RHEEM THERMAL

MECHANICAL AND PROCESS WATER HEATING & CHILLING

HIGH AMBIENT HOT WATER

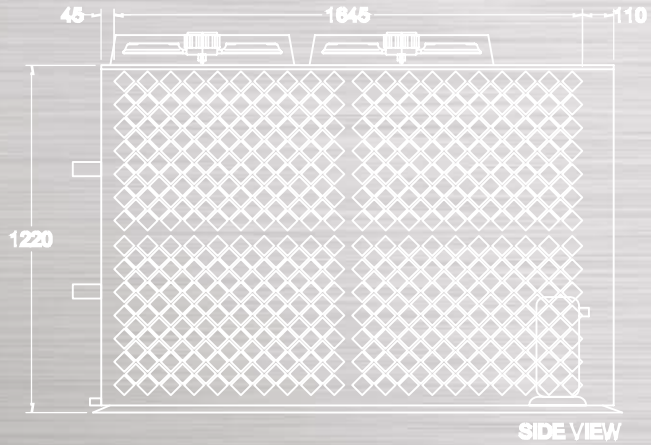
HIGH TEMPERATURE HOT WATER

HOT WATER TO CHILLED WATER

HYDRONIC HEATING

AQUACULTURE

POOL AND SPA HEATING



ACCENT HEAT PUMPS
A RHEEM COMPANY

Raypak®
A RHEEM COMPANY

UNDERSTANDING HOT WATER IS WHAT RHEEM DOES BEST

Rheem is the premier commercial water heater company in Australia. Our reputation is built on a trust we have developed with specifiers, installers and users in over 40 years of servicing the commercial water heating industry.

Rheem's Commercial and Industrial product range is extensive and covers Solar and Heat Pump, Gas Storage and Continuous Flow, Raypak Hot Water, Boiling Water and Electric and Warm Water.

Rheem Thermal Systems Group

Specialist solutions for niche markets

Rheem's Thermal Systems Group is a newly created specialist arm of the broader Rheem business. The Group represents an exciting mix of innovative gas and electric heat pump hot water technology, focusing on niche markets. The Group comprises the Raypak and Accent Divisions of Rheem and reflects a combined sixty years of local market experience and product excellence. These companies have routinely undertaken some of Australia's and Asia's most high profile and bespoke projects and the merging of the unique skill sets and technology expertise under the Rheem Thermal banner will see a further extension of the combined focus on high efficiency and innovative hot water solutions.

Both Accent and Raypak are specialist manufacturers with their production facilities being in Sydney and Melbourne respectively. While the companies have a long history in the Australian market, the Accent and Raypak products likewise have an equally strong international record as evidenced by projects such as the heating and cooling of the Bangkok Aquatic Centre for the Asian Games undertaken in 1998. Today, the development of international markets is a key focus of the Rheem Thermal Group and its product base includes high ambient, hot water heat pump technology, specifically-designed and developed using the Research and Development excellence of Rheem for the Asian market.

Certified Product™ Australian Standard AS/NZS 2712 Lic SMK 0757 Lic SMK 1048 Lic SMKP 21548 SAI Global

Certified System™ Quality ISO 9001

WaterMark™ AS 3498 Lic WMKA 00153 Lic WMKA 00177 Lic WMKA 00299 Lic WMKA 00500 Lic WMKA 21434 Lic WMKA 21549 Lic WMKA 21766 SAI Global

The Australian Gas Association

ACCENT HEAT PUMPS A RHEEM COMPANY

Raypak® A RHEEM COMPANY

WHY CHOOSE RHEEM THERMAL?

There are many critically important reasons as to why you should choose Rheem Thermal to assist you with your water heating needs.

But these can be condensed to one simple element - trust.

You can trust that you will receive quality product that is supported by one of Australia's most recognised and respected brands, which has served the Australian market since 1939. Rheem in turn is owned by Paloma Co Ltd, an international leader in water heating and space heating technology and manufacture.

You can trust that the product design meets all Australian Standards. It will be fully compliant for electrical safety.

You can trust that the product has been designed to work at optimal efficiency in your application and in your climate. For heat pumps, Rheem has a full psychrometric test laboratory where we are able to develop our designs in controlled conditions from -10°C to 50°C ambient.

You can trust that we do not have a one size fits all mentality.

You can trust that we have designed and manufactured the product to achieve benchmark minimum performance standards. Our product represents the best that we can do. We could build product more cheaply but we won't. Our over-riding commitment is to efficiency, robustness, compliance and safety.

You can trust where the product comes from.

