



The new degree of comfort.®

# Commercial Heat Pump



## A2W

Heat water using free energy from the air using our Air-to-Water models



## W2W

Heat water using waste heat from a chiller using our Water-to-Water models





INTEGRATED AIR & WATER

**These high efficiency models offer:**

- Reduced running costs and CO2 emissions for building owners
- High quality components for durability
- Rheem iQ control provides on board diagnostics, system configuration and optional high level BMS connectivity via Modbus or BACnet

**FOR WHERE ENERGY EFFICIENCY IS ESSENTIAL**

HEAT PUMP | HOT WATER TO **65°C** | SAVE UP TO **75%** ENERGY

**HIGHLY EFFICIENT**

On average, 25% of the operating cost of an electric water heater. Delivers hot water up to 65°C, with a system Coefficient of Performance (COP) of up to 4.37<sup>1</sup> and 4.95<sup>2</sup>. This makes it substantially cheaper to run than electric, natural gas or propane. Highly efficient option for fuel redundancy. Heat pumps can also be used as a preheat to other boost fuel types.

**LOW AMBIENT OPERATION**

Reverse cycle defrost allows continued performance in low ambient temperature conditions.



**A2W**



**W2W**

**65 °C hot water in a super-efficient, super-compact package.**

## **OPERATING PRINCIPLES:**

Heat pumps capture and then transfer energy stored in the form of heat from air and water into heating energy. Naturally created energy in the surrounding air or waste heat from the air conditioning system is captured by an evaporator and then boosted by a compressor to a high temperature, at which point it is transferred via a condenser to heat water in a storage tank. This process is highly efficient.

The system saves energy, depending on the COP and operating conditions up to four unit (A2W) or six units (W2W) of heating energy is gained for only one unit of electrical input energy.

The Rheem Commercial Heat Pump are manufactured for the following heat source options:

### **AIR-TO-WATER HEAT PUMPS:**

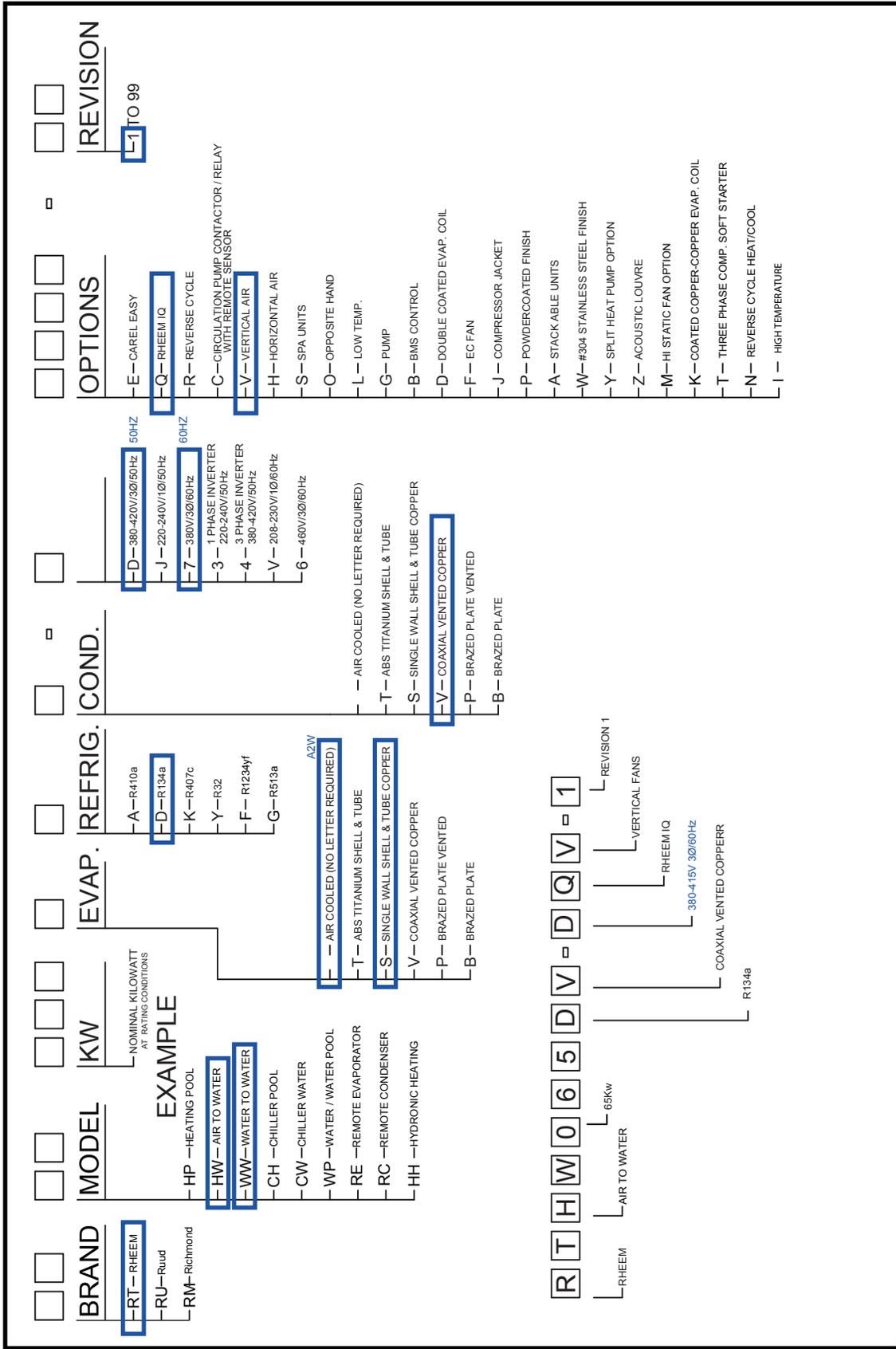
In Air-to-Water design, the Rheem Heat Pump transfers heat from the air, providing the advantages of a solar water heater without the need for direct solar gain to a collector.

The technology is perfectly suited to temperate climates where the warm temperatures and high humidity translate to highly-efficient water heating. However, while the rate of transfer is highest on warm days, the Rheem Heat Pump design is versatile and heat gain is made even in low ambient temperatures providing the potential for year-round heating across a range of climates.

### **WATER-TO-WATER HEAT PUMPS:**

The Rheem Water-to-Water Heat Pump is a compact and quiet option where a water source is available. The choice of water source can vary, from groundwater to the ocean, to the condensing loop of a building or the outlet water from a cooling plant. A regular, consistent water source produces a stable high efficiency output, with the potential benefit of providing the dual function of hot water and chilled water supply

# NOMENCLATURE



## STANDARD MODEL NUMBERS & DATA:

A2W Standard Model For 60Hz Market				
Air to Water Heat Pump	Heating Capacity (KW)	Power Input (rated) KW	Max Outlet Temperature	"Dimensions (mm) Length x Width x Height"
RTHW075 DV-7QV-1	75	15.35	65	2180 x 1002 x 1326
RTHW113 DV-7QV-1	113	20.04	65	2180 x 1134 x 1438
RTHW150 DV-7QV-1	150	31.11	65	2407 x 1258 x 1933
RTHW180 DV-7QV-1	185	40.54	65	2217 x 1967 x 2282
RTHW220 DV-7QV-1	225	50.26	65	3463 x 1963 x 2348

W2W Standard Model For 60Hz Market				
Air to Water Heat Pump	Heating Capacity (KW)	Power Input (rated)	Max Outlet Temperature	"Dimensions (mm) Length x Width x Height"
RTWW070 SDS-7Q-1	70	14.22	70	2270 x 805 x 1000
RTWW106 SDS-7Q-1	107	21.41	70	1650 x 1800 x 1200
RTWW140 SDS-7Q-1	141	28.45	70	1650 x 1800 x 1200
RTWW175 SDS-7Q-1	174	35.45	70	2200 x 2400 x 1204
RTWW210 SDS-7Q-1	211	42.67	70	2200 x 2400 x 1270
RTWW280 SDS-7Q-1	282	56.9	70	3450 x 2250 x 1250

### Notes:

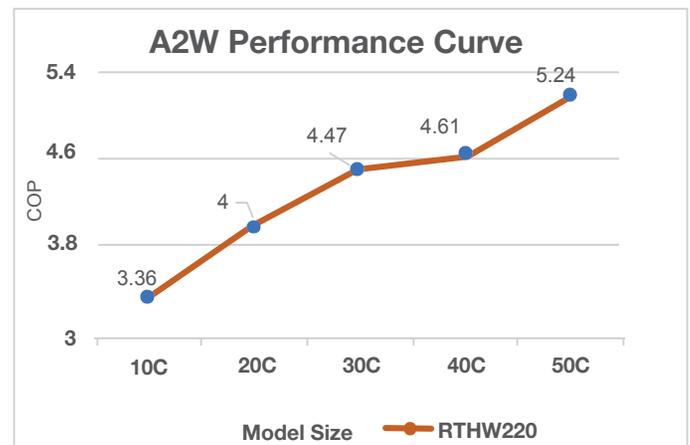
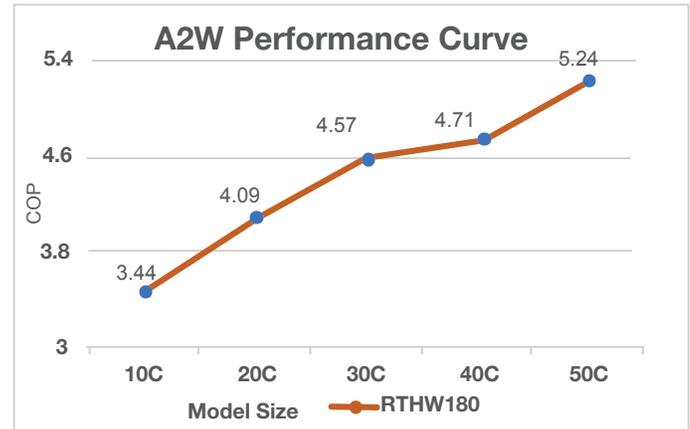
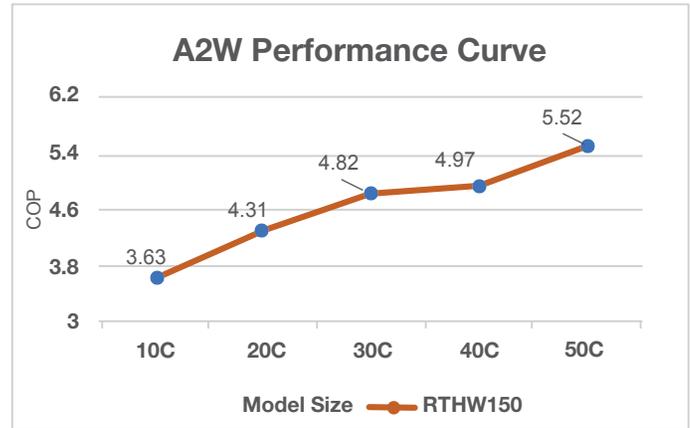
The above capacities are at rated condition as following:

<sup>1</sup>For A2W at 30 °C Ambient Temperature with water out temperature of 45°C (Max: 65°C)

<sup>2</sup>For W2W at 20 °C Cold water in Temperature with water out temperature of 45 °C (Max: 70°C)

Voltage-Phase: 380 – 415V 3 Phase, R134a refrigerant, Coaxial Vented Copper condenser / Rheem IQ Control

## A2W EACH MODEL COP AT VARIOUS AMBIENT TEMPERATURES

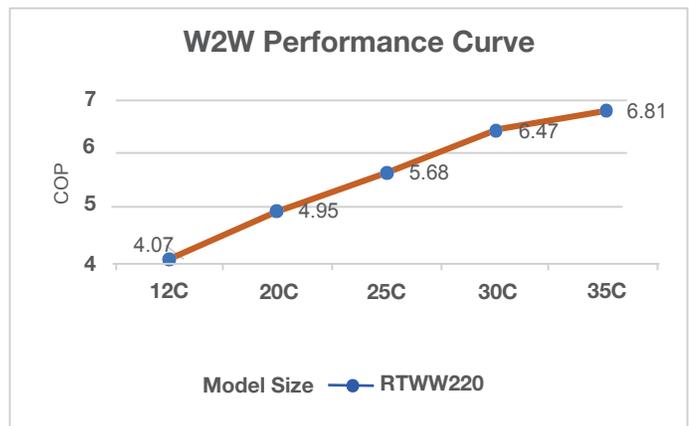
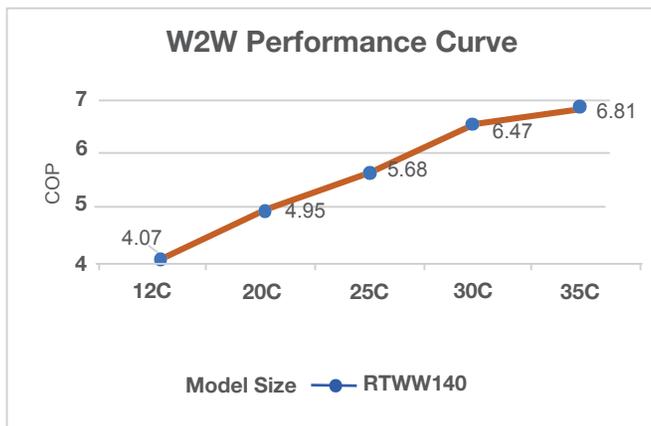
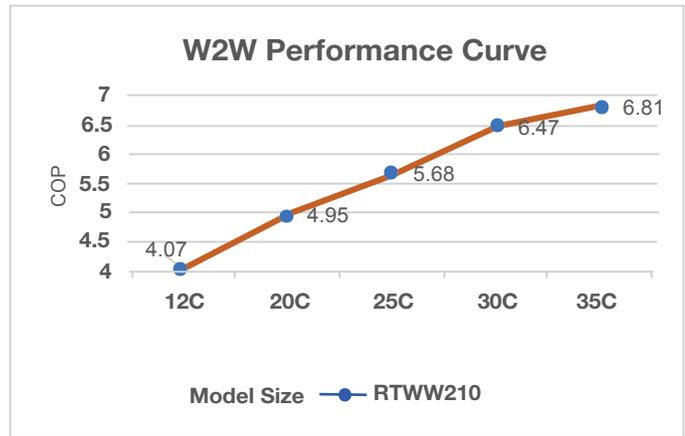
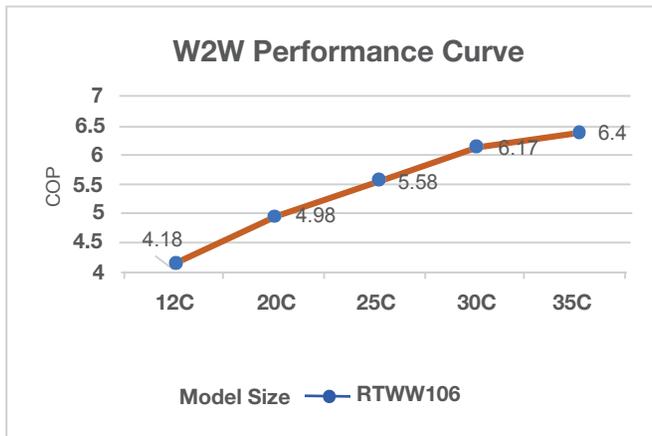
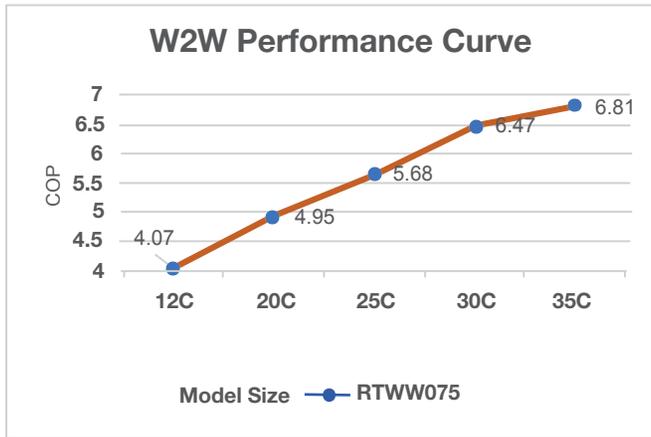


### Notes:

The above COP values are at water out temperature of 45°C

For A2W nominal capacities are shown at 30 °C ambient temperature and water out temperature of 45°C (Max: 65°C)

