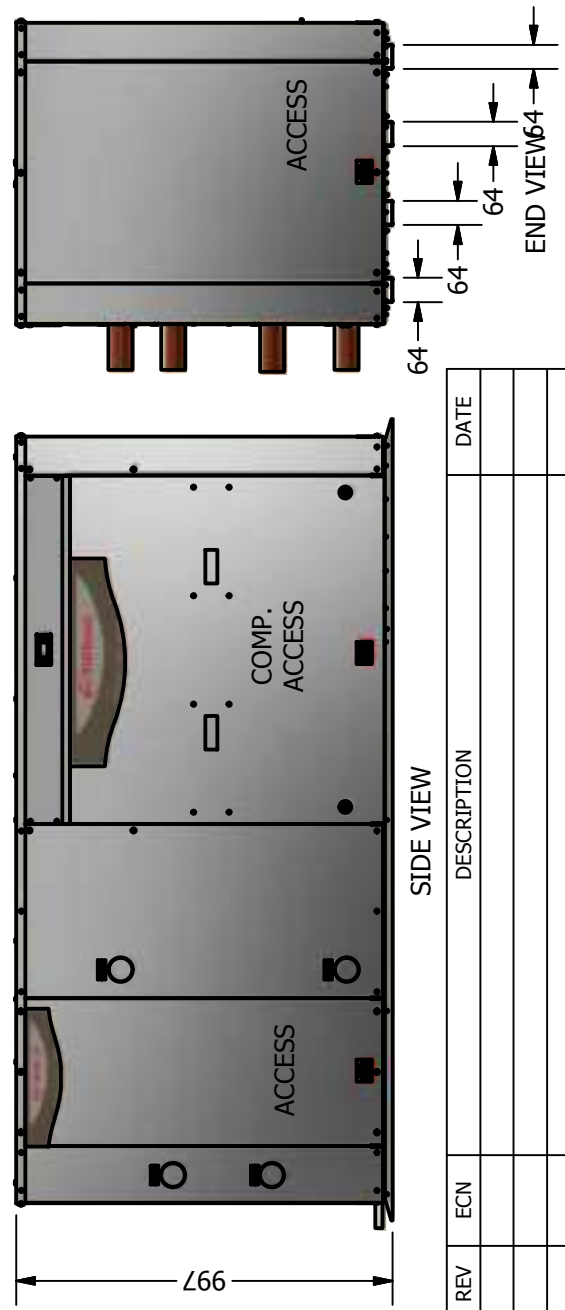
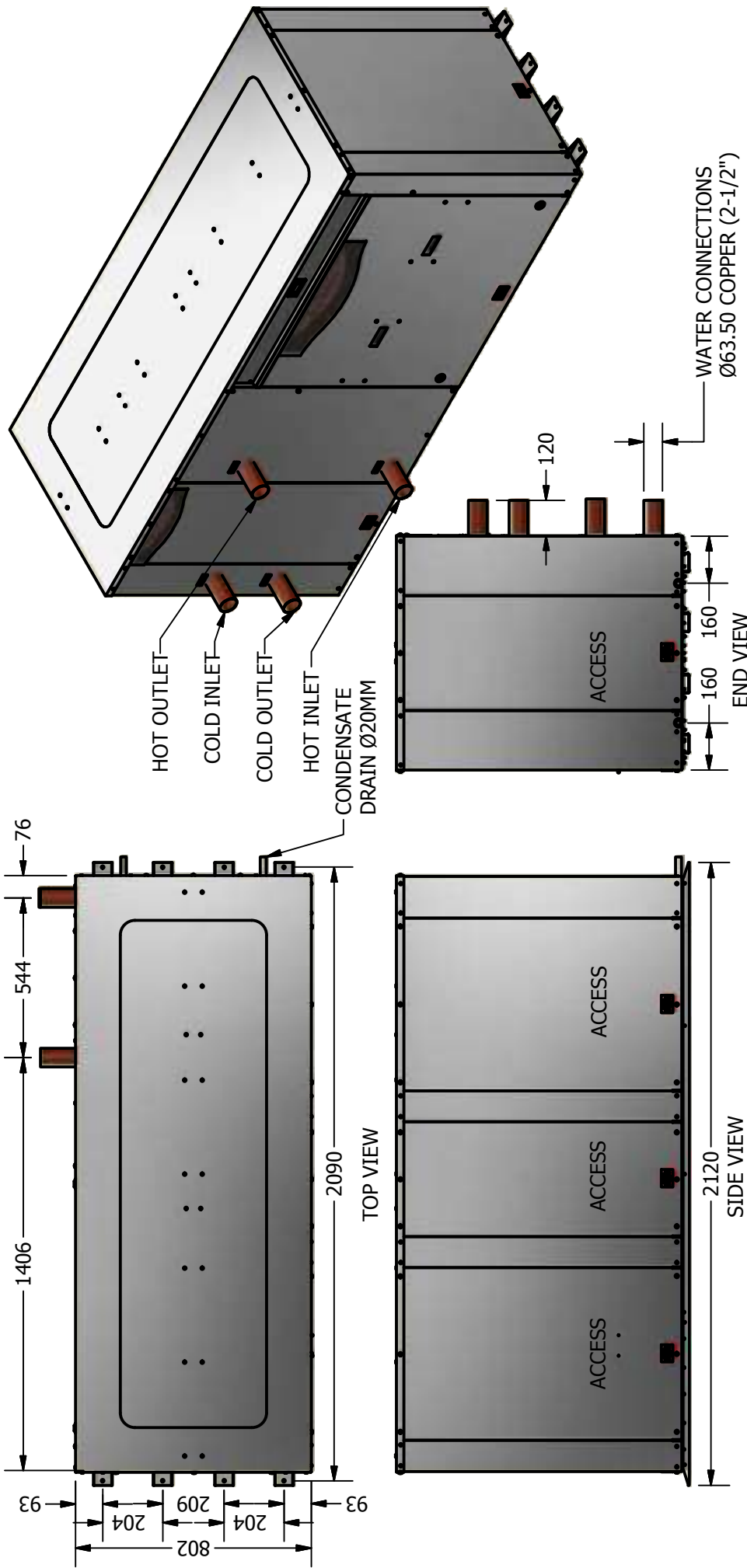


<b>UNIT CLEARANCES</b>		
Direction	Description	Minimum Clearance Required
1	Plain Back	200mm
2	Side Access	200mm
3	Compressor Access / Water	850mm
4	Side Access	200mm
5	Top - Height Clearance	500mm

Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT

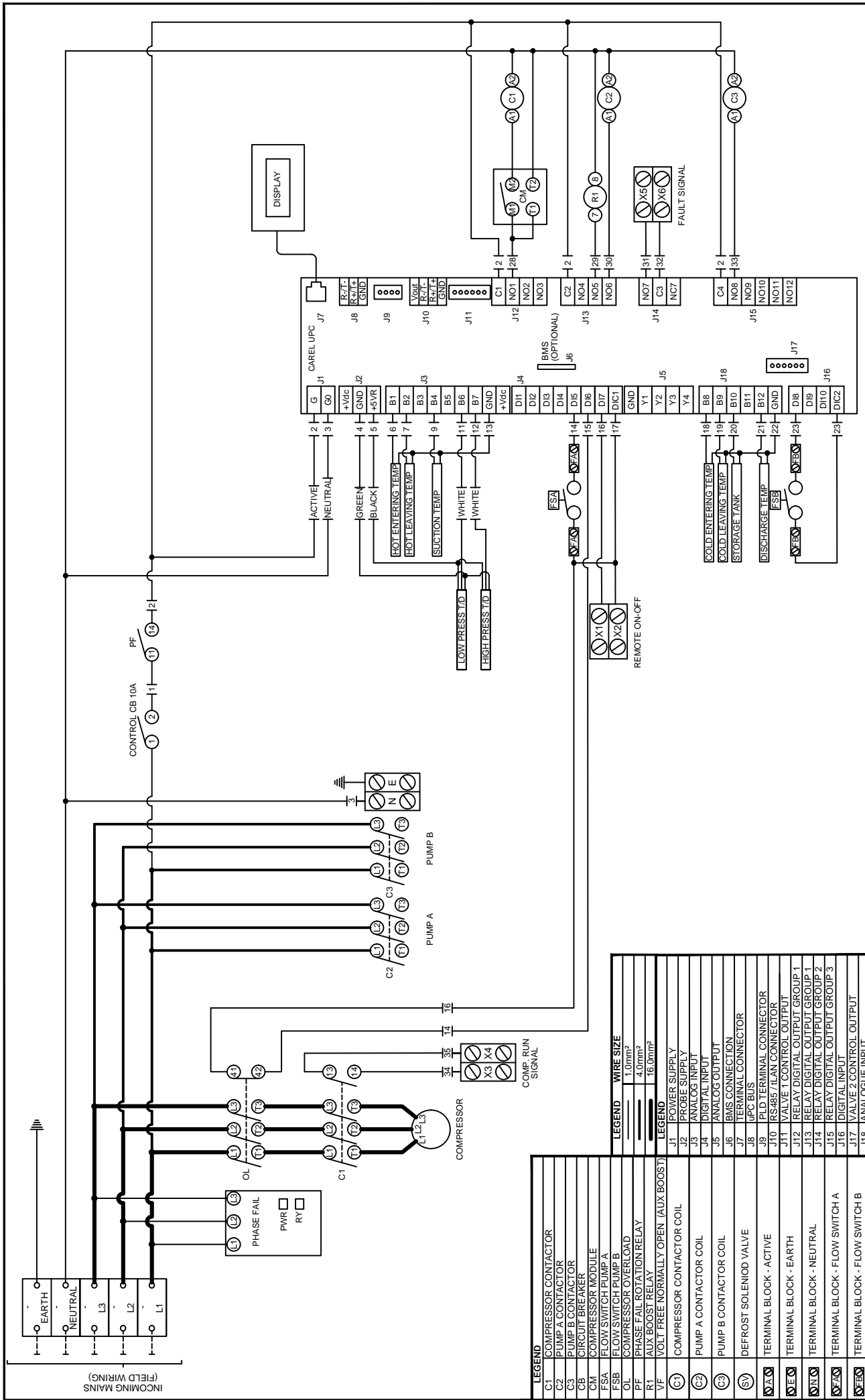


**Manufactured In Australia by Rheem Thermal Systems Group**  
Unit specifications subject to change without notice. ABN 28 062 383 224



<b>Rheem</b> THERMAL SYSTEMS GROUP		SHEET 1 OF 3	
<b>Description:</b>	RT W2W HW HP 88kw R134A	<b>Rev.</b>	
<b>Part No:</b>	RTWW088SDS-DQ-1	<b>Date:</b>	25/02/2020
<b>Material:</b>		<b>Checked By:</b>	JPB
<b>Drawn By:</b>		<b>General Tolerance:</b>	Sheetmetal - Cut Size - ±0.5mm, Angle - ±0.5°, Bend size - ±0.3mm Tubes - Dimensions +2, Angle ±2
<b>Scale:</b>	N.T.S		

REV	ECN	DESCRIPTION	DATE



**RTWW088 on R134A**

Part No: **47198E** Rev: **00**

43 Marigold Street  
Revesby NSW 2212  
Phone: (02) 9684 3684  
Fax: (02) 9684 3698

**Rheem**  
THERMAL SYSTEMS GROUP

REV	ECN	DESCRIPTION	DATE

Drawn By: **J. Bates** Date: **28/02/2020**

### HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger condenser / Rheem IQ control	RTWW16SDS-DQ-1
Double wall heat exchanger condenser / Rheem IQ control	RTWW16SDV-DQ-1

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	61.8 FLA / 225 LRA
Min. Circuit Size	80.0 Amps
Refrigerant	R134a
Refrigeration effect	Heating Cooling
Nominal capacity	114.52 kW 91.49 kW
Power input	23.03 kW
COP	4.97 COP 3.97 COP
Combined COP	8.94 COP
Noise Level	64 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	43.3 Amps

### TECHNICAL DATA

Make / Type	Copeland / Scroll 20092	
Number Per Unit	2	
FLA (Full Load Amps)	30.9 Amps	
Voltage / Phase	380 - 415 / 3	
Pole/RPM	2/2,900	

### HEAT EXCHANGER (Water Side)

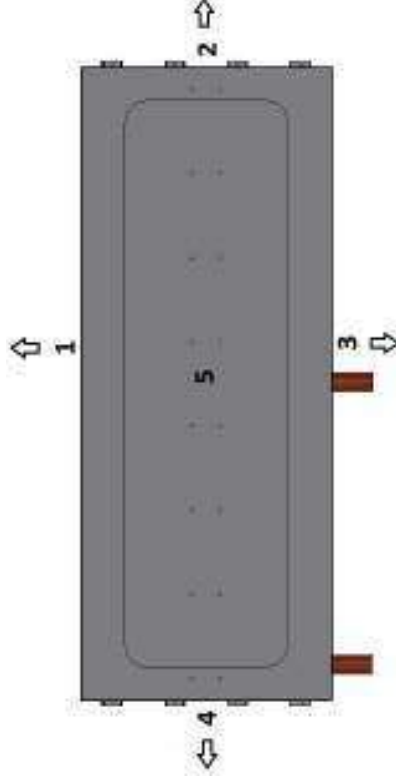
Type of Water Tube	Hot Side (condenser)	Cold Side (Evaporator)
Design	Single / Double Wall	Single Wall
Flow Rate Excl. By Pass	Shell & Tube / Co-axial	Shell & Tube
Max. Outlet Water Temp	4.57 L/s	4.38 L/s
Min. Outlet Water Temp	70°C	N/A
Design Pressure Drop	N/A	7 °C
Max. Operating Pressure	50 kPa	2,450 kPa

### GENERAL INFORMATION

Water Connections	63.5mm (2 1/2") Copper
Drain	20mm aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	625 kg
Size L x W x H - RTWW16SDS-DQ-1	2370 mm x 1150 mm x 1200 mm
Size L x W x H - RTWW16SDV-DQ-1	1650 mm x 1800 mm x 1200 mm