We manufacture our Raypak gas heaters in Melbourne and our Accent heat pumps in Sydney.

You can talk to us before your heater is built. We will learn your application and help ensure that the end product achieves your target outcomes. In many cases, we will have the option to modify the product and customize its build to the specific needs of your project.

You can trust that in the event that the product needs technical or service support that we will be here for the long haul. We will have expert product designers on hand, factory technicians and the long-established service network that you would expect from companies with a combined 60+ years specialization in gas and heat pump water heating.

Rheem Thermal heating and cooling systems feature in some of Australia and Asia's most prestigious projects.
From top: Sydney Opera House; Harbourview Hotel, Macau; Houn Salmon, Macua Harbour, Sydney Cricket Ground.

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THE RHEEM THERMAL RANGE

Air-to-Water Heat Pumps:

The Accent Air-to-Water heat pump transfers heat from air, providing the advantages of a solar heater without the need for direct solar gain to a collector. While the rate of transfer is highest on warm days, heat gain is even made in sub zero temperatures or overnight providing the potential for year round heating.

Ground-Sourced Heat Pumps:

The ground absorbs nearly half the thermal energy reaching the earth from the sun. The Accent heat pump can harness this energy for both heating and cooling by a ground loop. As the ground remains at a relatively constant temperature, the heat pump operates at stable high efficiency.

Water-to-Water Heat Pumps:

Like the ground, water provides a relatively constant heat source. Water sources can vary from ground water to lakes, streams and even the ocean. The water-to-water unit is compact, quiet and harnesses nature's energy for hot water and swimming pool heating.

Direct connection and Closed Loop Natural Gas and Propane Pool Heaters:

Raypak has been the world's leading manufacturer of copper finned boilers for over fifty years. We have sold the Raypak gas pool and spa heater in Australia since 1969 and began local manufacture under licence in 1983. This atmospheric product has been the tradesman's choice for decades because of the simplicity of design and reliability of operation.

Rheem Thermal's Major Areas of Market Application are:

Mechanical and Process Water Heating and Chilling:

The Accent high efficiency 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 and chilled water is typically supplied to fan coils for space heating and cooling while process needs are more often direct water uses.

High Ambient Hot Water Heating:

The Accent heat pump technology lends itself perfectly to Asian markets where the high air temperatures and high humidity translates to water heating at very high efficiency.

High Temperature Hot Water:

Accent's specialist focus and research capability means that it can offer high efficiency heat pump hot water up to 65°C leaving water temperature.

Hot Water to Chilled Water:

Often coupled to a building's chilled water ring main, this water-to-water type heat pump series achieves benchmark levels of energy efficiency by providing the dual functions of hot and 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 has also been used in primary industry applications such as piggeries, poultry farming and greenhouses.

Aquaculture Water Heating and Chilling:

Aquaculture (aqua farming) is another specialist niche for Rheem Thermal product. Our client base extends from market leading commercial operators to government research facilities in Australia and internationally and with a range of seafood extending from kingfish to lobster, from barramundi to abalone.

Residential Pool and Spa Gas and Heat Pump Heating:

The Accent and Raypak brands are synonymous with the heating of Australian pools and spas. In a market obsessed with lowest cost, these brands continue to reflect a commitment to quality, performance and true value.

Commercial and Aquatic Centre Pool Heating:

Rheem is clearly the Australian market leader in the heating of large pools.

Both the Accent and Raypak brands are internationally-recognised in this field. The region's most prestigious projects are included in a proud history including heating and cooling for the Pan Pacs, Commonwealth Games, Asian Games and Pacific Games.

Elite Sports:

Virtually all of Australia's major stadiums include Accent elite sports range of heater/chillers. In water-to-water design, these units simultaneously provide heating and chilling to separate recovery ice baths and hot spas. Alternatively, Accent's air-to-water units can be dedicated heaters or chillers or reverse cycle for water temperatures between 8°C to 40°C.

Dehumidification:

The Accent DH Series is designed for the control of relative humidity in indoor spaces and particularly, for residential or commercial indoor swimming pools.

Project Driven:

In addition to standard product, Accent has the ability to custom-design and manufacture its heat pumps to meet specific project needs. This manufacturing flexibility, range of design options and the willingness of its skilled design team to work with consultants and end clients in application evaluation and design sees it produce project-driven results and benchmark outcomes in energy efficiency, which form the foundation of its market reputation and success.

Design Options Include:

Heating Only Units:

The heating only heat pump provides high efficiency water heating, giving maximum operating cost reduction and reliability.