## W2W EACH MODEL COP AT VARIOUS COLD WATER IN TEMPERATURES

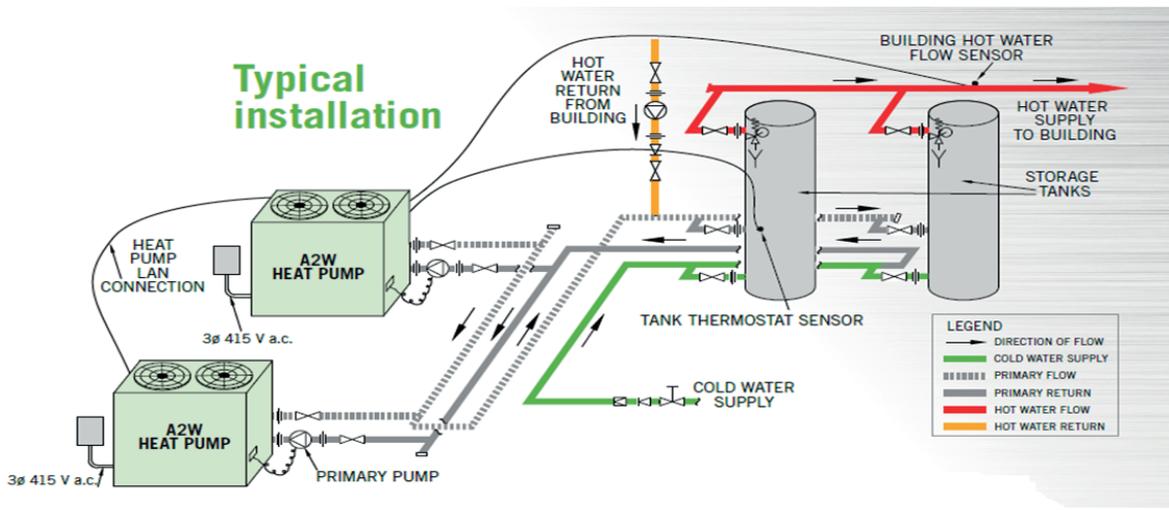


Notes:

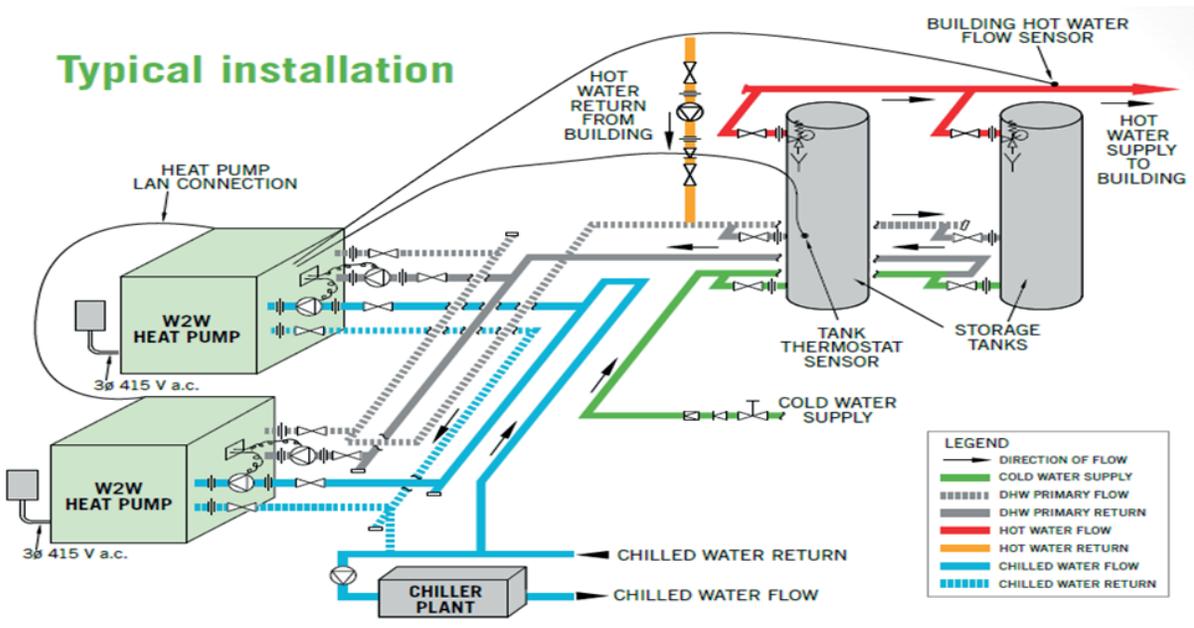
The above COP values are at water out temperature of 45°C

For W2W Nominal capacities are shown at 20 °C Cold water in Temperature with water out temperature of 45 °C (Max: 70°C)

## A2W Schematic Layout



## W2W Schematic Layout



### Notes:

**What can be supplied by Rheem:** Standard Heat Pump units with standard IQ controller.

**What need to be supplied by others at site:** Pumps, Storage tank, heating elements, complete piping network with valves and all accessories, any additional control functions, wirings, drain points etc

## **CONTROL FEATURES:**

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Rheem Commercial Heat Pump comes with exclusive IQ Controller which is a critical part of the system. The IQ controller enables energy savings by helping optimal operation with higher efficiencies across a broad range of hot water application.

### **TEMPERATURE CONTROL**

Enables to control single point or as sophisticated as differing time-based differentials or dead band operation, with potential to link to compressor staging for variable loads in mechanical hot water heating.

### **ADVANCED OPERATIONAL CONTROL:**

Maintain operation within correct parameters. The controller is fed information on operation and performance for both the water and refrigeration aspects of the system. Sensors provide data on water inlet and outlet temperatures, Refrigeration pressure transducers and sensors constantly monitor suction and discharge pressures and temperatures.

Evaporator coil sensors and ambient air temperature sensing allows specialist programming to optimize efficiency based on outside conditions.

## **SAFETY AND SERVICEABILITY:**

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Compressor operation, entering and leaving water temperatures and alarm status are immediately visible. Quick access for alarm attention is made from the Home Screen.

The dedicated Service Module within the IQ Controller provides a unique and broad array of information to aid service and maintenance.

### **SAVING ELECTRICITY COSTS**

Exclusive programming logic to optimize lowered-priced times of operation by slight movements of the target water temperature

### **SAVING PUMP COSTS**

The IQ controller can control power to the water pump, In-line with the run profile determined by the intelligent controller to minimize heating costs.

### **USER INTEGRATION FEATURES:**

The IQ controller is designed to integrate with Building Management Systems

The IQ controller has BMS capability via BACnet on MS/TP or on RS485, BACnet on TCP/IP via web server (via Ethernet LAN connection) or Modbus serial card allowing direct interrogation, status checking and performance data review.

# APPLICATION:

## DOMESTIC HOT WATER:

Water heating is a significant user of energy and can account for 25% of total household energy consumption giving a clear incentive to convert to a renewable heating technology.



## MECHANICAL AND PROCESS WATER HEATING AND CHILLING:

The highly efficient Heat Pump is used to provide electrically generated low-cost hot water in many specialist applications, ranging from hospitals, large office buildings and supermarkets to more diverse uses in manufacturing, mining and primary industry. Mechanical hot water or chilled water is typically supplied to fan coils for space heating or cooling and for process often the hot water is used directly.



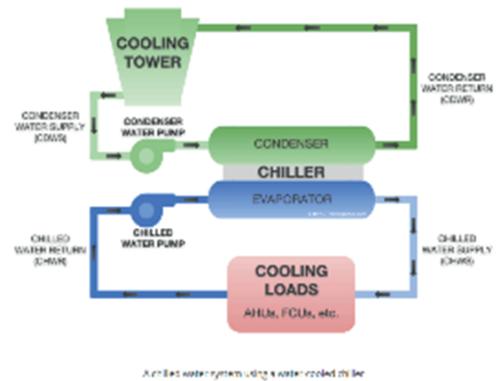
## HIGH-TEMPERATURE HOT WATER:

The specialist focus and research capability of our manufacturing base means that the heat pump can provide high efficiency hot water up to 70°C leaving water temperature (W2W)



## HOT WATER TO CHILLED WATER:

When coupled to a building's chilled water ring main, this Water-to-Water heat pump provides energy efficient water heating whilst simultaneously providing the by-product of a chilled water supply.



## HYDRONIC HEATING:

Typically providing hot water at mid-range temperatures for home and building comfort, heating via either a hydronic loop or radiators, this range of high-efficiency heat pumps have also been used in primary industry applications such as piggeries, poultry farming and greenhouses.

**AQUACULTURE WATER HEATING AND CHILLING:**

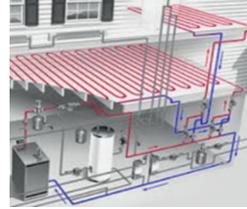
The client base using our technology includes market leading commercial operators, international government research facilities, and a range of seafood processing industries (e.g. kingfish, lobster, barramundi and abalone).

**RESIDENTIAL, COMMERCIAL AND AQUATIC CENTRE POOL HEATING:**

The Rheem technology platform is internationally recognized in this field. Many prestigious international projects are included in a proud history including heating and cooling for the Pan Pacific, Commonwealth Games, Asian Games and Pacific Games.

**ELITE SPORTS:**

The Rheem Heat Pump is a feature of many major sports' stadiums, providing heating and chilling of water for elite athlete training and recovery. In water-to-water design, these units simultaneously provide heating and chilling to separate recovery ice baths and hot spas.



## AIR-TO-WATER HEAT PUMP SPECIFICATIONS

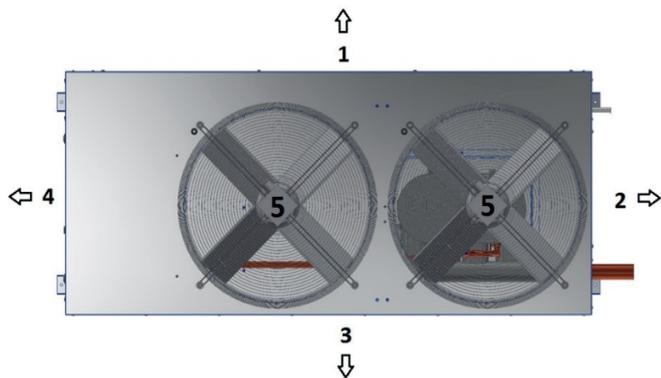
Model No.	RTHW075
Brand	Rheem

ELECTRICAL INPUT		
Voltage/Phase	380 Volts / 3 Phase / 60 Hz	
Full Load Amps	39.8 Amps	
Locked Rotor (Amps Per Phase)	290.0 Amps	
Min. Circuit Breaker Size	50.0 Amps	
Refrigerant	R134a	
Nominal Heating Capacity	74.93 kW	
Power Input	15.35 kW	
COP	4.88 COP	
Noise Level	69 dBa @ 3 m	
Rated Load Amps @ 12°C SST / 51°C SCT	29.02 Amps	
TECHNICAL DATA		
	Compressor	Fan
SAP Number	20139	21166
Type	Scroll	Axial 630
Number Per Unit	1	2
FLA (Full Load Amps, each)	32.7 Amps	1.33 Amps
Voltage / Phase	380 / 3 / 60	
Pole/RPM	2 / 3,500	6 / 1120
Air Flow	N/A	5280 L/s
External Static Pressure	N/A	5 Pa
HEAT EXCHANGER (Water Side)		
Type of Water Tube	Single Wall	Double Wall
Design	Shell and Tube	Co-axial Vented
Flow Rate Excl. By Pass	2.99 L/s	
Max. Outlet Water Temp	65°C*	
Design Pressure Drop	50 kPa	
Max. Operating Pressure	2,450 kPa	
GENERAL INFORMATION		
Water Connections	65mm Table E Flange	
Drain	20mm Aluminium	
Defrost	Reverse Cycle De-ice	
Cabinet Construction	1.2mm Stucco Aluminium	
Approx. Shipping Weight	500 kg	
Size L x W x H	2180mm x 1002mm x 1326mm	
UNIT CLEARANCES		
Direction	Description	Minimum Clearance Required
1	Evaporator Coil	500mm
2	Water Connections	850mm
3	Evaporator Coil	500mm
4	Compressor Access	850mm
5	Top – Fan Discharge	3500mm

## COP TABLE

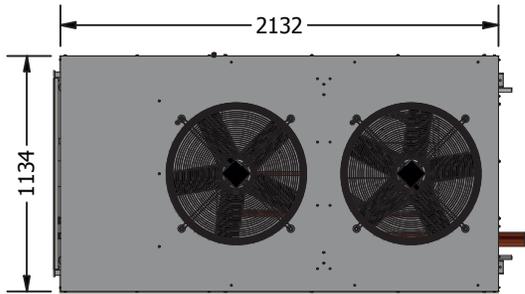
Water Out °C	Ambient Temperature °C						
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	27 °C
45 °C	42.88 kW 2.93 COP	48.54 kW 3.28 COP	54.96 kW 3.68 COP	60.33 kW 4.01 COP	66.22 kW 4.37 COP	70.45 kW 4.62 COP	72.66 kW 4.75 COP
50 °C	42.64 kW 2.70 COP	48.10 kW 3.02 COP	54.30 kW 3.38 COP	59.49 kW 3.67 COP	65.17 kW 3.99 COP	69.26 kW 4.22 COP	71.40 kW 4.34 COP
55 °C	42.46 kW 2.45 COP	47.68 kW 2.72 COP	53.59 kW 3.03 COP	58.55 kW 3.29 COP	63.98 kW 3.57 COP	67.89 kW 3.77 COP	69.94 kW 3.87 COP
60 °C	N/A	47.44 kW 2.51 COP	53.13 kW 2.79 COP	57.90 kW 3.02 COP	63.13 kW 3.27 COP	66.90 kW 3.45 COP	68.87 kW 3.54 COP
65 °C	N/A	N/A	52.69 kW 2.52 COP	57.22 kW 2.71 COP	62.20 kW 2.93 COP	65.78 kW 3.08 COP	67.66 kW 3.17 COP

Water Out °C	Ambient Temperature °C						
	30 °C	35 °C	40 °C	46 °C	48 °C	50 °C	52 °C
45 °C	74.93 kW 4.88 COP	77.28 kW 5.02 COP	77.52 kW 5.03 COP	82.17 kW 5.30 COP	84.73 kW 5.44 COP	87.35 kW 5.59 COP	90.05 kW 5.74 COP
50 °C	73.60 kW 4.46 COP	75.87 kW 4.58 COP	76.10 kW 4.59 COP	80.60 kW 4.84 COP	83.07 kW 4.97 COP	85.61 kW 5.10 COP	88.23 kW 5.24 COP
55 °C	72.04 kW 3.98 COP	74.22 kW 4.09 COP	74.44 kW 4.10 COP	78.75 kW 4.31 COP	81.12 kW 4.43 COP	83.56 kW 4.55 COP	86.06 kW 4.67 COP
60 °C	70.90 kW 3.63 COP	72.99 kW 3.73 COP	73.20 kW 3.74 COP	77.37 kW 3.93 COP	79.65 kW 4.04 COP	82.01 kW 4.15 COP	84.43 kW 4.26 COP
65 °C	69.60 kW 3.25 COP	71.59 kW 3.33 COP	71.80 kW 3.34 COP	75.77 kW 3.51 COP	77.95 kW 3.60 COP	80.20 kW 3.70 COP	82.51 kW 3.79 COP

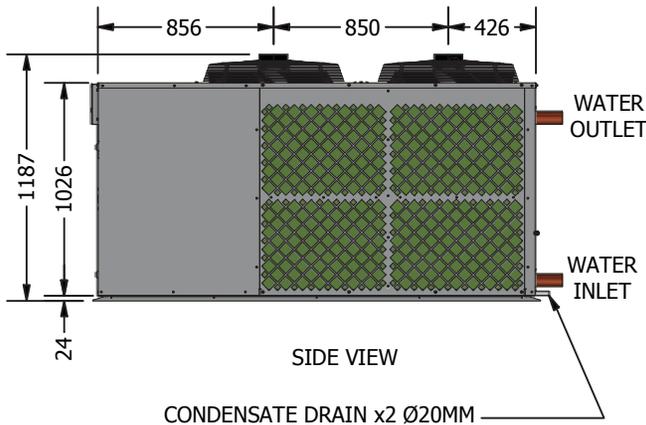


When the units are placed side by side, allow 2000mm distance between evaporator coils.  
 Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out  
 \* Max outlet temperature when ambient is above 10°C