### COP TABLE

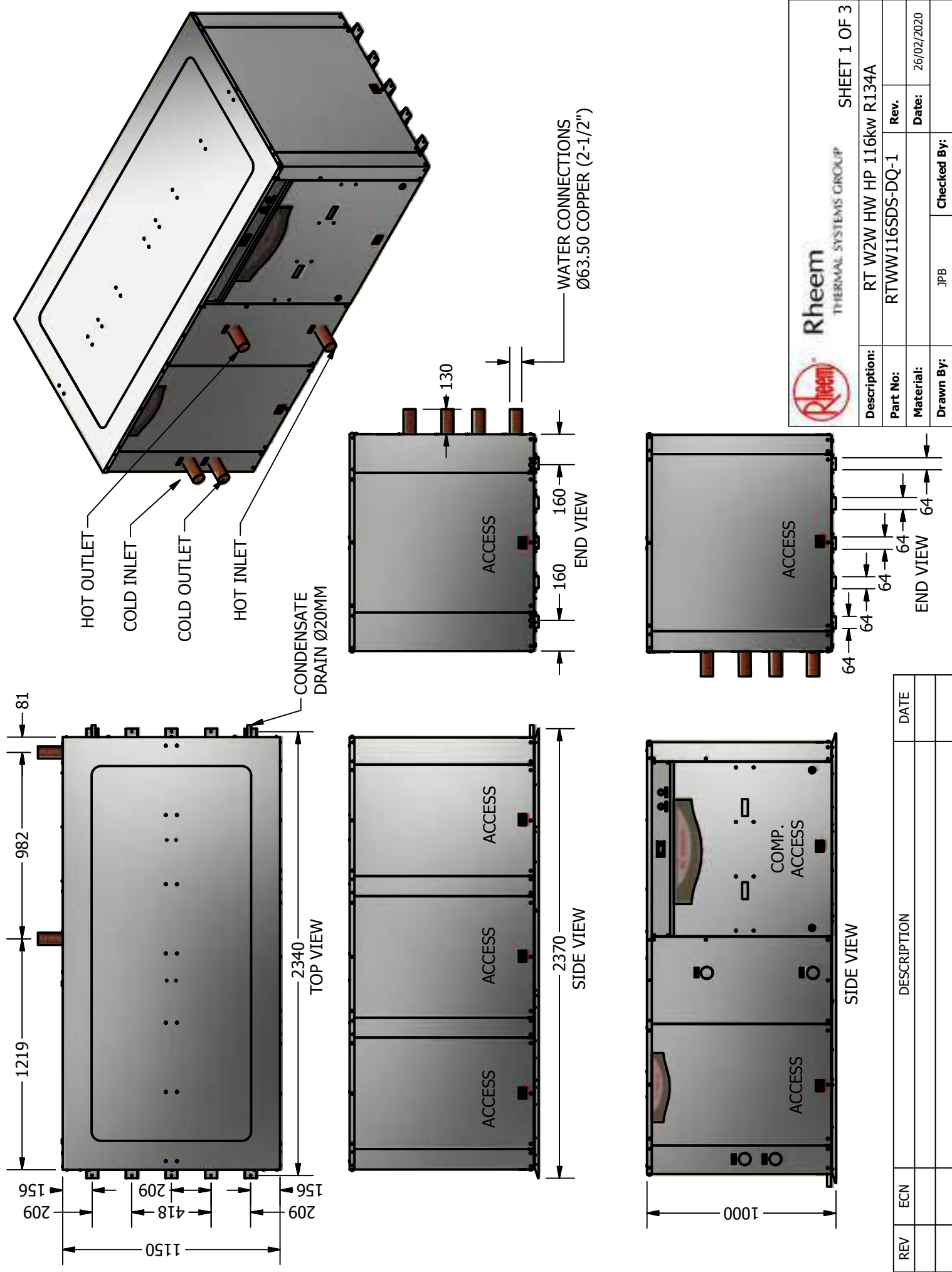
Hot Water Out °C	Cold Water In °C						
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	35 °C
45 °C	92.00 kW 4.05 COP	97.96 kW 4.30 COP	101.08 kW 4.43 COP	107.60 kW 4.69 COP	114.52 kW 4.97 COP	133.69 kW 5.74 COP	155.78 kW 6.60 COP
50 °C	90.36 kW 3.59 COP	96.04 kW 3.80 COP	99.00 kW 3.91 COP	105.21 kW 4.14 COP	111.78 kW 4.38 COP	129.99 kW 5.05 COP	150.97 kW 5.81 COP
55 °C	89.15 kW 3.27 COP	94.60 kW 3.45 COP	97.44 kW 3.55 COP	103.39 kW 3.75 COP	109.70 kW 3.96 COP	127.14 kW 4.55 COP	147.24 kW 5.23 COP
60 °C	88.02 kW 2.97 COP	93.25 kW 3.13 COP	95.97 kW 3.21 COP	101.67 kW 3.39 COP	107.70 kW 3.58 COP	124.39 kW 4.10 COP	143.62 kW 4.70 COP
65 °C	86.75 kW 2.64 COP	91.69 kW 2.77 COP	94.27 kW 2.84 COP	99.66 kW 2.99 COP	105.35 kW 3.15 COP	121.10 kW 3.59 COP	139.24 kW 4.11 COP
70 °C	85.63 kW 2.34 COP	90.30 kW 2.46 COP	92.73 kW 2.52 COP	97.81 kW 2.64 COP	103.17 kW 2.77 COP	117.98 kW 3.15 COP	135.03 kW 3.58 COP



### UNIT CLEARANCES

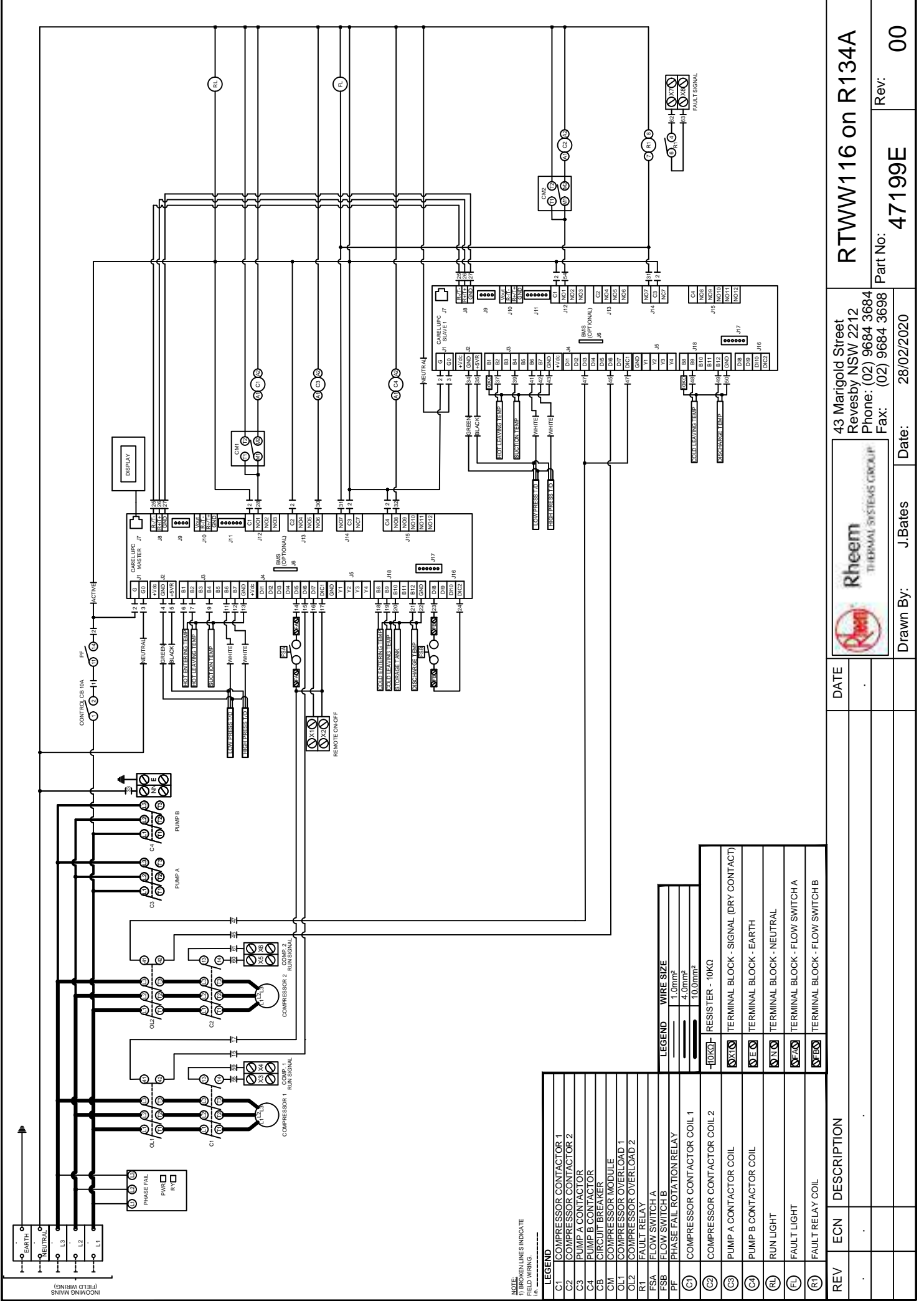
Direction	Description	Minimum Clearance Required
1	Plain Back	200mm
2	Side Access	850mm
3	Compressor Access / Water	850mm
4	Side Access	200mm
5	Top - Height Clearance	500mm

Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT



		SHEET 1 OF 3	
		RT W2W HW HP 116kW R134A	
<b>Description:</b>	RTWW116SDS-DQ-1	<b>Rev.</b>	
<b>Part No:</b>		<b>Date:</b>	26/02/2020
<b>Material:</b>		<b>Checked By:</b>	JPB
<b>Drawn By:</b>		<b>General Tolerance:</b>	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2
			<b>Scale:</b> N.T.S

REV	ECN	DESCRIPTION	DATE



RTWW116 on R134A

Part No: 47199E Rev: 00

43 Matigold Street  
Revesby NSW 2212  
Phone: (02) 9684 3684  
Fax: (02) 9684 3698



Drawn By: J.Bates Date: 28/02/2020

REV	ECN	DESCRIPTION	DATE



### HOT WATER HEAT PUMP SPECIFICATIONS

Single wall heat exchanger condenser / Rheem IQ control		RTWW142SDS-DQ-1
Double wall heat exchanger condenser / Rheem IQ control		RTWW142SDV-DQ-1
<b>ELECTRICAL INPUT</b>		
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz	
Full Load / Locked Rotor (Amps Per Phase)	80.4 FLA / 272 LRA	
Min. Circuit Size	100.0 Amps	
Refrigerant	R134a	
Refrigeration effect	Heating	Cooling
Nominal capacity	142.31 kW	113.93 kW
Power input	28.37 kW	
COP	5.02 COP	4.02 COP
Combined COP	9.03 COP	
Noise Level	64 dBa @ 3 m	
Rated Load Amps @ 10°C SST / 51°C SCT	56.1 Amps	

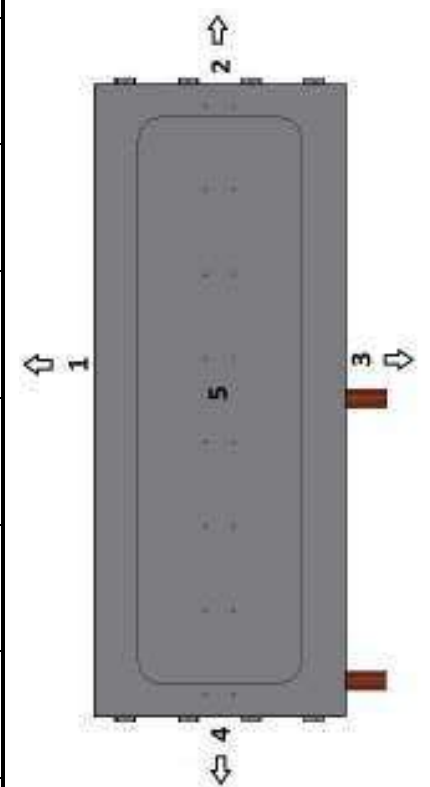
<b>TECHNICAL DATA</b>		
Make / Type	Copeland / Scroll 20103	
Number Per Unit	2	
FLA (Full Load Amps)	40.2 Amps	
Voltage / Phase	380 - 415 / 3	
Pole/RPM	2/2,900	

<b>HEAT EXCHANGER (Water Side)</b>		
Type of Water Tube	Hot Side (condenser) Single / Double Wall	Cold Side (Evaporator) Single Wall
Design	Shell & Tube / Co-axial	Shell & Tube
Flow Rate Excl. By Pass	5.67 L/s	5.45 L/s
Max. Outlet Water Temp	70°C	N/A
Min. Outlet Water Temp	N/A	7 °C
Design Pressure Drop	50 kPa	
Max. Operating Pressure	2,450 kPa	

<b>GENERAL INFORMATION</b>		
Water Connections	76.2mm (3") Copper	
Drain	20mm aluminium	
Cabinet Construction	1.2mm Stucco Aluminium	
Approx. shipping weight	725 kg	
Size L x W x H - RTWW142SDS-DQ-1	2370 mm x 1150 mm x 1200 mm	
Size L x W x H - RTWW142SDV-DQ-1	1650 mm x 1800 mm x 1200 mm	

### COP TABLE

Hot Water Out °C	Cold Water In °C						
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	35 °C
45 °C	114.38 kW 4.09 COP	121.77 kW 4.34 COP	125.63 kW 4.47 COP	133.72 kW 4.73 COP	142.31 kW 5.02 COP	166.14 kW 5.78 COP	193.69 kW 6.64 COP
50 °C	112.30 kW 3.61 COP	119.34 kW 3.83 COP	123.02 kW 3.94 COP	130.71 kW 4.18 COP	138.86 kW 4.42 COP	161.49 kW 5.10 COP	187.65 kW 5.86 COP
55 °C	110.76 kW 3.27 COP	117.52 kW 3.46 COP	121.05 kW 3.56 COP	128.43 kW 3.77 COP	136.25 kW 3.99 COP	157.91 kW 4.60 COP	182.96 kW 5.29 COP
60 °C	109.34 kW 2.95 COP	115.83 kW 3.12 COP	119.21 kW 3.21 COP	126.28 kW 3.40 COP	133.76 kW 3.59 COP	154.47 kW 4.13 COP	178.41 kW 4.75 COP
65 °C	107.76 kW 2.60 COP	113.90 kW 2.75 COP	117.10 kW 2.82 COP	123.78 kW 2.98 COP	130.84 kW 3.15 COP	150.38 kW 3.61 COP	172.94 kW 4.14 COP
70 °C	106.39 kW 2.29 COP	112.20 kW 2.41 COP	115.22 kW 2.48 COP	121.51 kW 2.61 COP	128.16 kW 2.75 COP	146.52 kW 3.15 COP	167.71 kW 3.60 COP