Heating & Cooling:

The reverse cycle heat pump provides water heating and cooling. This unique ability is used in a variety of applications but most commonly for space conditioning and comfort control in buildings and homes via the provision of cooled or heated water to fan coils or floor coils. This design is also commonly used in aquaculture and for pool heating and cooling.

Chilling only:

As a chiller, the unit provides cold water for applications as diverse as pond temperature maintenance for aquaculture through to chilled water coils for air conditioning systems.

Twin Heat Exchanger:

The twin heat exchanger model provides automated heating between two separate tasks from the single unit. Most commonly, this approach provides efficient split temperature heating between pool and spa.

Plunge Pool:

The Accent heat pump can uniquely provide cooling to one application while rejecting heat to another. This is most commonly used for resorts, day spas and sports training centres to provide hot and cold plunge pools.

Specialist Treatments for Corrosive Environments/ Anti-Corrosion Evaporator Treatments:

The standard coil is treated with Rheem Cote™ anti corrosion treatment. This is a total immersion coating and has been tested and exceeded a 5000 hours salt spray test to AS 2331.32 – 1980. This process can be repeated to be provided with a double dipped coil. Copper Fins on Copper Coil: In corrosive environments the aluminium fins will show the first sign of corrosion to the evaporator. The use of copper fins provides the ultimate protection.

Unit Construction:

Marine grade aluminium, stainless steel or zinc annealed powder coated cabinets are available.

Horizontal discharge design or remote discharge fans are available on models up to 100kW output. Horizontal discharge models can be stacked to reduce plant foot print or enable installation in low head height building overhang areas.

Units can also be made to connect to ducting for internal installations by the use of high static fans. Ducted models are designed to discharge the cold air outside of the plant room.

Specialist Treatments for Noise Sensitive Environments:

Accent offers various options in fan selection making the unit the quietest heat pump available. This includes the use of larger blade fans at low speed or unit design including axi-top fans. Other specific acoustic treatments are available such as compressor jackets, added case lining and hoods. Specialist acoustic louvres on air intake and pods for air discharge are also used where required on larger capacity systems.

All Weather Performance:

Automatic defrost either by hot gas by-pass or reverse cycle de-ice is standard on every Accent heat pump. Accent's advanced de-ice control allows the heat pump to continue performing in low ambient temperature conditions.

MECHANICAL AND PROCESS WATER HEATING AND CHILLING

High Efficiency Heat Pump Water Heating

The name Rheem is clearly synonymous with water heating. Rheem is a global brand and would be best known for residential gas storage and continuous flow hot water heaters. But with a product range which includes the Accent heat pump, Rheem Thermal's focus is on providing high thermal efficiency with hot water across a broad spectrum of commercial and industrial applications.

Capability

The Accent product range suits small commercial through to large-scale industrial uses, with a broad capacity spread and the capability to provide hot water up to 61°C (HW Series), chill to 8°C (CH Series) or to provide reverse cycle functionality, using Refrigerant R407c. Typically, these units operate at a temperature differential of around 6°K but the hydraulic layout of the unit can be altered to allow for higher temperature rise at a lower water flow rate.

The units are of both air-to-water and water-to-water type. In air-to-water design, the operating condition (ambient) range is -8°C to 45°C. In water-to-water type, the minimum entering water temperature on the secondary side is 8°C, with a maximum leaving water temperature on the primary side of 61°C.

Efficiency

Fine tuning of system performance in our world class psychrometric test facility has led to co-efficients of performance of up to 4.9 at nominal conditions, with higher efficiencies leading directly to reduced energy consumption, lowered demand and improved recovery rates.

Range

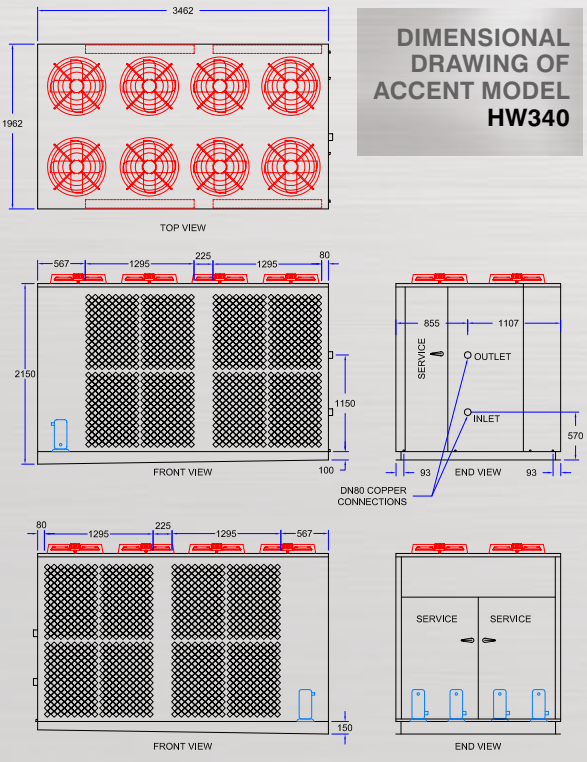
The range is extensive and diverse and ranges from single compressor models at 14KW nominal output to quad compressor models up to 340kW. Technical data for a cross-section of the range is given on the following page. Contact would be welcomed on other capacity and design configuration options.