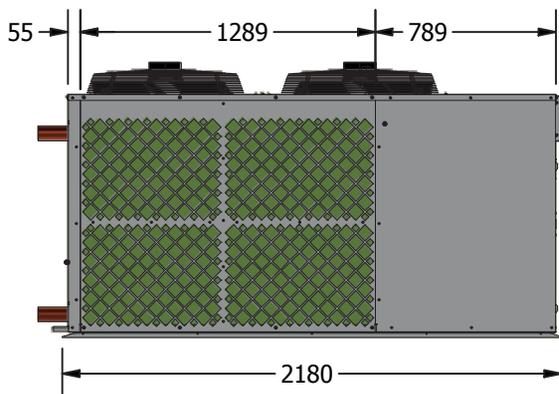
**MODEL NO: RTHW075**



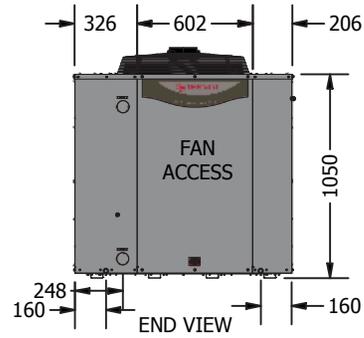
TOP VIEW



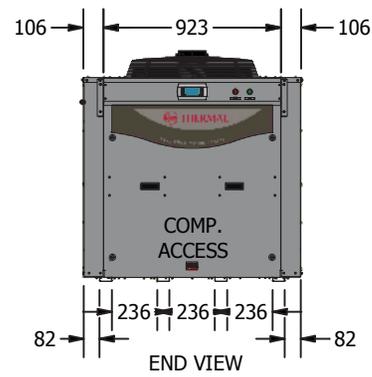
SIDE VIEW



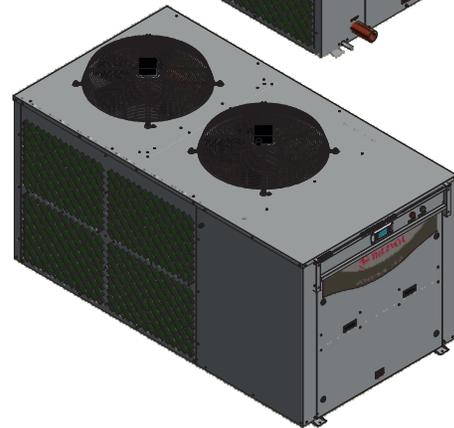
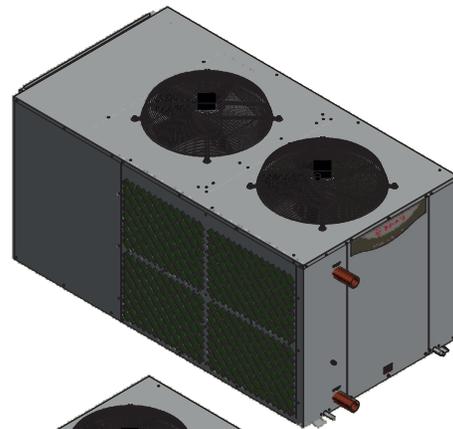
SIDE VIEW



END VIEW



END VIEW



## AIR-TO-WATER HEAT PUMP SPECIFICATIONS

Model No.	RTHW113
Brand	Rheem

ELECTRICAL INPUT	
Voltage/Phase	380 Volts / 3 Phase / 60 Hz
Full Load Amps	74.6 Amps
Locked Rotor (Amps Per Phase)	196.0 Amps
Min. Circuit Breaker Size	100.0 Amps
Refrigerant	R134a
Nominal Heating Capacity	112.69 kW
Power Input	24.04 kW
COP	4.69 COP
Noise Level	69 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	53.5 Amps

TECHNICAL DATA		
	Compressor	Fan
SAP Number	20110	21156
Type	Scroll	Axial 710
Number Per Unit	2	2
FLA (Full Load Amps, each)	35.6 Amps	1.73 Amps
Voltage / Phase	380 / 3 / 60	
Pole/RPM	2/3,500	6/1030
Air Flow	N/A	7800 L/s
External Static Pressure	N/A	7 Pa

HEAT EXCHANGER (Water Side)		
Type of Water Tube	Single Wall	Double Wall
Design	Shell and Tube	Co-axial Vented
Flow Rate Excl. By Pass	4.49 L/s	
Max. Outlet Water Temp	65°C / 70°C*	
Design Pressure Drop	50 kPa	
Max. Operating Pressure	2,450 kPa	

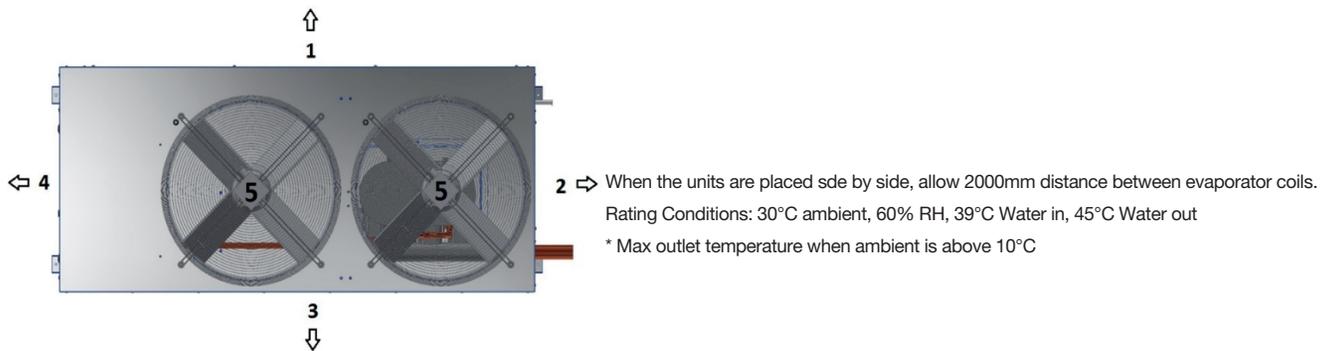
GENERAL INFORMATION	
Water Connections	75mm Table E Flange
Drain	20mm Aluminium
Defrost	Reverse Cycle De-ice
Cabinet Construction	1.2mm Stucco Aluminium
Approx. Shipping Weight	600 kg
Size L x W x H	2180mm x 1134mm x 1438mm

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

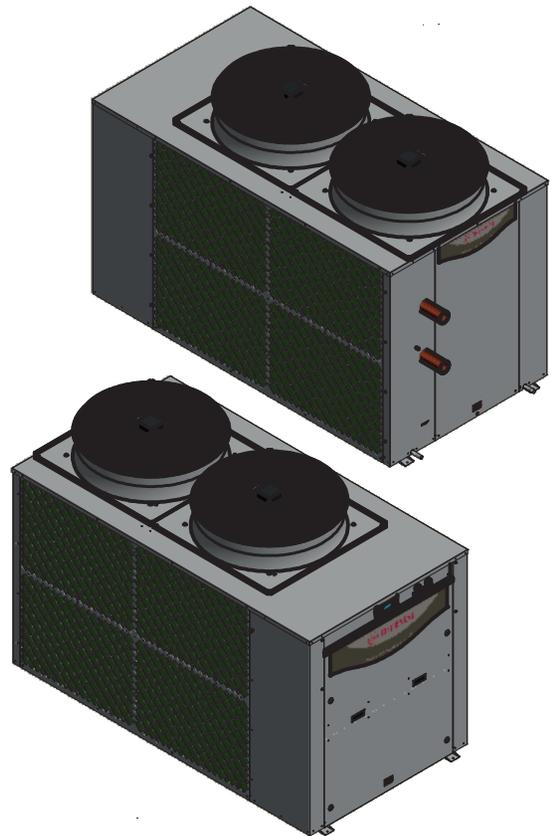
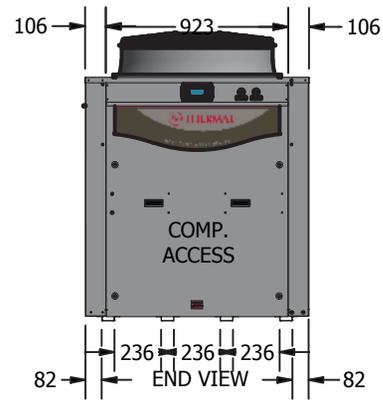
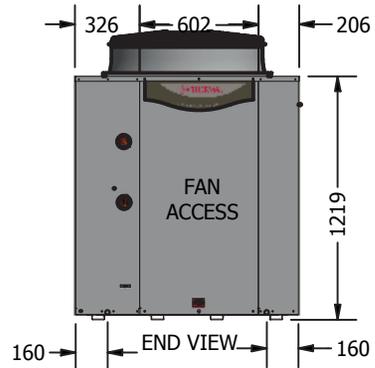
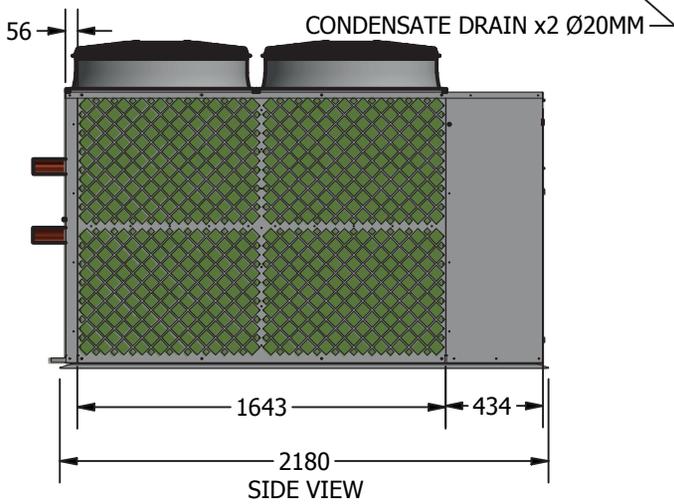
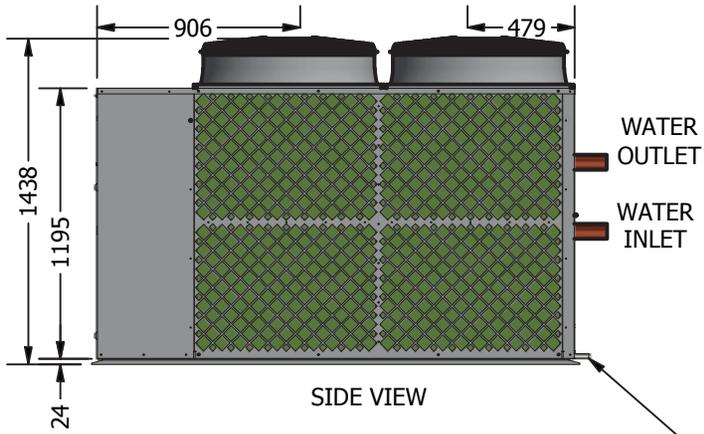
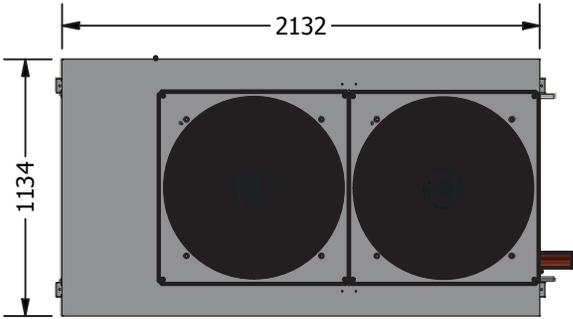
### COP TABLE

Water Out °C	Ambient Temperature °C						
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	27 °C
45 °C	66.81 kW 2.90 COP	75.49 kW 3.26 COP	84.99 kW 3.64 COP	92.69 kW 3.94 COP	100.90 kW 4.26 COP	106.67 kW 4.47 COP	109.65 kW 4.58 COP
50 °C	65.61 kW 2.64 COP	74.11 kW 2.97 COP	83.40 kW 3.32 COP	90.93 kW 3.61 COP	98.96 kW 3.90 COP	104.61 kW 4.10 COP	107.52 kW 4.20 COP
55 °C	63.94 kW 2.34 COP	72.20 kW 2.63 COP	81.23 kW 2.95 COP	88.55 kW 3.21 COP	96.36 kW 3.47 COP	101.85 kW 3.66 COP	104.68 kW 3.75 COP
60 °C	62.45 kW 2.11 COP	70.52 kW 2.38 COP	79.33 kW 2.67 COP	86.48 kW 2.91 COP	94.10 kW 3.15 COP	99.47 kW 3.32 COP	102.24 kW 3.41 COP
65 °C	N/A	68.18 kW 2.09 COP	76.72 kW 2.35 COP	83.65 kW 2.56 COP	91.04 kW 2.78 COP	96.24 kW 2.94 COP	98.93 kW 3.01 COP
70 °C	N/A	N/A	N/A	N/A	87.67 kW 2.44 COP	92.71 kW 2.58 COP	95.31 kW 2.65 COP

Water Out °C	Ambient Temperature °C						
	30 °C	35 °C	40 °C	46 °C	48 °C	50 °C	52 °C
45 °C	112.69 kW 4.69 COP	115.79 kW 4.80 COP	116.11 kW 4.81 COP	122.20 kW 5.02 COP	125.50 kW 5.13 COP	128.87 kW 5.24 COP	132.30 kW 5.35 COP
50 °C	110.50 kW 4.30 COP	113.54 kW 4.41 COP	113.84 kW 4.42 COP	119.80 kW 4.61 COP	123.04 kW 4.72 COP	126.33 kW 4.82 COP	129.70 kW 4.93 COP
55 °C	107.57 kW 3.84 COP	110.53 kW 3.94 COP	110.83 kW 3.95 COP	116.63 kW 4.13 COP	119.77 kW 4.23 COP	122.98 kW 4.33 COP	126.25 kW 4.43 COP
60 °C	105.06 kW 3.50 COP	107.95 kW 3.59 COP	108.24 kW 3.60 COP	113.91 kW 3.77 COP	116.98 kW 3.86 COP	120.12 kW 3.95 COP	123.32 kW 4.04 COP
65 °C	101.67 kW 3.09 COP	104.48 kW 3.18 COP	104.76 kW 3.18 COP	110.26 kW 3.34 COP	113.24 kW 3.42 COP	116.29 kW 3.51 COP	119.40 kW 3.59 COP
70 °C	97.97 kW 2.72 COP	100.69 kW 2.79 COP	100.96 kW 2.80 COP	106.29 kW 2.94 COP	109.18 kW 3.02 COP	112.14 kW 3.10 COP	115.15 kW 3.17 COP



**MODEL NO: RTHW113**



## AIR-TO-WATER HEAT PUMP SPECIFICATIONS

Model No.	<b>RTHW150</b>
Brand	<b>Rheem</b>

ELECTRICAL INPUT	
Voltage/Phase	380 Volts / 3 Phase / 60 Hz
Full Load Amps	80.5 Amps
Locked Rotor (Amps Per Phase)	290.0 Amps
Min. Circuit Breaker Size	100.0 Amps
Refrigerant	R134a
Nominal Heating Capacity	149.87 kW
Power Input	31.11 kW
COP	4.82 COP
Noise Level	69 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	56.20 Amps

TECHNICAL DATA		
	Compressor	Fan
SAP Number	20139	21156
Type	Scroll	Axial 710
Number Per Unit	2	2
FLA (Full Load Amps, each)	38.5 Amps	1.73 Amps
Voltage / Phase	380 / 3 / 60	
Pole/RPM	2 / 3,500	6/1030
Air Flow	N/A	7800 L/s
External Static Pressure	N/A	67 Pa

HEAT EXCHANGER (Water Side)		
Type of Water Tube	Single Wall	Double Wall
Design	Shell and Tube	Co-axial Vented
Flow Rate Excl. By Pass	5.97 L/s	
Max. Outlet Water Temp	65°C*	
Design Pressure Drop	50 kPa	
Max. Operating Pressure	2,450 kPa	

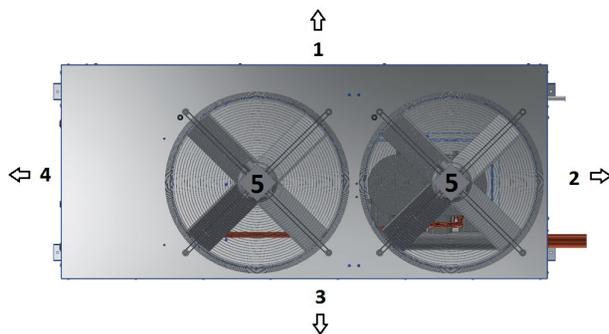
GENERAL INFORMATION	
Water Connections	75mm Table E Flange
Drain	20mm Aluminium
Defrost	Reverse Cycle De-ice
Cabinet Construction	1.2mm Stucco Aluminium
Approx. Shipping Weight	1180 kg
Size L x W x H	2407mm x 1258mm x 1933mm