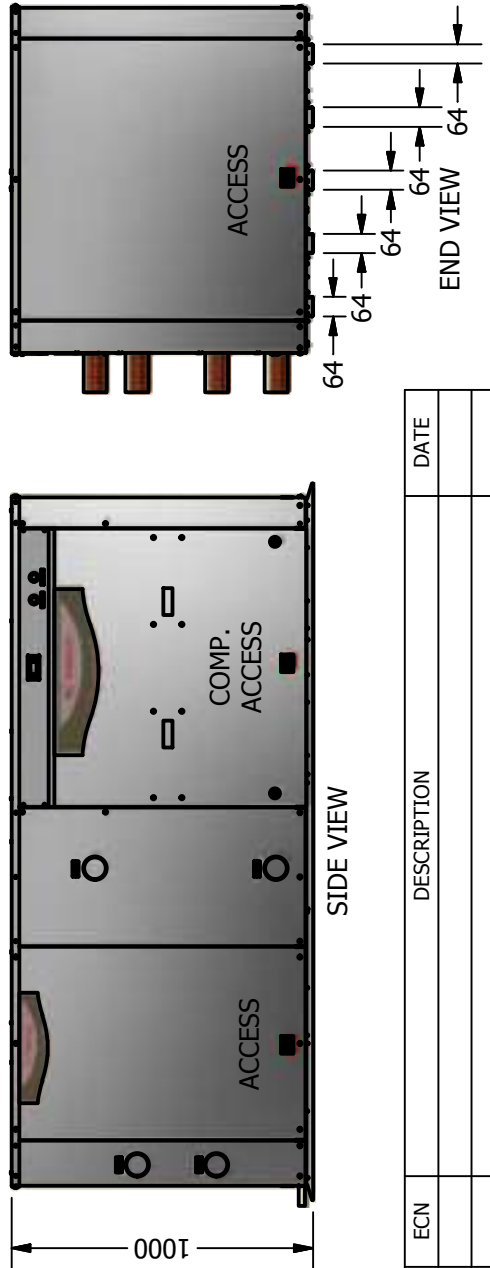
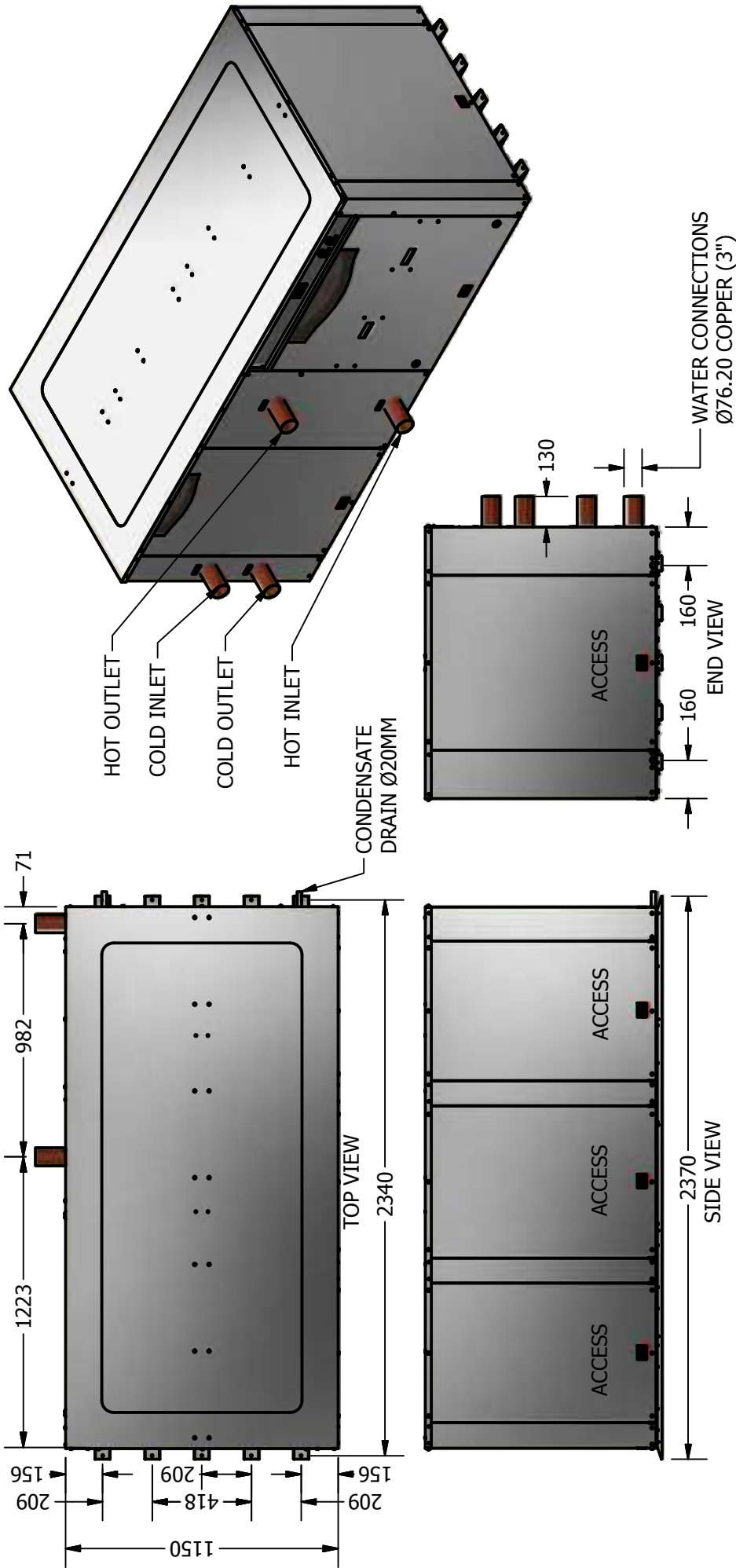


UNIT CLEARANCES	
Direction	Description / Minimum Clearance Required
1	Plain Back / 200mm
2	Side Access / 850mm
3	Compressor Access / Water / 850mm
4	Side Access / 200mm
5	Top - Height Clearance / 500mm

Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT

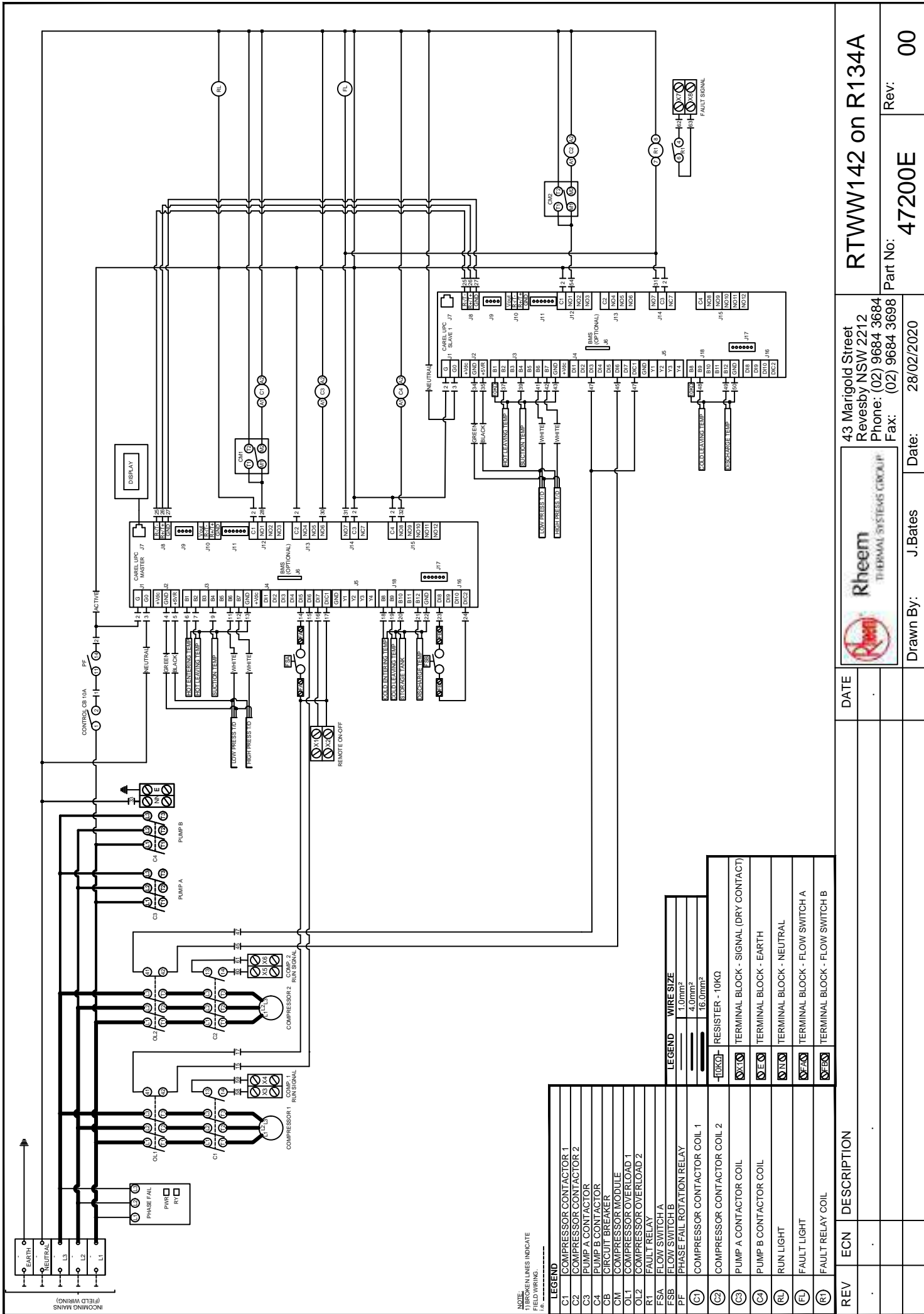


**Manufactured In Australia by Rheem Thermal Systems Group**  
Unit specifications subject to change without notice. ABN 28 062 383 224



		SHEET 1 OF 3	
		RT W2W HW HP 142kW R134A	
Description:	RTWW142SDS-DQ-1	Rev.	
Part No:		Date:	27/02/2020
Material:		Checked By:	JPB
Drawn By:		General Tolerance:	Sheetmetal - Cut Size - ± 0.5mm, Angle - ± 0.5°, Bend size - ± 0.3mm Tubes - Dimensions +2, Angle ±2
Scale:	N.T.S		

REV	ECN	DESCRIPTION	DATE



NOTE: DOTTED LINES INDICATE FIELD WIRING.  
I.E. TERMINALS

LEGEND	WIRE SIZE
C1	1.0mm <sup>2</sup>
C2	4.0mm <sup>2</sup>
C3	16.0mm <sup>2</sup>
C4	RESISTOR - 10KΩ
FL	TERMINAL BLOCK - SIGNAL (DRY CONTACT)
FL	TERMINAL BLOCK - EARTH
FL	TERMINAL BLOCK - NEUTRAL
FL	TERMINAL BLOCK - FLOW SWITCH A
FL	TERMINAL BLOCK - FLOW SWITCH B

REV	ECN	DESCRIPTION

43 Marigold Street  
Revesby NSW 2212  
Phone: (02) 9684 3684  
Fax: (02) 9684 3698

RTWW142 on R134A  
Part No: 47200E  
Rev: 00

Drawn By: J.Bates  
Date: 28/02/2020



**HOT WATER HEAT PUMP SPECIFICATIONS**

Single wall heat exchanger condenser / Rheem IQ control	RTWW176SDS-DQ-1
Double wall heat exchanger condenser / Rheem IQ control	RTWW176SDV-DQ-1

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 - 415 Volts / 3 Phase / 50 Hz
Full Load / Locked Rotor (Amps Per Phase)	92.2 FLA / 310 LRA
Min. Circuit Size	120.0 Amps
Refrigerant	R134a
Refrigeration effect	Heating Cooling
Nominal capacity	175.58 kW 140.93 kW
Power input	34.64 kW
COP	5.07 COP 4.07 COP
Combined COP	9.14 COP
Noise Level	64 dBa @ 3 m
Rated Load Amps @ 10°C SST / 50°C SCT	62.8 Amps

**TECHNICAL DATA**

<b>Compressor</b>	
Make / Type	Copeland / Scroll 20105
Number Per Unit	2
FLA (Full Load Amps)	46.1 Amps
Voltage / Phase	380 - 415 / 3
Pole/RPM	2/2,900

**HEAT EXCHANGER (Water Side)**

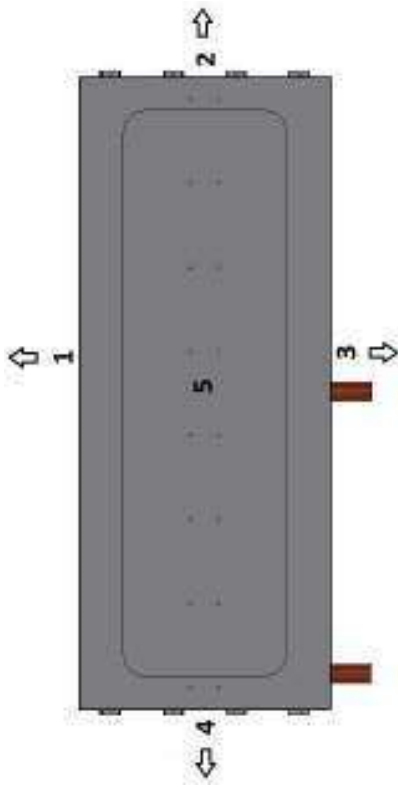
Type of Water Tube	Single / Double Wall	<b>Hot Side (condenser)</b>	<b>Cold Side (Evaporator)</b>
Design	Shell & Tube / Co-axial	Single Wall	Single Wall
Flow Rate Excl. By Pass	7.00 L/s	Shell & Tube	Shell & Tube
Max. Outlet Water Temp	70°C		6.74 L/s
Min. Outlet Water Temp	N/A		N/A
Design Pressure Drop			7 °C
Max. Operating Pressure			50 kPa
			2,450 kPa

**GENERAL INFORMATION**

Water Connections	76.2mm (3") Copper
Drain	20mm aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. shipping weight	825 kg
Size L x W x H - RTWW176SDS-DQ-1	2370 mm x 1150 mm x 1200 mm
Size L x W x H - RTWW176SDV-DQ-1	1650 mm x 1800 mm x 1200 mm