Extra Features

Fully upgradable to Rheem IQ® tariff intelligent control and BMS interface. Capable of compressor staging with optional power factor correction.

Government Offices, Anne St, Brisbane - 300kW building loop heating

DIMENSIONAL DRAWING OF ACCENT MODEL HW340



Hot Water (HW) Series - Air-to-Water type

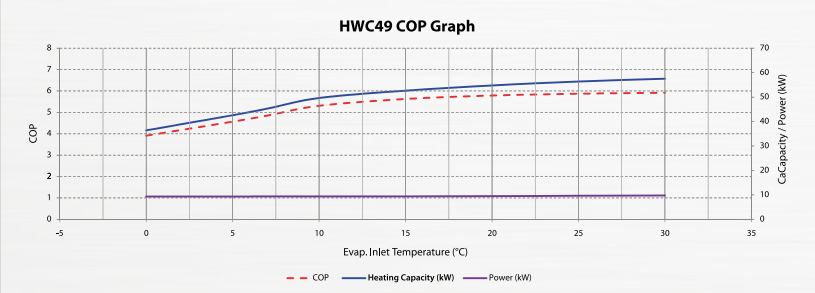
MODEL	Electrical	FLA (Full Load Amps)	Rated Load Amps 10°C SST / 51°SCT	Max. Leaving Water temp. °C	Min CB size	Heating kW	Power	COP	Airflow L/S	Water Flowrate L/S	Weight (kg)	Dimensions (mm) Length x Width x Height
HW13.5-1	1 Ph/240V/50Hz	18.6	13.5	61	25	13.6	2.9	4.8	680	0.5	80	1000 x 475 x 1150
HW23-1	1 Ph/240V/50Hz	27.3	20.7	61	32	23.4	5.1	4.6	1600	0.9	110	1150 x 565 x 980
HW23-3	3 Ph/415V/50Hz	12.5	9.6	61	16	23.6	5.0	4.7	1600	0.9	110	1150 x 565 x 980
HW27-3	3 Ph/415V/50Hz	16.0	12.7	61	20	27.3	6.0	4.5	2500	1.1	120	1450 x 700 x 825
HW37-3	3 Ph/415V/50Hz	19.0	15.5	61	25	37.0	7.6	4.9	2500	1.5	170	1750 x 800 x 825
HW50-3	3 Ph/415V/50Hz	24.2	19.0	61	40	49.6	10.6	4.7	4700	2.0	240	1750 x 800 x 1015
HW64-3	3 Ph/415V/50Hz	33.6	27.7	61	40	64.0	13.9	4.6	4700	2.6	260	1750 x 800 x 1215
HW86	3 Ph/415V/50Hz	41.6	32.6	61	50	86.7	17.8	4.9	4700	3.4	430	1900 x 1000 x 1215
HW99-3	3 Ph/415V/50Hz	47.0	36.6	61	60	99.3	20.6	4.8	7335	3.9	800	2210 x 1610 x 2020
HW128-3	3 Ph/415V/50Hz	67.2	55.4	61	80	128.0	27.8	4.6	9400	5.1	820	2200 x 1610 X 2270
HW149-3	3 Ph/415V/50Hz	72.8	57.0	61	80	148.9	31.7	4.7	14100	5.9	1200	3462 x 1610 x 2290
HW192-3	3 Ph/415V/50Hz	103.2	85.5	61	120	192.0	42.9	4.5	18800	7.6	1300	3462 x 1610 x 2290
HW256-3	3 Ph/415V/50Hz	134.4	110.8	61	150	256.0	55.6	4.6	18800	10.2	1700	3462 x 1962 x 2290
HW340-3	3 Ph/415V/50Hz	163.7	127.1	61	180	339.9	74.9	4.5	29300	13.5	2050	3462 x 1962 x 2290

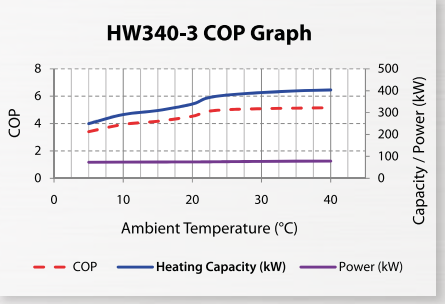
Design conditions Hot side 39°C water inlet, 45°C water outlet @ 51°C SCT, 20°C Ambient, 60% RH @ 10°C SST.