UNIT CLEARANCES		
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

### COP TABLE

Water Out °C	Ambient Temperature °C						
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	27 °C
45 °C	85.76 kW 2.89 COP	97.07 kW 3.24 COP	109.91 kW 3.63 COP	120.66 kW 3.96 COP	132.43 kW 4.31 COP	140.89 kW 4.56 COP	145.32 kW 4.69 COP
50 °C	85.28 kW 2.67 COP	96.20 kW 2.98 COP	108.60 kW 3.33 COP	118.97 kW 3.63 COP	130.34 kW 3.94 COP	138.52 kW 4.17 COP	142.80 kW 4.28 COP
55 °C	84.93 kW 2.42 COP	95.36 kW 2.69 COP	107.19 kW 3.00 COP	117.10 kW 3.25 COP	127.97 kW 3.53 COP	135.79 kW 3.73 COP	139.88 kW 3.83 COP
60 °C	N/A	94.88 kW 2.49 COP	106.26 kW 2.76 COP	115.79 kW 2.99 COP	126.26 kW 3.23 COP	133.79 kW 3.41 COP	137.74 kW 3.50 COP
65 °C	N/A	N/A	105.37 kW 2.49 COP	114.43 kW 2.69 COP	124.39 kW 2.90 COP	131.57 kW 3.06 COP	135.33 kW 3.14 COP

Water Out °C	Ambient Temperature °C						
	30 °C	35 °C	40 °C	46 °C	48 °C	50 °C	52 °C
45 °C	149.87 kW 4.82 COP	154.56 kW 4.95 COP	155.03 kW 4.97 COP	164.35 kW 5.23 COP	169.45 kW 5.37 COP	174.70 kW 5.52 COP	180.10 kW 5.67 COP
50 °C	147.20 kW 4.40 COP	151.73 kW 4.53 COP	152.19 kW 4.54 COP	161.20 kW 4.78 COP	166.15 kW 4.91 COP	171.23 kW 5.04 COP	176.46 kW 5.18 COP
55 °C	144.09 kW 3.93 COP	148.43 kW 4.04 COP	148.87 kW 4.05 COP	157.50 kW 4.27 COP	162.24 kW 4.38 COP	167.11 kW 4.50 COP	172.13 kW 4.62 COP
60 °C	141.80 kW 3.60 COP	145.98 kW 3.69 COP	146.41 kW 3.70 COP	154.73 kW 3.89 COP	159.31 kW 4.00 COP	164.01 kW 4.10 COP	168.85 kW 4.21 COP
65 °C	139.20 kW 3.22 COP	143.19 kW 3.30 COP	143.59 kW 3.31 COP	151.54 kW 3.48 COP	155.90 kW 3.57 COP	160.40 kW 3.66 COP	165.02 kW 3.76 COP



When the units are placed side by side, allow 2000mm distance between evaporator coils.

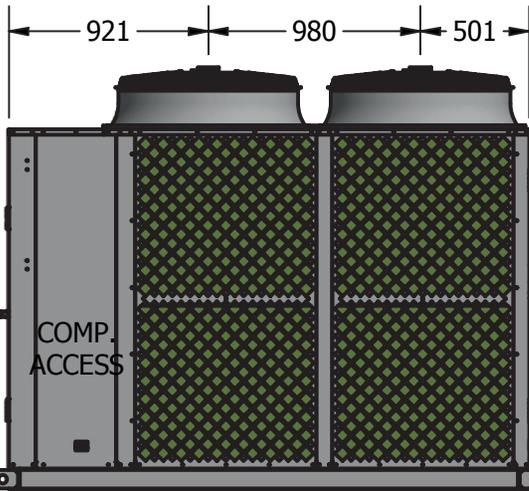
Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out

\* Max outlet temperature when ambient is above 10°C

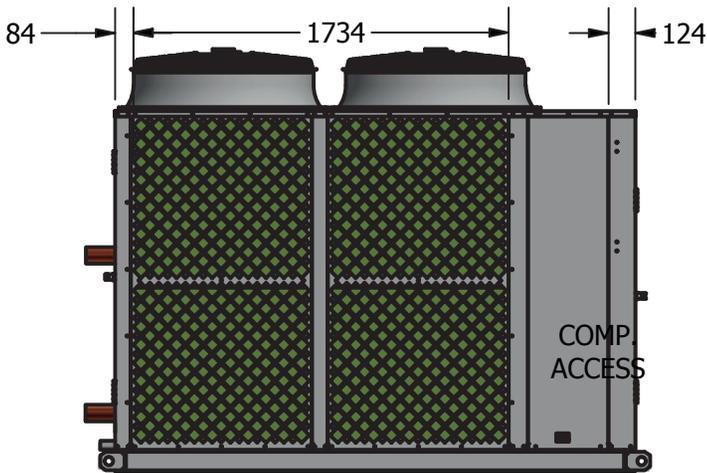
**MODEL NO: RTHW150**



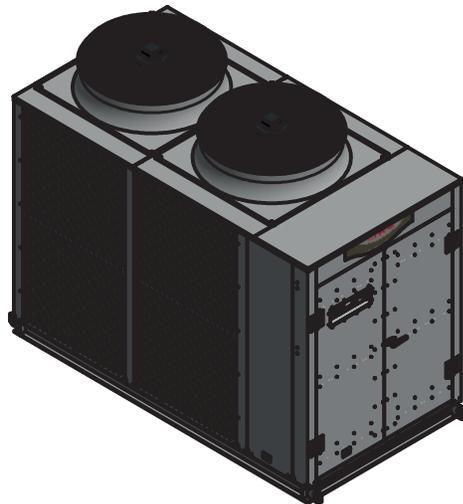
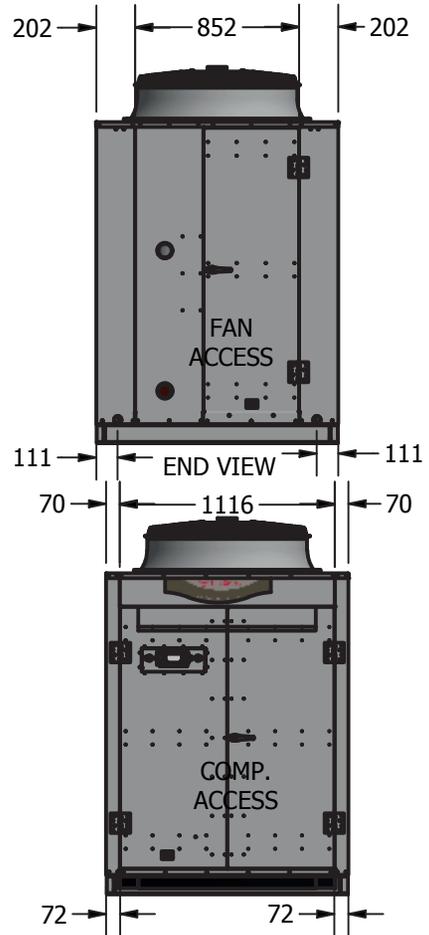
TOP VIEW



SIDE VIEW



SIDE VIEW



## AIR-TO-WATER HEAT PUMP SPECIFICATIONS

Model No.	RTHW180
Brand	Rheem

### ELECTRICAL INPUT

Voltage/Phase	380 Volts / 3 Phase / 60 Hz
Full Load Amps	82.8 Amps
Locked Rotor (Amps Per Phase)	290.0 Amps
Min. Circuit Breaker Size	100.0 Amps
Refrigerant	R134a
Nominal Heating Capacity	185.44 kW
Power Input	40.57 kW
COP	4.57 COP
Noise Level	69 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	61.18 Amps

### TECHNICAL DATA

	Compressor	Fan
SAP Number	20149	21156
Type	Scroll	Axial 710
Number Per Unit	2	4
FLA (Full Load Amps, each)	38.0 Amps	1.73 Amps
Voltage / Phase	380 / 3 / 60	
Pole/RPM	2 / 3,500	6/1030
Air Flow	N/A	15600 L/s
External Static Pressure	N/A	7 Pa

### HEAT EXCHANGER (Water Side)

Type of Water Tube	Single Wall	Double Wall
Design	Shell and Tube	Co-axial Vented
Flow Rate Excl. By Pass	7.39 L/s	
Max. Outlet Water Temp	65°C*	
Design Pressure Drop	50 kPa	
Max. Operating Pressure	2,450 kPa	

### GENERAL INFORMATION

Water Connections	100mm Table E Flange
Drain	40mm Aluminium
Defrost	Reverse Cycle De-ice
Cabinet Construction	1.2mm Stucco Aluminium, Galvanised Base and Frame
Approx. Shipping Weight	1180 kg
Size L x W x H	2217mm x 1967mm x 2282mm

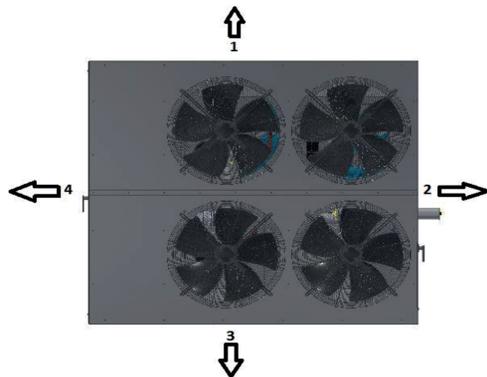
### UNIT CLEARANCES

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

## COP TABLE

Water Out °C	Ambient Temperature °C						
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	27 °C
45 °C	106.23 kW 3.13 COP	120.21 kW 3.50 COP	136.07 kW 3.44 COP	149.35 kW 3.75 COP	163.90 kW 4.09 COP	174.35 kW 4.32 COP	179.81 kW 4.45 COP
50 °C	105.67 kW 2.87 COP	119.16 kW 3.20 COP	134.48 kW 3.17 COP	147.29 kW 3.45 COP	161.34 kW 3.75 COP	171.45 kW 3.97 COP	176.73 kW 4.08 COP
55 °C	105.27 kW 2.59 COP	118.15 kW 2.87 COP	132.77 kW 2.86 COP	145.01 kW 3.11 COP	158.44 kW 3.37 COP	168.11 kW 3.56 COP	173.16 kW 3.66 COP
60 °C	N/A	117.59 kW 2.64 COP	131.66 kW 2.64 COP	143.44 kW 2.86 COP	156.37 kW 3.10 COP	165.68 kW 3.27 COP	170.55 kW 3.36 COP
65 °C	N/A	N/A	130.60 kW 2.40 COP	141.80 kW 2.59 COP	154.11 kW 2.79 COP	162.97 kW 2.94 COP	167.62 kW 3.02 COP

Water Out °C	Ambient Temperature °C						
	30 °C	35 °C	40 °C	46 °C	48 °C	50 °C	52 °C
45 °C	185.44 kW 4.57 COP	191.23 kW 4.70 COP	191.82 kW 4.71 COP	203.33 kW 4.96 COP	209.64 kW 5.10 COP	216.12 kW 5.24 COP	222.80 kW 5.38 COP
50 °C	182.17 kW 4.19 COP	187.77 kW 4.31 COP	188.34 kW 4.32 COP	199.47 kW 4.55 COP	205.58 kW 4.67 COP	211.86 kW 4.80 COP	218.32 kW 4.93 COP
55 °C	178.37 kW 3.76 COP	183.73 kW 3.86 COP	184.27 kW 3.87 COP	194.94 kW 4.08 COP	200.79 kW 4.19 COP	206.81 kW 4.30 COP	213.00 kW 4.42 COP
60 °C	175.57 kW 3.45 COP	180.74 kW 3.54 COP	181.26 kW 3.55 COP	191.55 kW 3.73 COP	197.20 kW 3.83 COP	203.01 kW 3.93 COP	209.00 kW 4.04 COP
65 °C	172.40 kW 3.09 COP	177.33 kW 3.18 COP	177.83 kW 3.18 COP	187.65 kW 3.34 COP	193.04 kW 3.43 COP	198.59 kW 3.52 COP	204.31 kW 3.61 COP

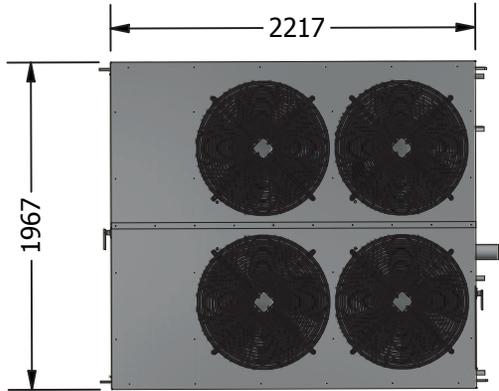


When the units are placed side by side, allow 2000mm distance between evaporator coils.

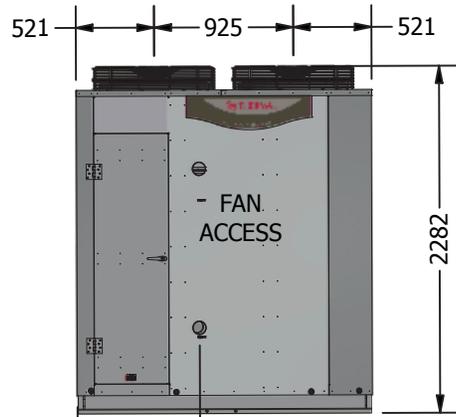
Rating Conditions: 30°C ambient, 60% RH, 39°C Water in, 45°C Water out

\* Max outlet temperature when ambient is above 10°C

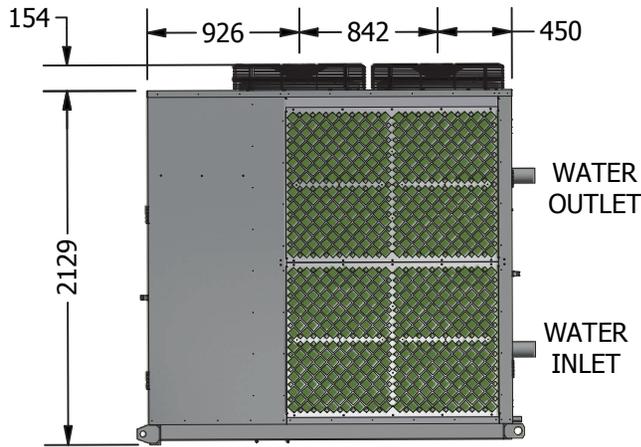
**MODEL NO: RTHW180**



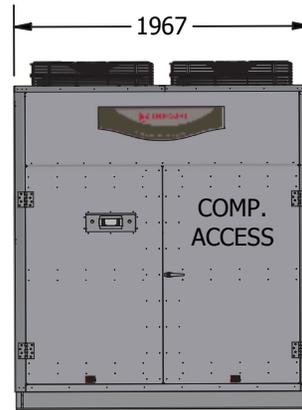
TOP VIEW



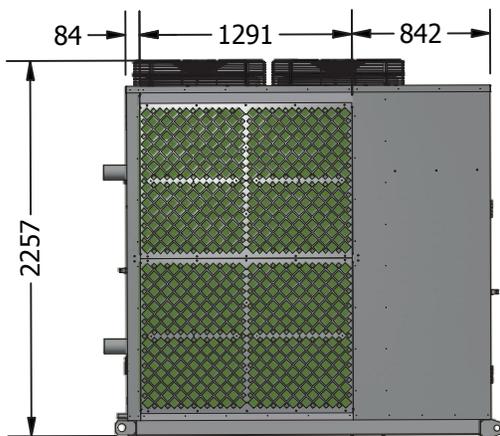
END VIEW



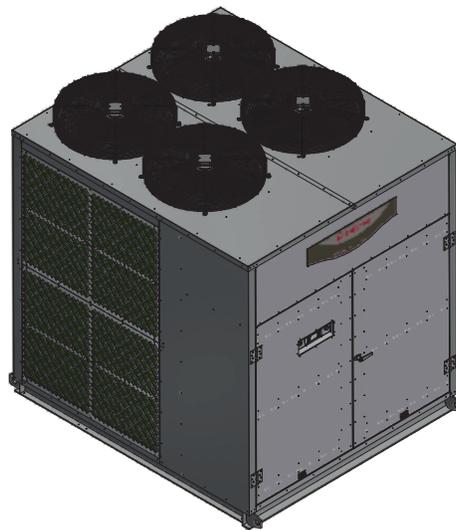
SIDE VIEW



END VIEW



SIDE VIEW



## AIR-TO-WATER HEAT PUMP SPECIFICATIONS

Model No.	RTHW220
Brand	Rheem

### ELECTRICAL INPUT

Voltage/Phase	380 Volts / 3 Phase / 60 Hz
Full Load Amps	126.6 Amps
Locked Rotor (Amps Per Phase)	290.0 Amps
Min. Circuit Breaker Size	150.0 Amps
Refrigerant	R134a
Nominal Heating Capacity	224.80 kW
Power Input	50.26 kW
COP	4.47 COP
Noise Level	73 dBa @ 3 m
Rated Load Amps @ 12°C SST / 51°C SCT	89.33 Amps