**COP TABLE**

Hot Water Out °C	Cold Water In °C						
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	35 °C
45 °C	141.33 kW 4.17 COP	150.39 kW 4.41 COP	155.13 kW 4.54 COP	165.04 kW 4.79 COP	175.58 kW 5.07 COP	204.83 kW 5.81 COP	238.66 kW 6.62 COP
50 °C	139.29 kW 3.79 COP	148.01 kW 4.00 COP	152.56 kW 4.11 COP	162.09 kW 4.35 COP	172.21 kW 4.59 COP	200.28 kW 5.26 COP	232.75 kW 6.01 COP
55 °C	136.94 kW 3.37 COP	145.23 kW 3.55 COP	149.56 kW 3.65 COP	158.62 kW 3.85 COP	168.22 kW 4.06 COP	194.85 kW 4.64 COP	225.64 kW 5.30 COP
60 °C	135.21 kW 3.07 COP	143.17 kW 3.23 COP	147.32 kW 3.32 COP	156.00 kW 3.49 COP	165.20 kW 3.68 COP	190.69 kW 4.19 COP	220.16 kW 4.79 COP
65 °C	133.21 kW 2.74 COP	140.77 kW 2.88 COP	144.71 kW 2.95 COP	152.93 kW 3.10 COP	161.64 kW 3.26 COP	185.72 kW 3.70 COP	213.56 kW 4.21 COP
70 °C	131.40 kW 2.46 COP	138.57 kW 2.57 COP	142.30 kW 2.63 COP	150.07 kW 2.76 COP	158.29 kW 2.89 COP	181.00 kW 3.26 COP	207.23 kW 3.70 COP



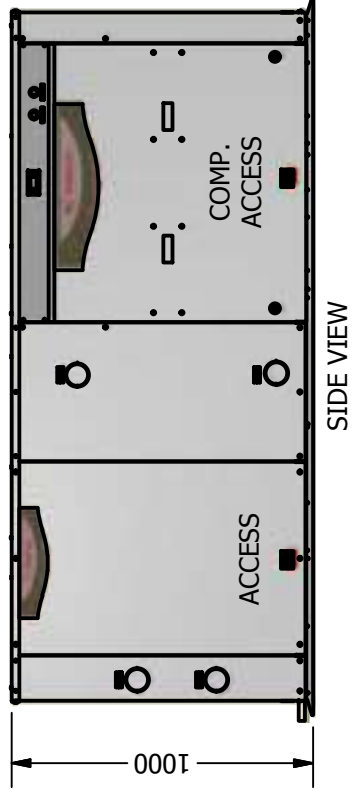
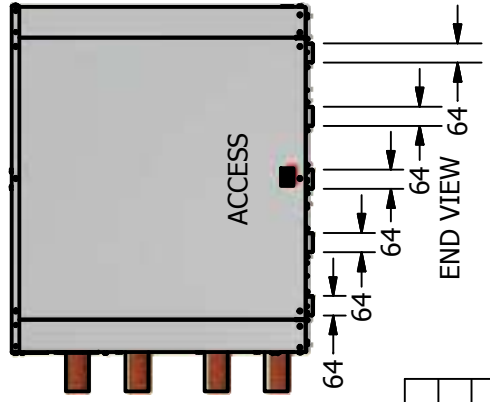
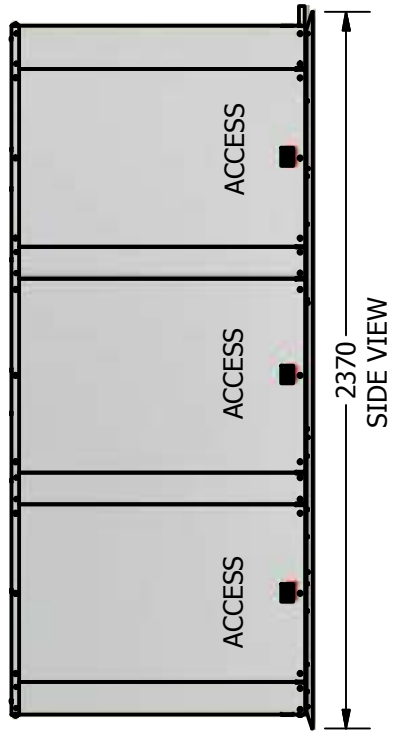
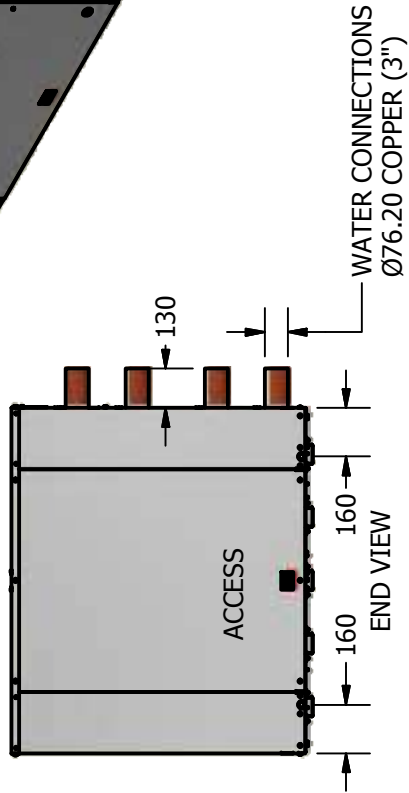
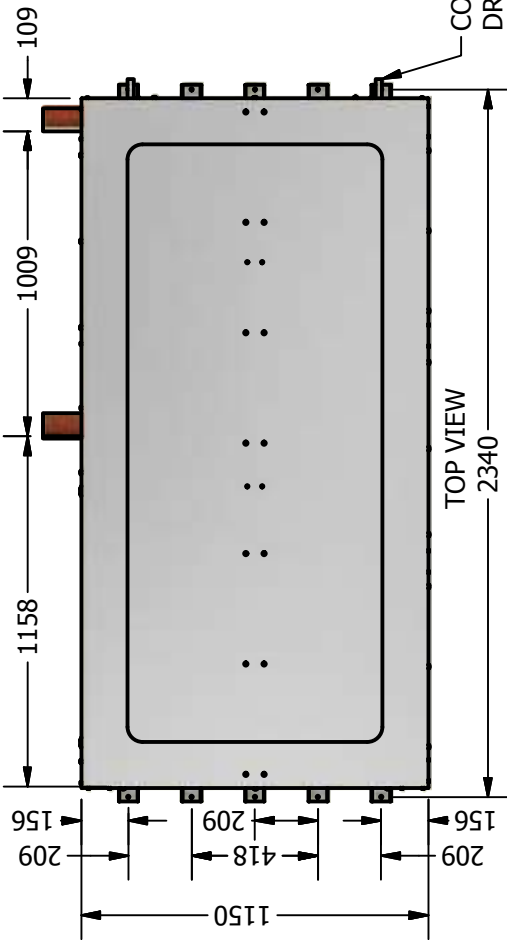
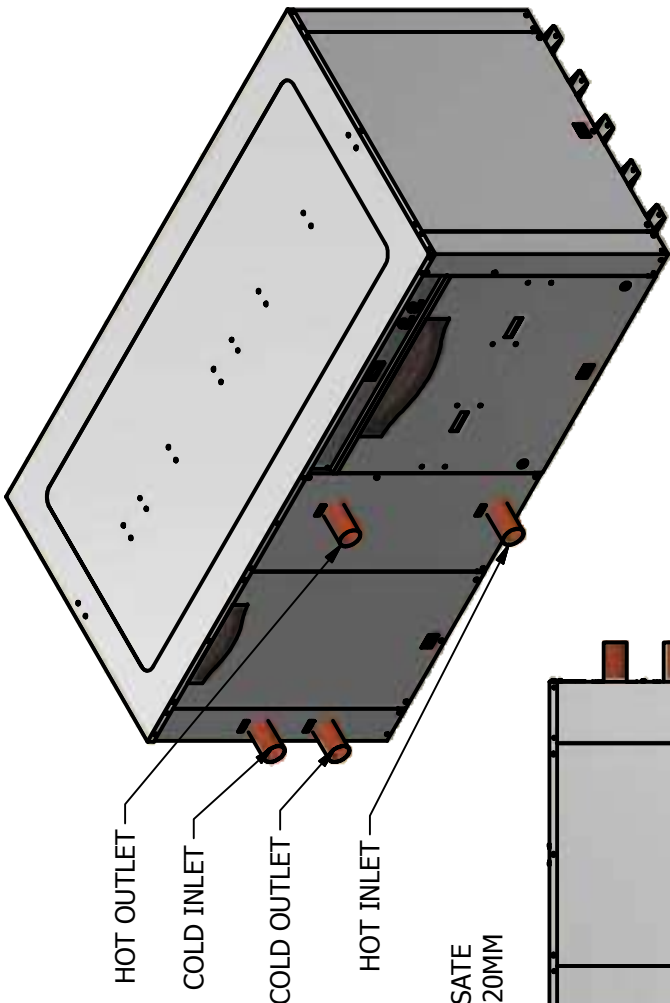
UNIT CLEARANCES		
Direction	Description	Minimum Clearance Required
1	Plain Back	200mm
2	Side Access	850mm
3	Compressor Access / Water	850mm
4	Side Access	200mm
5	Top - Height Clearance	500mm

Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT



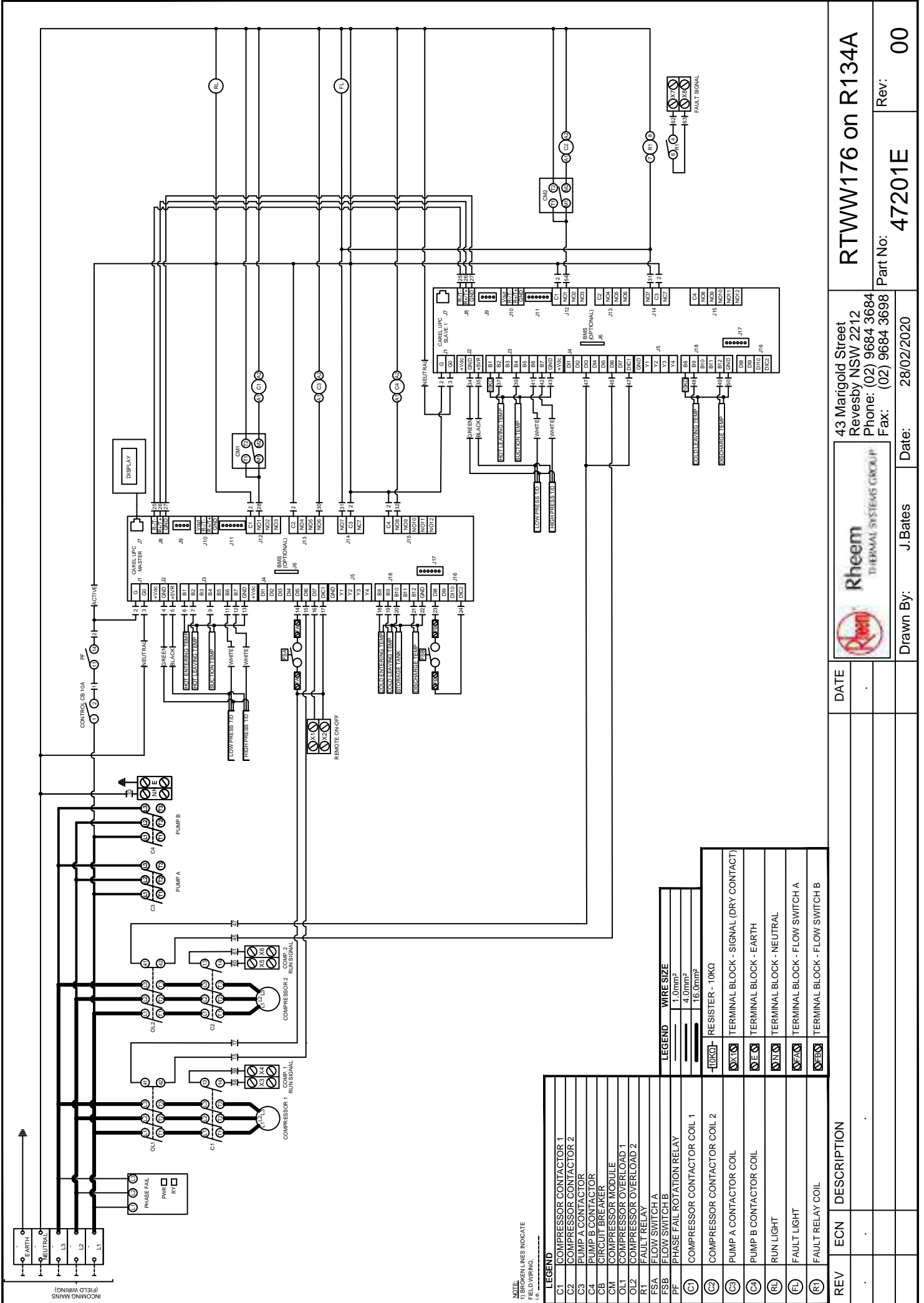
**Manufactured In Australia by Rheem Thermal Systems Group**

Unit specifications subject to change without notice. ABN 28 062 383 224



		SHEET 1 OF 3	
		RT W2W HW HP 176kW R134A	
<b>Description:</b>	RTWW176SDS-DQ-1	<b>Rev.</b>	
<b>Part No:</b>		<b>Date:</b>	26/02/2020
<b>Material:</b>		<b>Checked By:</b>	JPB
<b>Drawn By:</b>		<b>General Tolerance:</b>	Sheetmetal - Cut Size - ±0.5mm, Angle - ±0.5°, Bend size - ±0.3mm Tubes - Dimensions +2, Angle ±2
			<b>Scale:</b> N.T.S

REV	ECN	DESCRIPTION	DATE



NOTE  
 1. SIGNAL LINES INDICATE FIELD WIRING.  
 1.6

LEGEND	WIRE SIZE
C1	1.0mm <sup>2</sup>
C2	4.0mm <sup>2</sup>
C3	16.0mm <sup>2</sup>
C4	RESISTOR - 10KΩ
RL	TERMINAL BLOCK - SIGNAL (DRY CONTACT)
FL	TERMINAL BLOCK - EARTH
R	TERMINAL BLOCK - NEUTRAL
	TERMINAL BLOCK - FLOW SWITCH A
	TERMINAL BLOCK - FLOW SWITCH B

REV	ECN	DESCRIPTION

43 Marigold Street  
 Revesby NSW 2212  
 Phone: (02) 9684 3684  
 Fax: (02) 9684 3698

Drawn By: J. Bates  
 Date: 28/02/2020

RTWW176 on R134A  
 Part No: 47201E  
 Rev: 00

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# RHEEM THERMAL

EASY INTEGRATION – HIGHER EFFICIENCY – LONGER LASTING  
DESIGNED AND MANUFACTURED BY RHEEM



REV: APRIL 21

## CONTACT US AT

Phone (Sales): +65-6872-1161

Phone (Service): +65-6872-2043

Email: [RheemAsia@Rheem.com](mailto:RheemAsia@Rheem.com)

Visit us at [www.RheemAsia.com](http://www.RheemAsia.com)

*Material and data subject to change without notice due to ongoing product improvements.*