Hot Water (HWC) Series – Water-to-Water type

Model	Voltage	FLA (Full Load Amps)	Rated Load Amps 2°C SST / 51°SCT	Max LWT °C	Min CB size	Heating kW	Heating Power	Heating COP	Heating Water Flowrate L/S	Cooling kW	Cooling Power	Cooling COP	Cooling Water Flowrate L/S	Combined COP
HWC23	3 Ph/380-415V/50Hz	10.7	8.3	61	16	17.3	4.7	3.7	0.7	12.6	4.7	2.7	0.6	6.4
HWC27	3 Ph/380-415V/50Hz	13.2	10.3	61	20	21.1	5.4	3.9	0.8	15.7	5.4	2.9	0.8	6.8
HWC37	3 Ph/380-415V/50Hz	16.6	13.1	61	20	29.1	7.0	4.1	1.2	22.1	7.0	3.1	1.1	7.3
HWC49	3 Ph/380-415V/50Hz	21.8	16.6	61	25	38.9	9.3	4.2	1.6	29.5	9.3	3.2	1.4	7.3
HWC64	3 Ph/380-415V/50Hz	31.2	25.2	61	40	50.1	12.6	4.0	2.0	37.5	12.6	3.0	1.8	7.0
HWC85	3 Ph/380-415V/50Hz	37.9	28.2	61	50	66.6	16.6	4.0	2.6	50.0	16.6	3.0	2.4	7.0
HWC98	3 Ph/380-415V/50Hz	43.6	33.1	61	50	77.8	18.7	4.2	3.1	59.1	18.7	3.2	2.8	7.3
HWC128	3 Ph/380-415V/50Hz	62.4	50.4	61	80	100.2	25.2	4.0	4.0	75.0	25.2	3.0	3.6	7.0
HWC149	3 Ph/380-415V/50Hz	65.4	49.7	61	80	116.6	28.0	4.2	4.7	88.6	28.0	3.2	4.2	7.3
HWC192	3 Ph/380-415V/50Hz	93.6	75.7	61	100	150.3	37.8	4.0	6.0	112.5	37.8	3.0	5.4	7.0
HWC256	3 Ph/380-415V/50Hz	124.8	100.9	61	150	200.4	50.4	4.0	8.0	150.1	50.4	3.0	7.2	7.0
HWC340	3 Ph/380-415V/50Hz	151.6	112.6	61	160	266.3	66.2	4.0	10.4	200.1	66.2	3.0	9.6	7.0

Design conditions Hot side 39°C water inlet, 45°C water outlet and 51°C SCT, Cold side 12°C water inlet, 7°C water outlet and 2°C SST.





HIGH AMBIENT HOT WATER

Hot Water for high volume users in Asia

The Accent HA Series has been specifically designed to provide hot water for large volume users in Asian markets. The high temperatures and high humidity so characteristic of much of Asia provides a perfect setting for high efficiency heat pumps to produce hot water. This warmth provides a constant heat source for a heat pump, which extracts this heat and converts this to water heating at high efficiency, lowering electrical usage and demand.

Capability

The Accent High Ambient (HA) range includes two series, units using R407c for hot water heating up to 61°C and R134a for heating up to 65°C. Given the warm, moist ambient temperatures of the intended tropical locales for installation, the standard design of the HA units excludes a de-ice capacity and is recommended for a minimum operating ambient of 15°CDB. But recognising that countries such as Hong Kong can see low overnight temperatures, the addition of hot gas de-ice is provided as an option. The designation (HG) indicates that hot gas deice is fitted and the minimum operating ambient lowers to -5°C.

Efficiency

Dedicated product development for the Asian market, with the tropical conditions replicated in Rheem's world class psychrometric test facility has led to co-efficients of performance of up to 5.2, with higher efficiencies leading directly to reduced energy consumption, lowered demand and improved recovery rates.

Range

The range is extensive and diverse and ranges from single compressor models at 20KW nominal output (heating) to dual compressor models up to 136kW. Technical data for a cross-section of the range is given on the following page. Contact would be welcomed on other capacity and design configuration options.