### TECHNICAL DATA

	Compressor	Fan
SAP Number	20139	21156
Type	Scroll	Axial 710
Number Per Unit	3	6
FLA (Full Load Amps, each)	38.8 Amps	1.73 Amps
Voltage / Phase	380 / 3 / 60	
Pole/RPM	2 / 3,500	6/1030
Air Flow	N/A	23400 L/s
External Static Pressure	N/A	7 Pa

### HEAT EXCHANGER (Water Side)

	Single Wall	Double Wall
Type of Water Tube	Shell and Tube	Co-axial Vented
Design	8.95 L/s	
Flow Rate Excl. By Pass	65°C*	
Max. Outlet Water Temp	50 kPa	
Design Pressure Drop	2,450 kPa	
Max. Operating Pressure		

### GENERAL INFORMATION

Water Connections	100mm Table E Flange
Drain	40mm Aluminium
Defrost	Reverse Cycle De-ice
Cabinet Construction	1.2mm Stucco Aluminium, Galvanised Base and Frame
Approx. Shipping Weight	1900 kg
Size L x W x H	3463mm x 1963mm x 2348mm

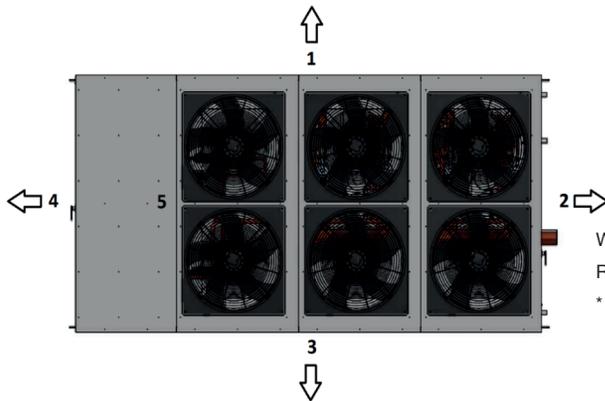
### UNIT CLEARANCES

Direction	Description	Minimum Clearance Required
1	Evaporator Coil	1000mm
2	Water Connections	850mm
3	Evaporator Coil	1000mm
4	Compressor Access	1500mm
5	Top – Fan Discharge	3500mm

## COP TABLE

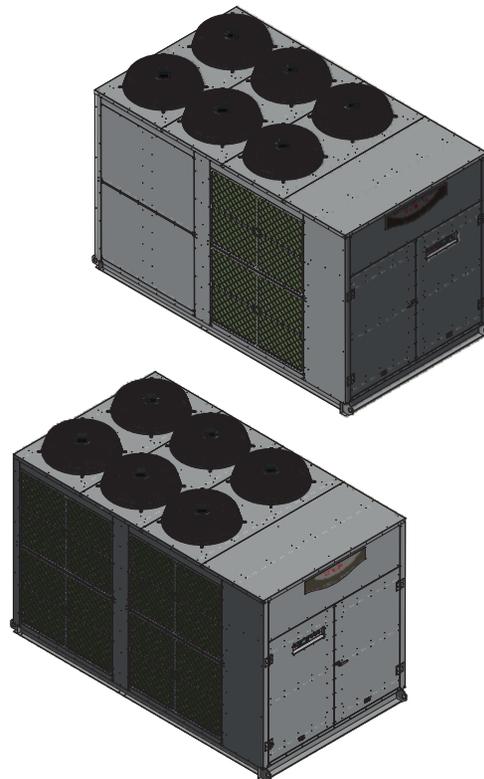
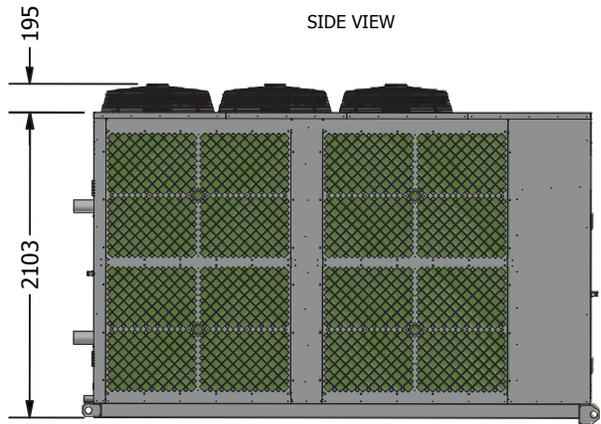
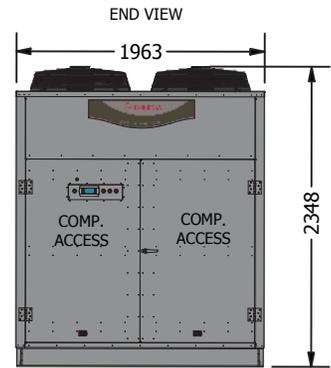
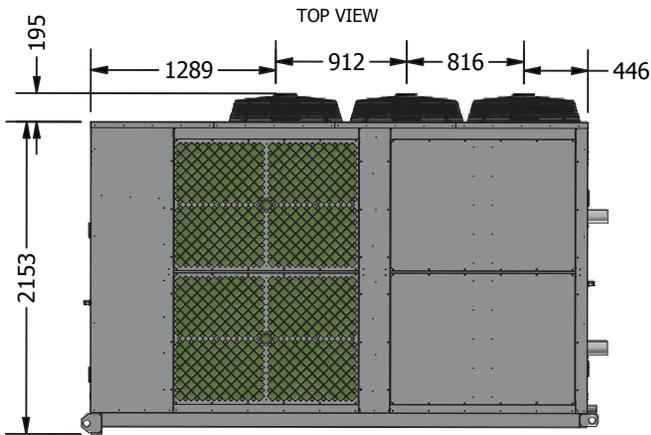
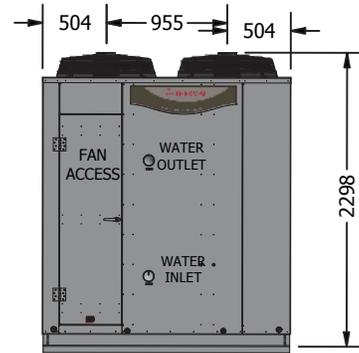
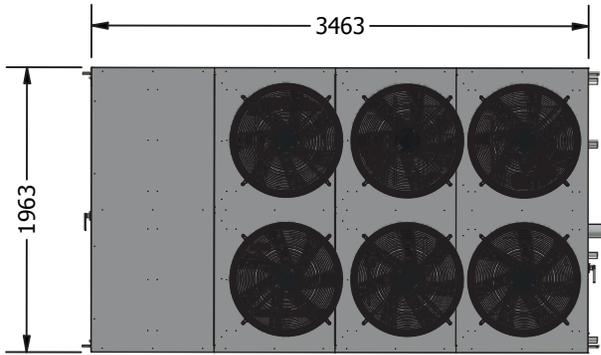
Water Out °C	Ambient Temperature °C						
	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	27 °C
45 °C	128.64 kW 2.67 COP	145.61 kW 3.00 COP	164.87 kW 3.36 COP	180.98 kW 3.67 COP	198.65 kW 4.00 COP	211.34 kW 4.23 COP	217.97 kW 4.35 COP
50 °C	127.93 kW 2.48 COP	144.31 kW 2.77 COP	162.90 kW 3.10 COP	178.46 kW 3.38 COP	195.52 kW 3.68 COP	207.78 kW 3.89 COP	214.19 kW 4.00 COP
55 °C	127.39 kW 2.27 COP	143.03 kW 2.52 COP	160.78 kW 2.81 COP	175.64 kW 3.05 COP	191.95 kW 3.31 COP	203.68 kW 3.50 COP	209.81 kW 3.59 COP
60 °C	N/A	142.32 kW 2.34 COP	159.39 kW 2.60 COP	173.69 kW 2.81 COP	189.39 kW 3.05 COP	200.69 kW 3.21 COP	206.60 kW 3.30 COP
65 °C	N/A	N/A	158.06 kW 2.36 COP	171.65 kW 2.54 COP	186.59 kW 2.75 COP	197.35 kW 2.89 COP	202.99 kW 2.97 COP

Water Out °C	Ambient Temperature °C						
	30 °C	35 °C	40 °C	46 °C	48 °C	50 °C	52 °C
45 °C	<b>224.80 kW</b> <b>4.47 COP</b>	231.84 kW 4.60 COP	232.55 kW 4.61 COP	246.52 kW 4.86 COP	254.18 kW 4.99 COP	262.06 kW 5.13 COP	270.16 kW 5.27 COP
50 °C	220.80 kW 4.11 COP	227.60 kW 4.22 COP	228.29 kW 4.24 COP	241.80 kW 4.46 COP	249.22 kW 4.58 COP	256.84 kW 4.71 COP	264.69 kW 4.84 COP
55 °C	216.13 kW 3.69 COP	222.65 kW 3.79 COP	223.31 kW 3.80 COP	236.25 kW 4.00 COP	243.36 kW 4.11 COP	250.67 kW 4.23 COP	258.19 kW 4.34 COP
60 °C	212.70 kW 3.39 COP	218.98 kW 3.48 COP	219.61 kW 3.49 COP	232.10 kW 3.67 COP	238.96 kW 3.77 COP	246.02 kW 3.87 COP	253.28 kW 3.98 COP
65 °C	208.80 kW 3.05 COP	214.78 kW 3.13 COP	215.39 kW 3.14 COP	227.31 kW 3.30 COP	233.85 kW 3.38 COP	240.60 kW 3.47 COP	247.54 kW 3.56 COP



When the units are placed side by side, allow 2000mm distance 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 10°C

**MODEL NO: RTHW220**



<b>WATER-TO-WATER HEAT PUMP SPECIFICATIONS</b>	
Model No.	RTWW070
Brand	Rheem

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 Volts / 3 Phase / 60 Hz
Full Load / Locked Rotor (Amps Per Phase)	39.4 FLA / 290 LRA
Min. Circuit Breaker Size	50.0 Amps
Refrigerant	R134a
Refrigeration Effect	Heating                      Cooling
Nominal Capacity	70.45 kW                      56.22 kW
Power Input	14.22 kW
COP	4.95 COP                      3.95 COP
Combined COP	8.91 COP
Noise Level	61 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	26.3 Amps

<b>TECHNICAL DATA</b>	
	<b>Compressor</b>
SAP Number	20139
Type	Scroll
Number Per Unit	1
FLA (Full Load Amps, each)	39.4 Amps
Voltage / Phase	380 / 3
Pole/RPM	2 / 3500

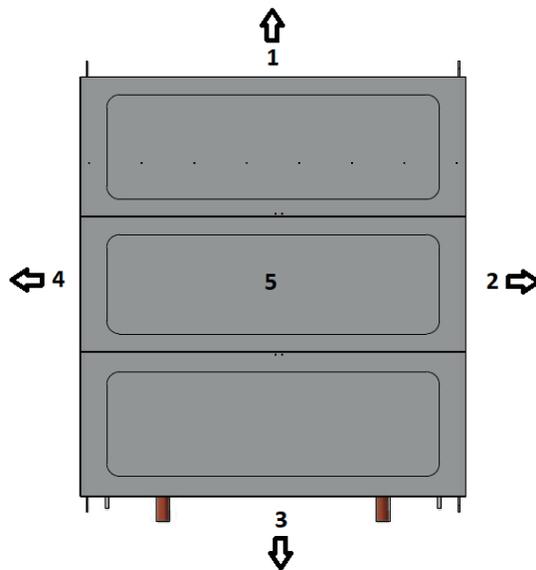
<b>HEAT EXCHANGER (Water Side)</b>		
	<b>Hot Side (Condenser)</b>	<b>Cold Side (Evaporator)</b>
Type of Water Tube	Single / Double Wall	Single Wall
Design	Shell & Tube / Co-axial	Shell & Tube
Flow Rate Excl. By Pass	2.80 L/s	2.69 L/s
Max. Outlet Water Temp	70°C	N/A
Min. Outlet Water Temp	N/A	7 °C
Design Pressure Drop	50 kPa	
Max. Operating Pressure	2,450 kPa	

<b>GENERAL INFORMATION</b>	
Water Connections	65mm Table E Flange
Drain	20mm Aluminium
Cabinet Construction	1.2mm Stucco Aluminium
Approx. Shipping Weight	400kg
Size L x W x H - RTWW070	2120mm x 805mm x 1000mm
Size L x W x H - Rheem	2270mm x 805mm x 1000mm

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

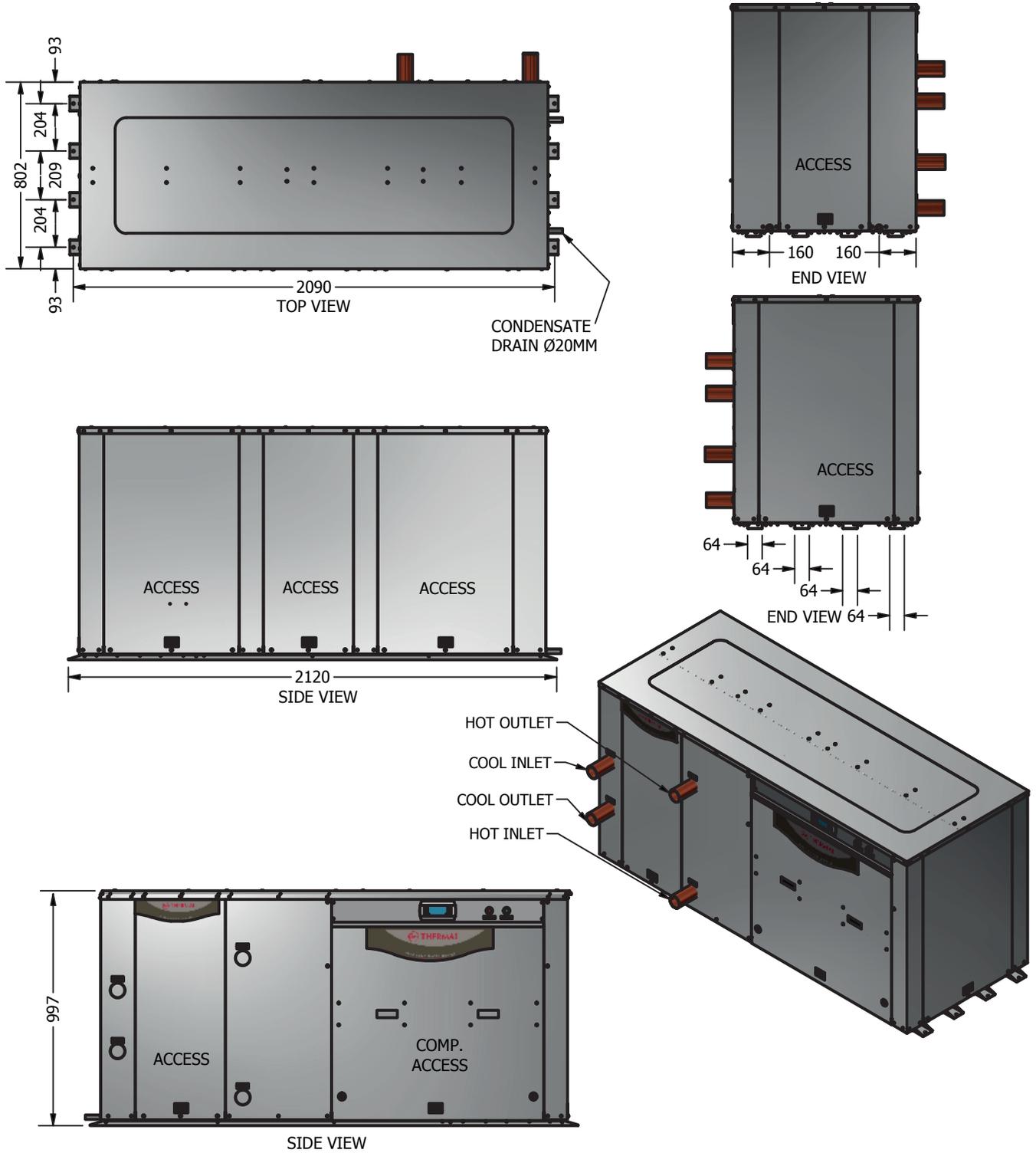
**COP TABLE**

Hot Water Out °C	Cold Water In °C							
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	30 °C	35 °C
45 °C	56.69 kW 4.07 COP	60.33 kW 4.30 COP	62.23 kW 4.43 COP	66.22 kW 4.68 COP	<b>70.45 kW</b> <b>4.95 COP</b>	82.17 kW 5.68 COP	95.68 kW 6.47 COP	101.62 kW 6.81 COP
50 °C	55.81 kW 3.62 COP	59.29 kW 3.83 COP	61.11 kW 3.94 COP	64.92 kW 4.16 COP	68.98 kW 4.40 COP	80.22 kW 5.03 COP	93.19 kW 5.74 COP	98.90 kW 6.04 COP
55 °C	55.19 kW 3.31 COP	58.55 kW 3.49 COP	60.30 kW 3.59 COP	63.98 kW 3.79 COP	67.89 kW 4.00 COP	78.75 kW 4.57 COP	91.29 kW 5.21 COP	96.82 kW 5.49 COP
60 °C	54.67 kW 3.03 COP	57.90 kW 3.19 COP	59.59 kW 3.27 COP	63.13 kW 3.45 COP	66.90 kW 3.64 COP	77.37 kW 4.15 COP	89.48 kW 4.73 COP	94.82 kW 4.98 COP
65 °C	54.15 kW 2.72 COP	57.22 kW 2.86 COP	58.83 kW 2.93 COP	62.20 kW 3.08 COP	65.78 kW 3.24 COP	75.77 kW 3.69 COP	87.34 kW 4.19 COP	92.46 kW 4.41 COP
70 °C	53.79 kW 2.45 COP	56.70 kW 2.57 COP	58.22 kW 2.63 COP	61.42 kW 2.76 COP	64.83 kW 2.90 COP	74.33 kW 3.28 COP	85.36 kW 3.72 COP	90.24 kW 3.91 COP



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

**MODEL NO: RTWW070**



<b>WATER-TO-WATER HEAT PUMP SPECIFICATIONS</b>	
Model No.	<b>RTWW106</b>
Brand	<b>Rheem</b>

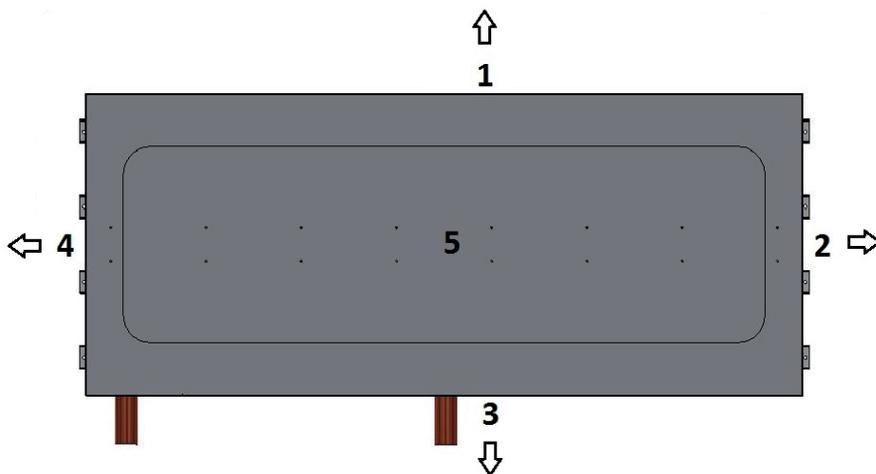
<b>ELECTRICAL INPUT</b>		
Voltage/Phase	380 Volts / 3 Phase / 60 Hz	
Full Load / Locked Rotor (Amps Per Phase)	72.7 FLA / 196 LRA	
Min. Circuit Breaker Size	80.0 Amps	
Refrigerant	R134a	
Refrigeration Effect	Heating	Cooling
Nominal Capacity	106.67 kW	85.26 kW
Power Input	21.41 kW	
COP	4.98 COP	3.98 COP
Combined COP	8.97 COP	
Noise Level	64 dBa @ 3 m	
Rated Load Amps @ 10°C SST / 51°C SCT	49.8 Amps	
<b>TECHNICAL DATA</b>		
	<b>Compressor</b>	
SAP Number	20110	
Type	Scroll	
Number Per Unit	2	
FLA (Full Load Amps, each)	72.7 Amps	
Voltage / Phase	380 / 3	
Pole/RPM	2 / 3500	
<b>HEAT EXCHANGER (Water Side)</b>		
	<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	4.25 L/s	4.07 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	75mm Table E Flange	
Drain	20mm Aluminium	
Cabinet Construction	1.2mm Stucco Aluminium	
Approx. Shipping Weight	625kg	
Size L x W x H - RTWW106	2320mm x 805mm x 1000mm	
Size L x W x H - Rheem	1650mm x 1800mm x 1200mm	

### UNIT CLEARANCES

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

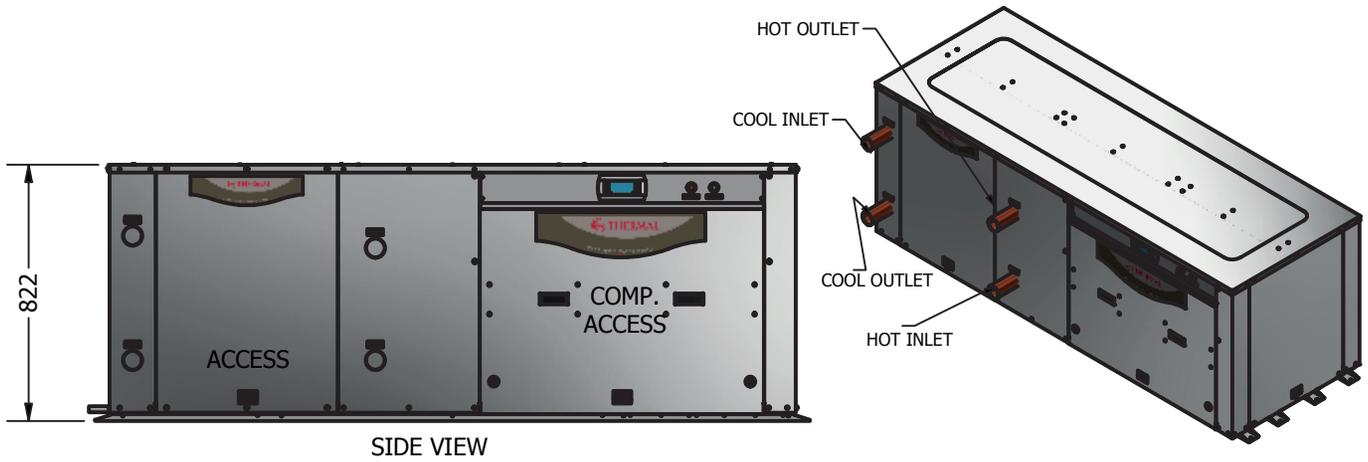
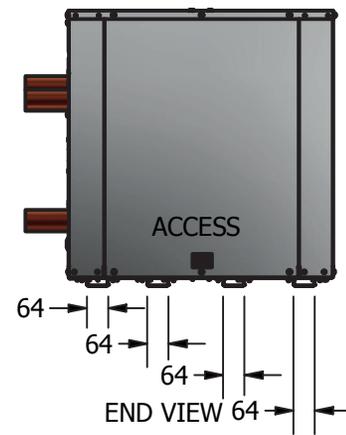
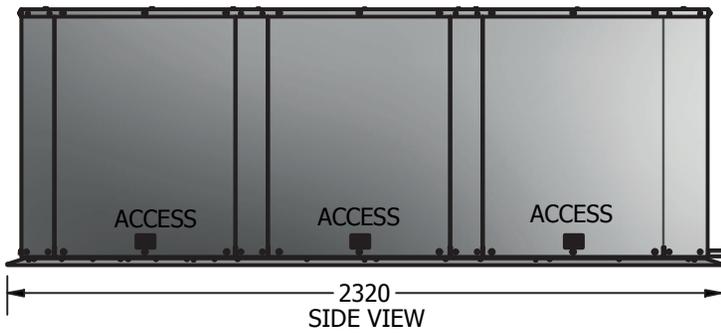
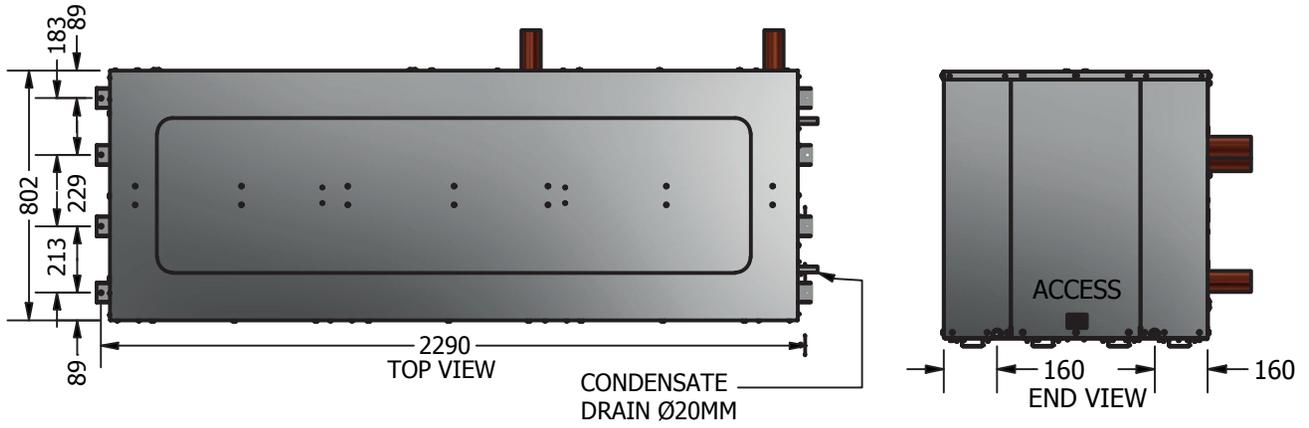
### COP TABLE

Hot Water Out °C	Cold Water In °C							
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	30 °C	35 °C
45 °C	87.50 kW 4.18 COP	92.69 kW 4.40 COP	95.37 kW 4.52 COP	100.90 kW 4.75 COP	106.67 kW 4.98 COP	122.20 kW 5.58 COP	139.38 kW 6.17 COP	146.75 kW 6.40 COP
50 °C	85.42 kW 3.69 COP	90.47 kW 3.90 COP	93.07 kW 4.00 COP	98.46 kW 4.21 COP	104.07 kW 4.43 COP	119.19 kW 4.98 COP	135.93 kW 5.54 COP	143.10 kW 5.76 COP
55 °C	83.62 kW 3.33 COP	88.55 kW 3.52 COP	91.09 kW 3.62 COP	96.36 kW 3.81 COP	101.85 kW 4.01 COP	116.63 kW 4.53 COP	133.00 kW 5.06 COP	140.03 kW 5.27 COP
60 °C	81.66 kW 3.00 COP	86.48 kW 3.17 COP	88.96 kW 3.26 COP	94.10 kW 3.44 COP	99.47 kW 3.62 COP	113.91 kW 4.10 COP	129.92 kW 4.60 COP	136.79 kW 4.80 COP
65 °C	78.98 kW 2.62 COP	83.65 kW 2.77 COP	86.06 kW 2.85 COP	91.04 kW 3.01 COP	96.24 kW 3.18 COP	110.26 kW 3.61 COP	125.81 kW 4.07 COP	132.48 kW 4.25 COP
70 °C	75.99 kW 2.27 COP	80.51 kW 2.41 COP	82.85 kW 2.48 COP	87.67 kW 2.62 COP	92.71 kW 2.77 COP	106.29 kW 3.16 COP	121.37 kW 3.58 COP	127.85 kW 3.75 COP



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

**MODEL NO: RTWW106**



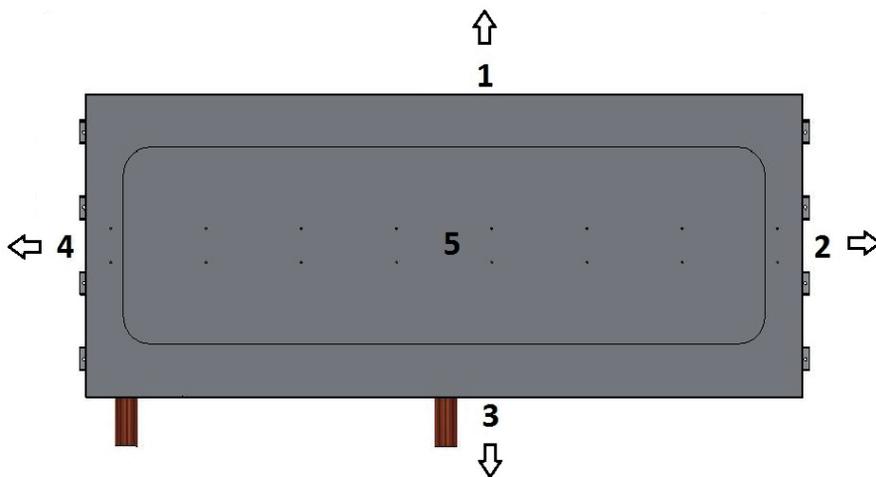
<b>WATER-TO-WATER HEAT PUMP SPECIFICATIONS</b>	
Model No.	<b>RTWW140</b>
Brand	<b>Rheem</b>

<b>ELECTRICAL INPUT</b>		
Voltage/Phase	380 Volts / 3 Phase / 60 Hz	
Full Load / Locked Rotor (Amps Per Phase)	78.8 FLA / 290 LRA	
Min. Circuit Breaker Size	100.0 Amps	
Refrigerant	R134a	
Refrigeration Effect	Heating	Cooling
Nominal Capacity	140.89 kW	112.45 kW
Power Input	28.45 kW	
COP	4.95 COP	3.95 COP
Combined COP	8.91 COP	
Noise Level	64 dBa @ 3 m	
Rated Load Amps @ 10°C SST / 51°C SCT	52.5 Amps	
<b>TECHNICAL DATA</b>		
	<b>Compressor</b>	
SAP Number	20139	
Type	Scroll	
Number Per Unit	2	
FLA (Full Load Amps, each)	78.8 Amps	
Voltage / Phase	380 / 3	
Pole/RPM	2 / 3500	
<b>HEAT EXCHANGER (Water Side)</b>		
	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	5.61 L/s	5.37 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	100mm Table E Flange	
Drain	20mm Aluminium	
Cabinet Construction	1.2mm Stucco Aluminium, Galvanised Base and Frame	
Approx. Shipping Weight	725kg	
Size L x W x H - RTWW140	2370mm x 1150mm x 1000mm	
Size L x W x H - Rheem	1650mm x 1800mm x 1200mm	