Extra Features

Purpose designed refrigeration system for high ambient locations. Full commercial construction with marine grade aluminium case and Rheem Cote® anti-corrosion treatment of evaporators. Digital controls and upgradable to Rheem IQ® including BMS connectivity. Available with or without deice capacity (hot gas injection).

Macua, China - location of multiple Accent heat pump installations

High ambient hot water heat pumps - R407c Models for 61°C water

Model	FLA (Full Load Amps)	Rated Load Amps 12°C SST / 51°SCT	Max.Leaving Water temp. °C	Min CB size	Heating kW	Power	COP	Airflow L/S	Water Flowrate L/S	Weight (kg)	Dimensions (mm) Length x Width x Height
HW25HA-3HG	12.5	9.6	61	20	25.4	5.0	5.1	1600	1.01	100	1150 x 565 x 980
HW30HA-3HG	16.0	12.8	61	20	29.1	6.0	4.8	2300	1.16	120	1150 x 565 x 980
HW40HA-3HG	19.0	15.5	61	25	39.4	7.6	5.2	2300	1.57	170	1750 x 800 x 825
HW50HA-3HG	24.2	19.0	61	40	52.6	10.6	5.0	4700	2.09	290	1800 x 800 x 1220
HW65HA-3HG	33.6	27.7	61	63	68.0	13.9	4.9	4700	2.71	300	1800 x 800 x 1220
HW80HA-3HG	35.6	28.6	61	63	78.7	15.3	5.1	4700	3.13	400	1750 x 1175 x 1215
HW105HA-3HG	47.0	36.6	61	63	105.3	20.7	5.1	7335	4.19	600	2210 x 1175 x 1300
HW135HA-3HG	65.8	54.0	61	80	136.0	27.3	5.0	7335	5.41	650	2210 x 1175 x 1300

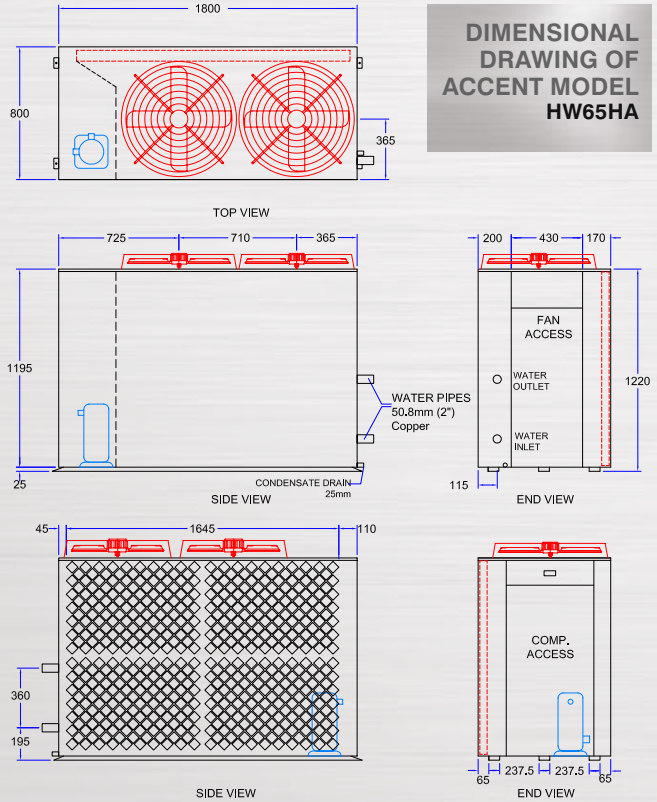
High ambient hot water heat pumps - R134a models for 65°C water

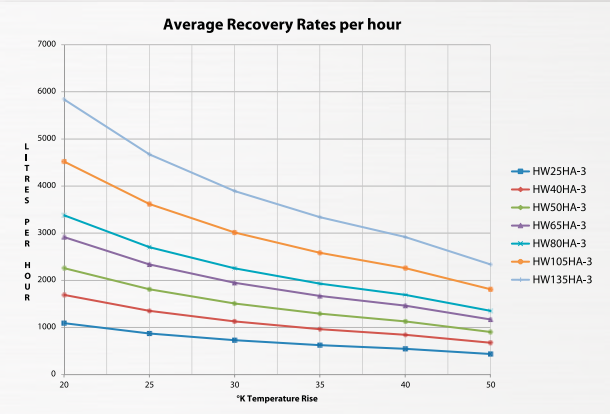
Model	FLA (Full Load Amps)	Rated Load Amps 12°C SST / 51°SCT	Max.Leaving Water temp. °C	Min CB size	Heating kW	Power	COP	Airflow L/S	Water Flowrate L/S	Weight (kg)	Dimensions (mm) Length x Width x Height
HW20DHA-3HG	12.8	9.6	65	20	20.4	4.1	5.0	1600	0.80	100	1150 x 565 x 980
HW35DHA-3HG	20.2	14.5	65	32	35.0	7.0	5.0	2300	1.40	170	1750 x 800 x 825
HW48DHA-3HG	27.9	23.9	65	40	47.6	10.1	4.7	4700	1.90	300	1800 x 800 x 1220
HW62DHA-3HG	31.1	24.1	65	40	62.0	12.8	4.9	4700	2.47	400	2050 x 800 x 1510
HW124DHA-3HG	60.8	46.8	65	80	124.0	25.0	5.0	7335	4.93	650	2200 x 1400 x 1330

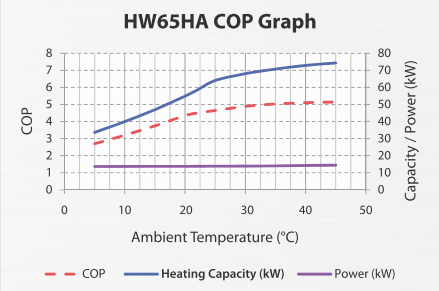
Design conditions - 39°C EWT, 45°C LWT @51°SCT, 30°C Ambient, 60% RH @ 10°C SST
Power supply 380 -415V / 50 Hz / 3 phase

The above models are also available without de-ice capabilty for temperate locations (recommended minimum ambient of 15°C DB)

DIMENSIONAL DRAWING OF ACCENT MODEL HW65HA







HIGH TEMPERATURE HOT WATER

Hot Water to 65°C using R134a

Rheem's specialist focus and research capability has it devoted to the achievement of higher water temperatures without compromise to efficiency. The extension of the Accent's heat pump's operating range to 65°C leaving water temperature broadens the application of this technology and delivers high efficiency to new segments of the hot water market.

Capability

The Accent High Temperature range sees the use of Refrigerant R134a for heating up to 65°C. In their standard design, the units include deice by hot gas injection and are suitable for minimum operating ambients to -5°C. The range is capable of meeting small residential needs up to the large hot water loads of commercial buildings in heating and space conditioning, with a recovery ability of up to 4,000 litres per hour (based on a 40°C temperature rise).

Efficiency

Dedicated product development both in the field and in Rheem's world class psychrometric test facility has led to co-efficients of performance of between 4.7 to 5.0 at rating conditions, with higher efficiencies leading directly to reduced energy consumption, lowered demand and improved recovery rates.

Range

The range is extensive and diverse and ranges from single compressor models at 20KW nominal output (heating) to dual compressor models up to 190kW. Technical data for a cross-section of the range is given on the following page. Contact would be welcomed on other capacity and design configuration options.

Extra Features

Purpose designed refrigeration system for high ambient locations. Full commercial construction with marine grade aluminium case and Rheem Cote® anti-corrosion treatment of evaporators. Digital controls and upgradable to Rheem IQ® including BMS connectivity.

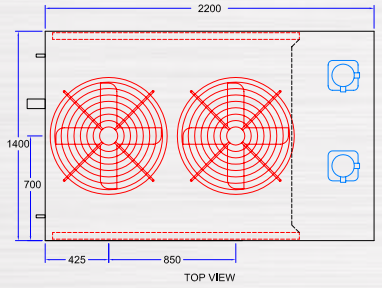
Vinpearl Nha Trang Resort, Vietnam - site of multiple Accent hot water and pool heaters

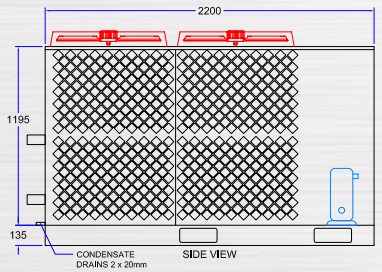
High Temperature Hot Water Series (DHT) - R134a models for 65°C water