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

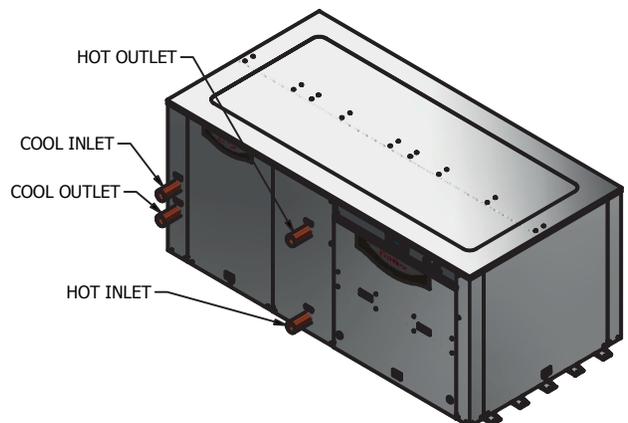
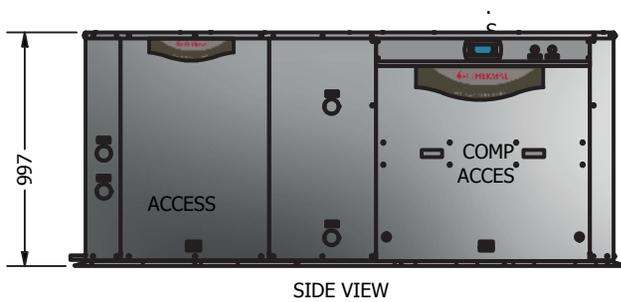
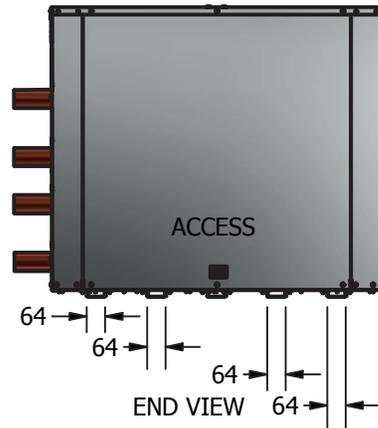
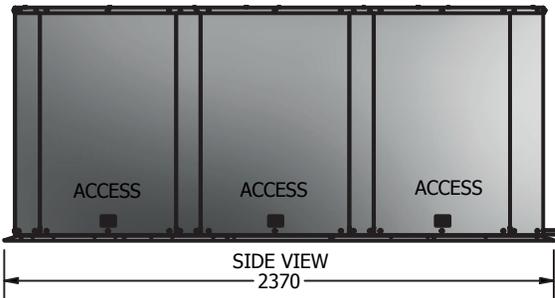
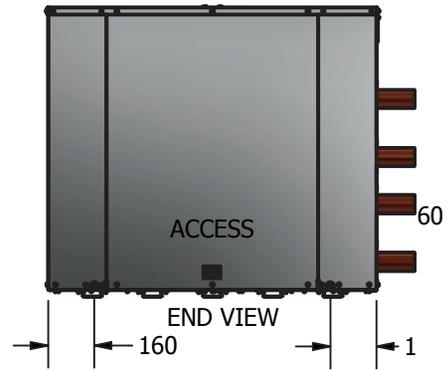
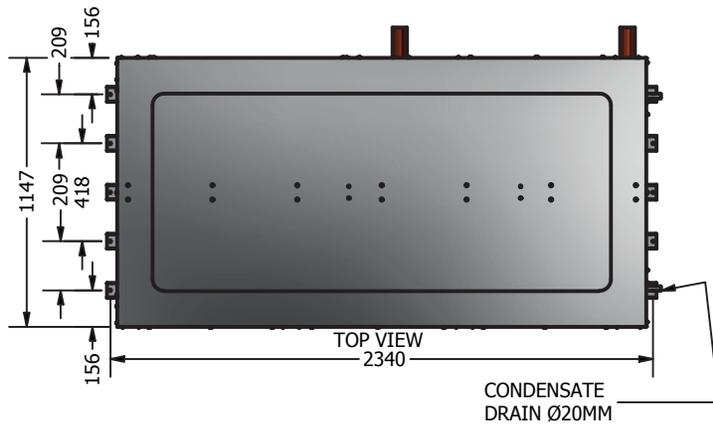
**COP TABLE**

Hot Water Out °C	Cold Water In °C							
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	30 °C	35 °C
45 °C	113.38 kW 4.07 COP	120.66 kW 4.30 COP	124.46 kW 4.43 COP	132.43 kW 4.68 COP	<b>140.89 kW</b> <b>4.95 COP</b>	164.35 kW 5.68 COP	191.36 kW 6.47 COP	203.24 kW 6.81 COP
50 °C	111.62 kW 3.62 COP	118.57 kW 3.83 COP	122.22 kW 3.94 COP	129.85 kW 4.16 COP	137.95 kW 4.40 COP	160.44 kW 5.03 COP	186.38 kW 5.74 COP	197.80 kW 6.04 COP
55 °C	110.39 kW 3.31 COP	117.10 kW 3.49 COP	120.61 kW 3.59 COP	127.97 kW 3.79 COP	135.79 kW 4.00 COP	157.50 kW 4.57 COP	182.58 kW 5.21 COP	193.64 kW 5.49 COP
60 °C	109.34 kW 3.03 COP	115.79 kW 3.19 COP	119.18 kW 3.27 COP	126.26 kW 3.45 COP	133.79 kW 3.64 COP	154.73 kW 4.15 COP	178.96 kW 4.73 COP	189.64 kW 4.98 COP
65 °C	108.30 kW 2.72 COP	114.43 kW 2.86 COP	117.65 kW 2.93 COP	124.39 kW 3.08 COP	131.57 kW 3.24 COP	151.54 kW 3.69 COP	174.69 kW 4.19 COP	184.91 kW 4.41 COP
70 °C	107.57 kW 2.45 COP	113.39 kW 2.57 COP	116.44 kW 2.63 COP	122.84 kW 2.76 COP	129.66 kW 2.90 COP	148.65 kW 3.28 COP	170.72 kW 3.72 COP	180.48 kW 3.91 COP



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

**MODEL NO: RTWW140**



<b>WATER-TO-WATER HEAT PUMP SPECIFICATIONS</b>	
Model No.	RTWW175
Brand	Rheem

<b>ELECTRICAL INPUT</b>		
Voltage/Phase	380 Volts / 3 Phase / 60 Hz	
Full Load / Locked Rotor (Amps Per Phase)	83.68 FLA / 353 LRA	
Min. Circuit Breaker Size	100.0 Amps	
Refrigerant	R134a	
Refrigeration Effect	Heating	Cooling
Nominal Capacity	174.35 kW	138.90 kW
Power Input	35.45 kW	
COP	4.92 COP	3.92 COP
Combined COP	8.84 COP	
Noise Level	61 dBa @ 3 m	
Rated Load Amps @ 10°C SST / 51°C SCT	53.8 Amps	

<b>TECHNICAL DATA</b>	
	<b>Compressor</b>
SAP Number	20149
Type	Scroll
Number Per Unit	2
FLA (Full Load Amps, each)	41.8 Amps
Voltage / Phase	380 / 3
Pole/RPM	2 / 3500

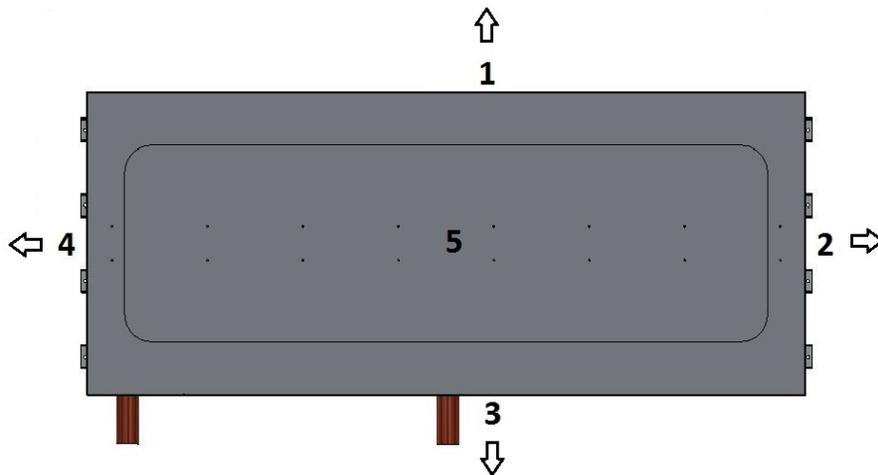
<b>HEAT EXCHANGER (Water Side)</b>		
	Hot Side (Condenser)	Cold Side (Evaporator)
Type of Water Tube	Single / Double Wall	Single Wall
Design	Shell & Tube / Co-axial	Shell & Tube
Flow Rate Excl. By Pass	6.94 L/s	6.64 L/s
Max. Outlet Water Temp	70°C	N/A
Min. Outlet Water Temp	N/A	7 °C
Design Pressure Drop	50 kPa	
Max. Operating Pressure	2,450 kPa	

<b>GENERAL INFORMATION</b>	
Water Connections	100mm Table E Flange
Drain	20mm Aluminium
Cabinet Construction	1.2mm Stucco Aluminium, Galvanised Base and Frame
Approx. Shipping Weight	1300kg
Size L x W x H - RTWW175	2370mm x 1150mm x 1000mm
Size L x W x H - Rheem	2200mm x 2400mm x 1204mm

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

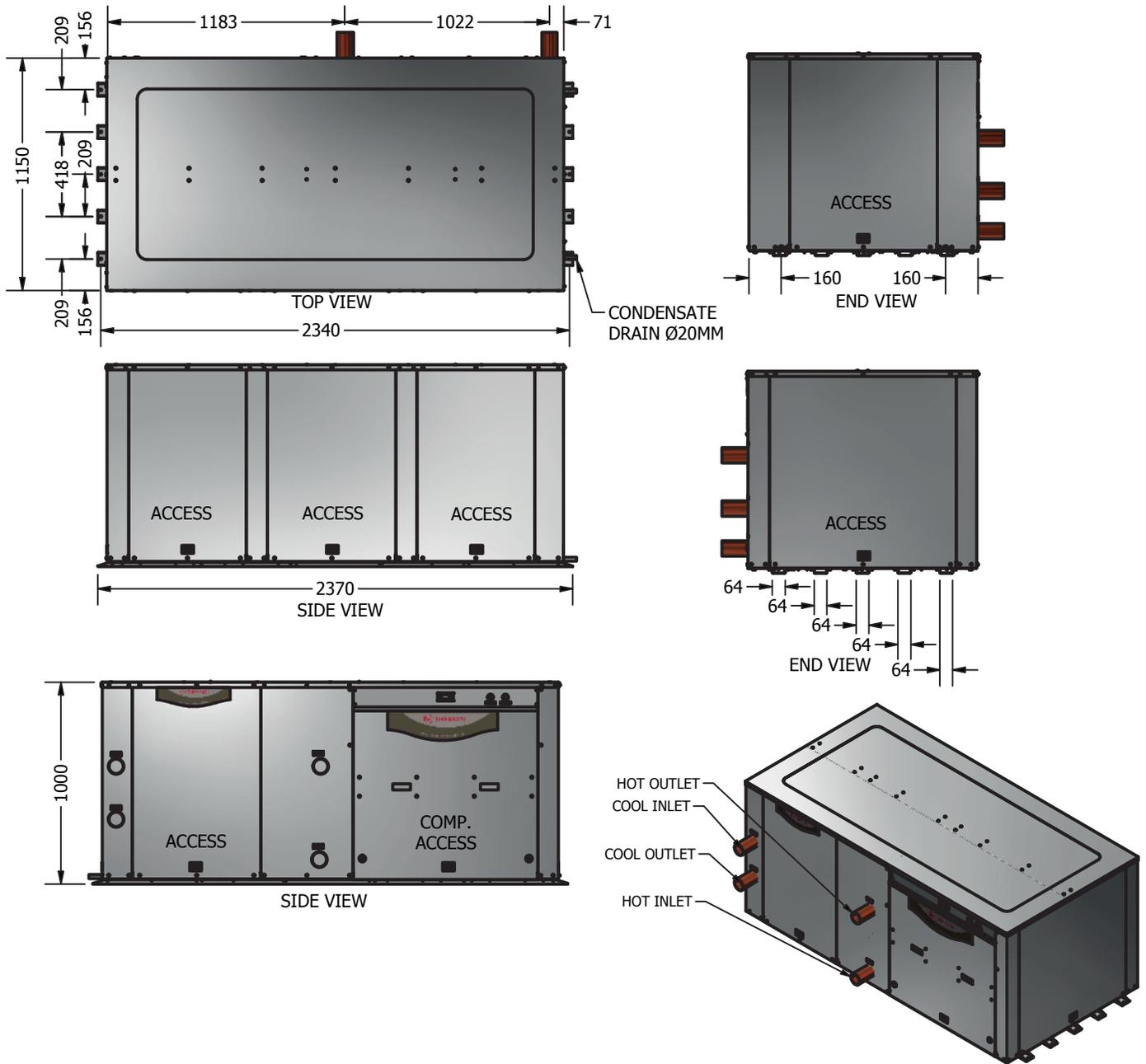
**COP TABLE**

Hot Water Out °C	Cold Water In °C							
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	30 °C	35 °C
45 °C	140.36 kW 4.04 COP	149.35 kW 4.28 COP	154.05 kW 4.40 COP	163.90 kW 4.65 COP	<b>174.35 kW</b> <b>4.92 COP</b>	203.33 kW 5.64 COP	236.70 kW 6.43 COP	251.38 kW 6.76 COP
50 °C	138.21 kW 3.60 COP	146.81 kW 3.81 COP	151.31 kW 3.91 COP	160.74 kW 4.13 COP	170.75 kW 4.37 COP	198.54 kW 5.00 COP	230.59 kW 5.70 COP	244.70 kW 6.00 COP
55 °C	136.73 kW 3.29 COP	145.01 kW 3.47 COP	149.35 kW 3.57 COP	158.44 kW 3.76 COP	168.11 kW 3.97 COP	194.94 kW 4.54 COP	225.93 kW 5.18 COP	239.58 kW 5.45 COP
60 °C	135.46 kW 3.01 COP	143.44 kW 3.17 COP	147.61 kW 3.26 COP	156.37 kW 3.43 COP	165.68 kW 3.62 COP	191.55 kW 4.13 COP	221.48 kW 4.70 COP	234.68 kW 4.95 COP
65 °C	134.22 kW 2.70 COP	141.80 kW 2.84 COP	145.78 kW 2.91 COP	154.11 kW 3.06 COP	162.97 kW 3.22 COP	187.65 kW 3.67 COP	216.25 kW 4.17 COP	228.88 kW 4.38 COP
70 °C	133.37 kW 2.43 COP	140.56 kW 2.55 COP	144.33 kW 2.61 COP	152.24 kW 2.74 COP	160.66 kW 2.88 COP	184.13 kW 3.26 COP	211.40 kW 3.70 COP	223.47 kW 3.89 COP



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

**MODEL NO: RTWW175**



<b>WATER-TO-WATER HEAT PUMP SPECIFICATIONS</b>	
Model No.	<b>RTWW210</b>
Brand	<b>Rheem</b>

<b>ELECTRICAL INPUT</b>	
Voltage/Phase	380 Volts / 3 Phase / 60 Hz
Full Load / Locked Rotor (Amps Per Phase)	118.2 FLA / 290 LRA
Min. Circuit Breaker Size	150 Amps
Refrigerant	R134a
Refrigeration Effect	Heating                      Cooling
Nominal Capacity	211.34 kW                      168.67 kW
Power Input	42.67 kW
COP	4.95 COP                      3.95 COP
Combined COP	8.91 COP
Noise Level	62 dBa @ 3 m
Rated Load Amps @ 10°C SST / 51°C SCT	78.8 Amps

<b>TECHNICAL DATA</b>	
	<b>Compressor</b>
SAP Number	20139
Type	Scroll
Number Per Unit	3
FLA (Full Load Amps, each)	39.4 Amps
Voltage / Phase	380 / 3
Pole/RPM	2 / 3500

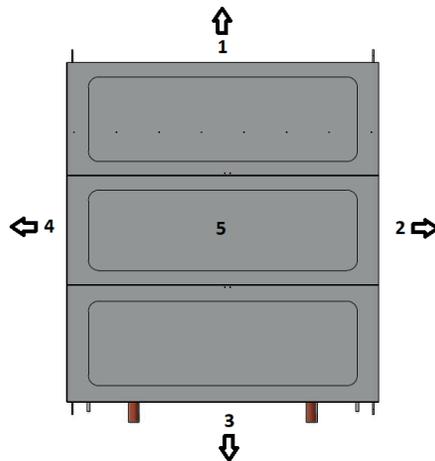
<b>HEAT EXCHANGER (Water Side)</b>		
	<b>Hot Side (Condenser)</b>	<b>Cold Side (Evaporator)</b>
Type of Water Tube	Single / Double Wall	Single Wall
Design	Shell & Tube / Co-axial	Shell & Tube
Flow Rate Excl. By Pass	8,41 L/s	8,06 L/s
Max. Outlet Water Temp	70°C	N/A
Min. Outlet Water Temp	N/A	7 °C
Design Pressure Drop	50 kPa	
Max. Operating Pressure	2,450 kPa	

<b>GENERAL INFORMATION</b>	
	100mm Table E Flange
	20mm Aluminium
	1.2mm Stucco Aluminium, Galvanised Base and Frame
	1500kg
	2586mm x 2204mm x 1270mm
	2200mm x 2400mm x 1270mm

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

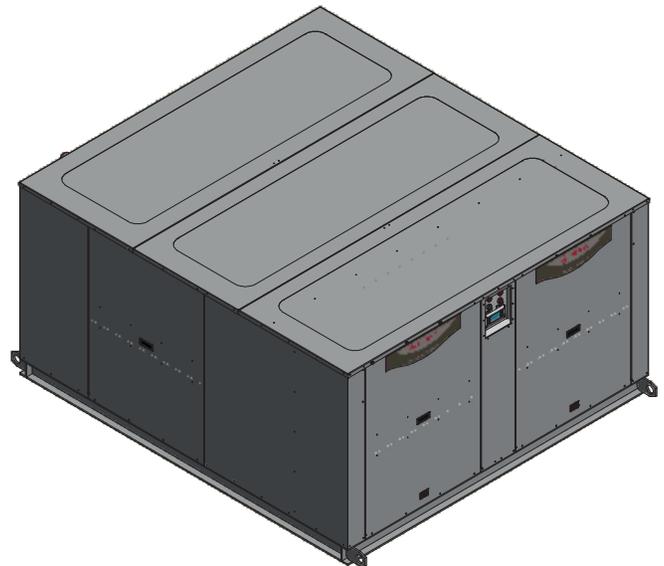
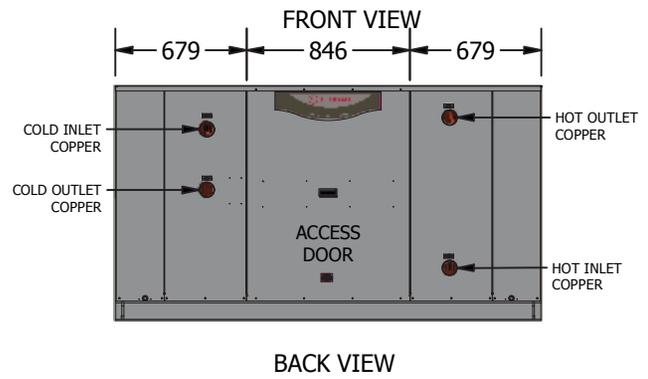
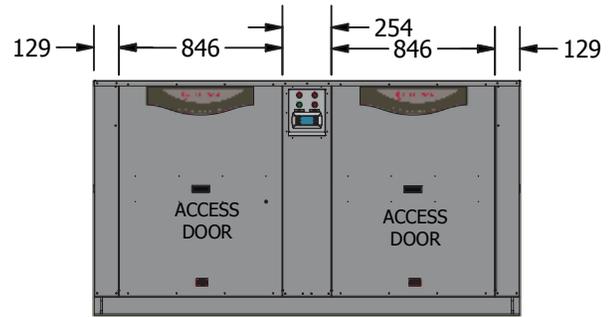
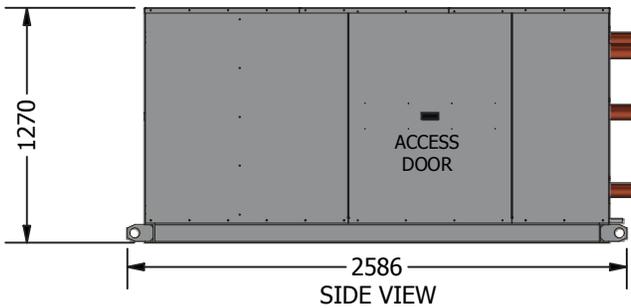
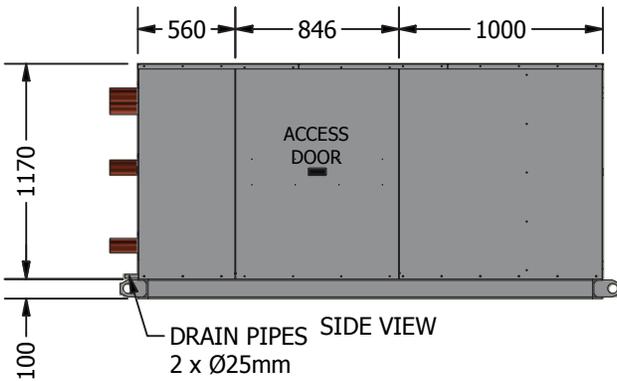
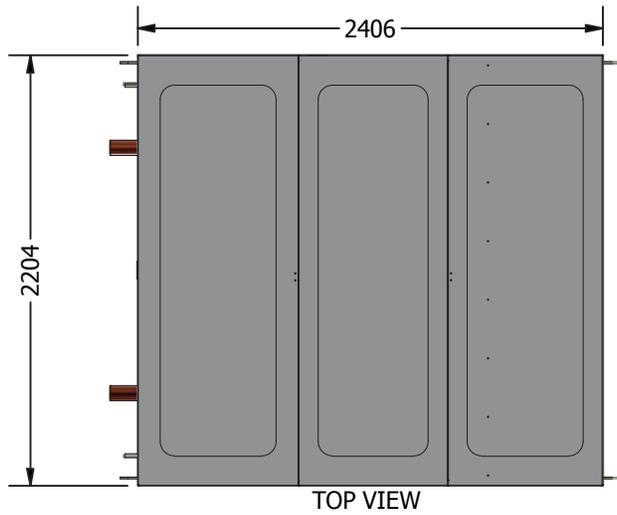
**COP TABLE**

Hot Water Out °C	Cold Water In °C							
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	30 °C	35 °C
45 °C	170.08 kW 4.07 COP	180.98 kW 4.30 COP	186.69 kW 4.43 COP	198.65 kW 4.68 COP	<b>211.34 kW</b> <b>4.95 COP</b>	246.52 kW 5.68 COP	287.04 kW 6.47 COP	304.86 kW 6.81 COP
50 °C	167.42 kW 3.62 COP	177.86 kW 3.83 COP	183.33 kW 3.94 COP	194.77 kW 4.16 COP	206.93 kW 4.40 COP	240.66 kW 5.03 COP	279.58 kW 5.74 COP	296.71 kW 6.04 COP
55 °C	165.58 kW 3.31 COP	175.64 kW 3.49 COP	180.91 kW 3.59 COP	191.95 kW 3.79 COP	203.68 kW 4.00 COP	236.25 kW 4.57 COP	273.88 kW 5.21 COP	290.46 kW 5.49 COP
60 °C	164.01 kW 3.03 COP	173.69 kW 3.19 COP	178.76 kW 3.27 COP	189.39 kW 3.45 COP	200.69 kW 3.64 COP	232.10 kW 4.15 COP	268.44 kW 4.73 COP	284.47 kW 4.98 COP
65 °C	162.44 kW 2.72 COP	171.65 kW 2.86 COP	176.48 kW 2.93 COP	186.59 kW 3.08 COP	197.35 kW 3.24 COP	227.31 kW 3.69 COP	262.03 kW 4.19 COP	277.37 kW 4.41 COP
70 °C	161.36 kW 2.45 COP	170.09 kW 2.57 COP	174.66 kW 2.63 COP	184.27 kW 2.76 COP	194.49 kW 2.90 COP	222.98 kW 3.28 COP	256.08 kW 3.72 COP	270.73 kW 3.91 COP



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

## MODEL NO: RTWW210



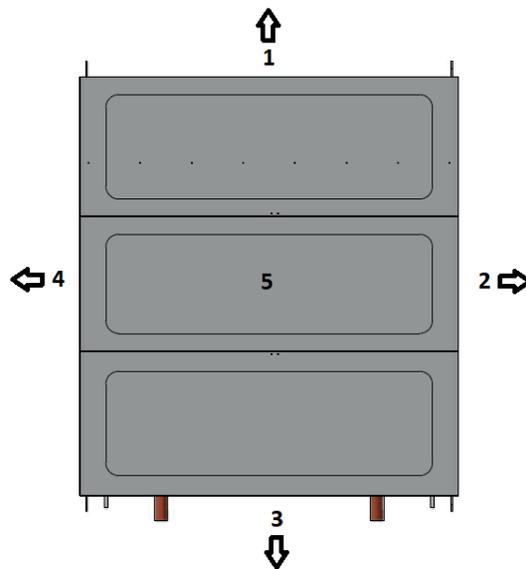
<b>WATER-TO-WATER HEAT PUMP SPECIFICATIONS</b>	
Model No.	<b>RTWW280</b>
Brand	<b>Rheem</b>

<b>ELECTRICAL INPUT</b>		
Voltage/Phase	380 Volts / 3 Phase / 60 Hz	
Full Load / Locked Rotor (Amps Per Phase)	157.6 FLA / 290 LRA	
Min. Circuit Breaker Size	200.0 Amps	
Refrigerant	R134a	
Refrigeration Effect	Heating	Cooling
Nominal Capacity	281.79 kW	224.89 kW
Power Input	56.90 kW	
COP	4.95 COP	3.95 COP
Combined COP	8.91 COP	
Noise Level	69 dBa @ 3 m	
Rated Load Amps @ 10°C SST / 51°C SCT	105.1 Amps	
<b>TECHNICAL DATA</b>		
	<b>Compressor</b>	
SAP Number	20139	
Type	Scroll	
Number Per Unit	4	
FLA (Full Load Amps, each)	39.4 Amps	
Voltage / Phase	380 / 3	
Pole/RPM	2 / 3500	
<b>HEAT EXCHANGER (Water Side)</b>		
	<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	11.22 L/s	10.74 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	125mm Table E Flange	
Drain	20mm Aluminium	
Cabinet Construction	1.2mm Stucco Aluminium, Galvanised Base and Frame	
Approx. Shipping Weight	1700kg	
Size L x W x H - RTWW280	2586mm x 2204mm x 1270mm	
Size L x W x H - Rheem	3450mm x 2250mm x 1250mm	

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

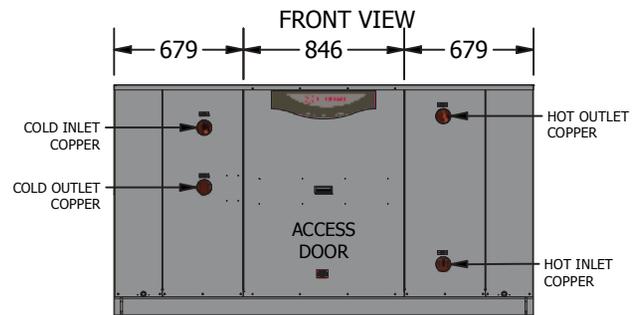
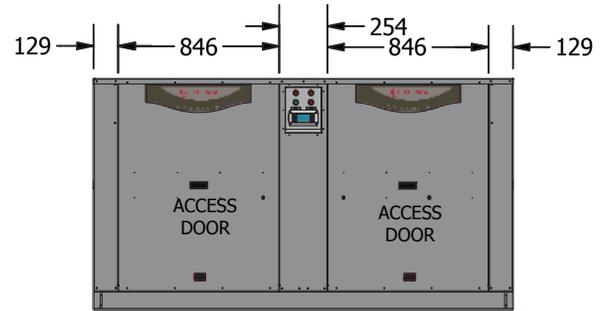
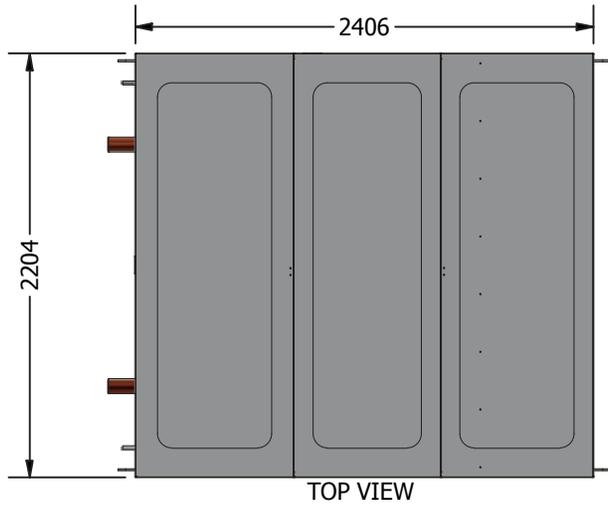
### COP TABLE

Hot Water Out °C	Cold Water In °C							
	12 °C	14 °C	16 °C	18 °C	20 °C	25 °C	30 °C	35 °C
45 °C	226.77 kW 4.07 COP	241.31 kW 4.30 COP	248.92 kW 4.43 COP	264.86 kW 4.68 COP	<b>281.79 kW</b> <b>4.95 COP</b>	328.69 kW 5.68 COP	382.72 kW 6.47 COP	406.47 kW 6.81 COP
50 °C	223.23 kW 3.62 COP	237.15 kW 3.83 COP	244.43 kW 3.94 COP	259.70 kW 4.16 COP	275.91 kW 4.40 COP	320.88 kW 5.03 COP	372.77 kW 5.74 COP	395.61 kW 6.04 COP
55 °C	220.78 kW 3.31 COP	234.19 kW 3.49 COP	241.22 kW 3.59 COP	255.93 kW 3.79 COP	271.57 kW 4.00 COP	315.00 kW 4.57 COP	365.17 kW 5.21 COP	387.28 kW 5.49 COP
60 °C	218.68 kW 3.03 COP	231.59 kW 3.19 COP	238.35 kW 3.27 COP	252.52 kW 3.45 COP	267.59 kW 3.64 COP	309.47 kW 4.15 COP	357.92 kW 4.73 COP	379.29 kW 4.98 COP
65 °C	216.59 kW 2.72 COP	228.87 kW 2.86 COP	235.30 kW 2.93 COP	248.79 kW 3.08 COP	263.14 kW 3.24 COP	303.08 kW 3.69 COP	349.37 kW 4.19 COP	369.82 kW 4.41 COP
70 °C	215.14 kW 2.45 COP	226.78 kW 2.57 COP	232.89 kW 2.63 COP	245.69 kW 2.76 COP	259.32 kW 2.90 COP	297.31 kW 3.28 COP	341.44 kW 3.72 COP	360.97 kW 3.91 COP

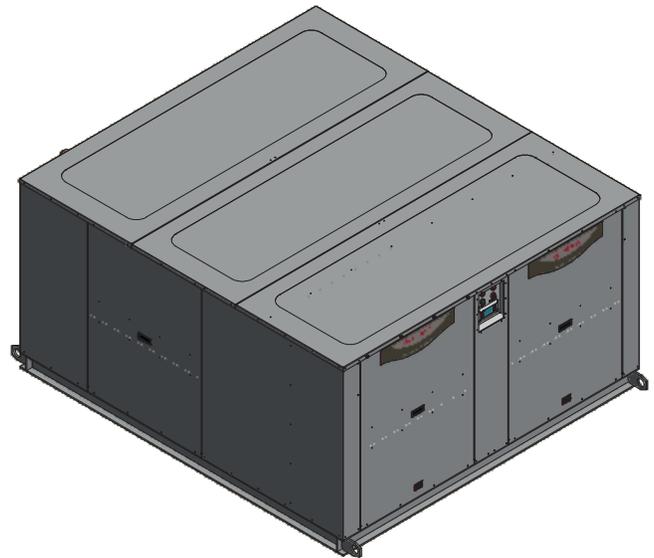
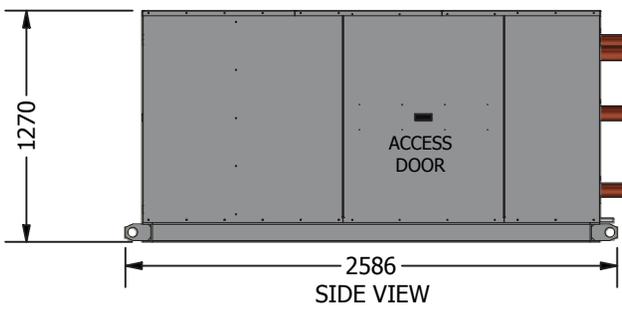
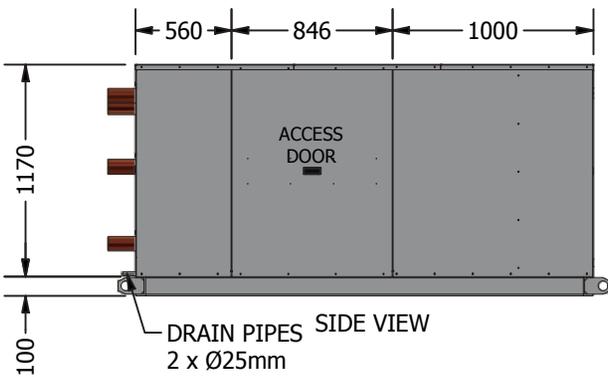


Rating Conditions: Cooling: 20°C EWT, 15°C LWT, Heating: 39°C EWT, 45°C LWT

## MODEL NO: RTWW280



BACK VIEW





The new degree of comfort.®

*In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice.*

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INTEGRATED AIR & WATER