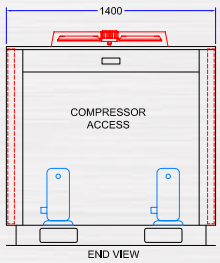
Model	Electrical	FLA (Full Load Amps)	Rated Load Amps 10°C SST / 51°SCT	Max. Leaving Water temp. °C	Min CB size	Heating kW	Power	COP	Design TD	Airflow L/S	Water Flowrate L/S	Weight (kg)	Dimensions (mm) Length x Width x Height
HW20DHT-3	3 Ph/415V/50Hz	12.8	9.6	65	20	19.1	4.0	4.7	6	1600	0.8	100	1150 x 565 x 980
HW90DHT-3	3 Ph/415V/50Hz	54.5	46.5	65	100	89.2	19.5	4.6	6	7335	3.6	800	2200 x 1400 x 1330
HW134DHT-3	3 Ph/415V/50Hz	83.8	71.8	65	100	133.8	30.1	4.5	6	14100	5.3	1250	3462 x 1962 x 2040
HW179DHT-3	3 Ph/415V/50Hz	111.8	95.7	65	150	178.3	40.1	4.5	6	18800	7.1	1500	3462 x 1962 x 2040

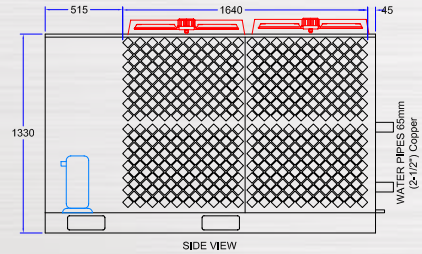
Design conditions - 39°C EWT, 45°C LWT @51°SCT, 30°C Ambient, 60% RH @ 10°C SST

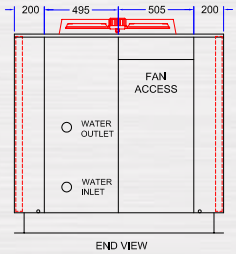
DIMENSIONAL DRAWING OF ACCENT MODEL HW90DHT-3



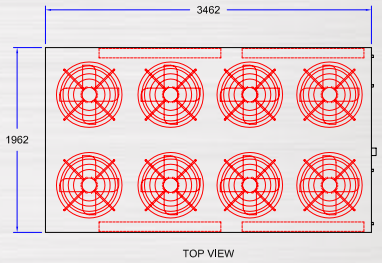


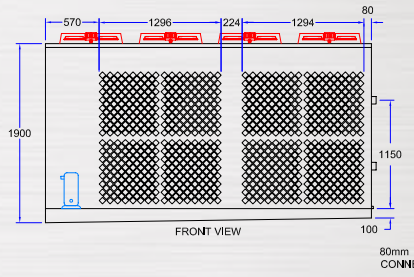


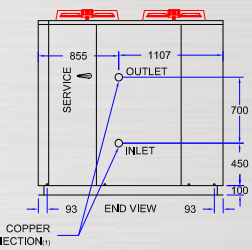


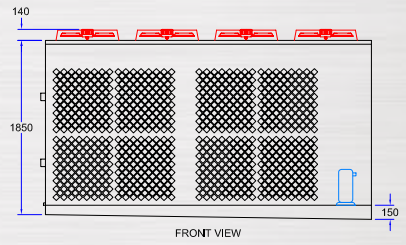


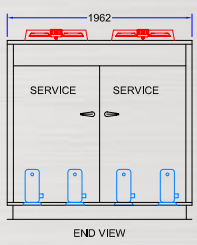
DIMENSIONAL DRAWING OF ACCENT MODEL HW179DHT-3

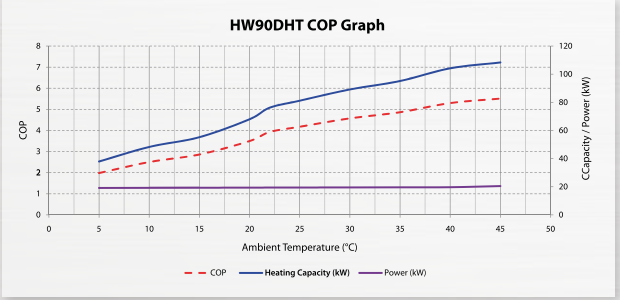


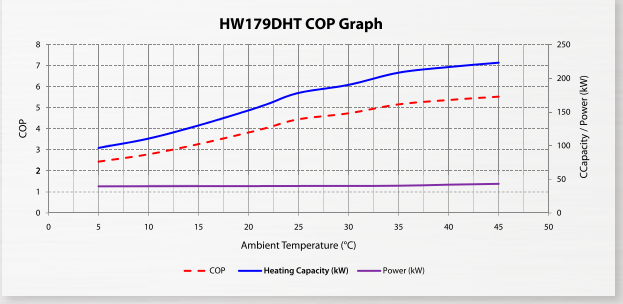












HOT WATER TO CHILLED WATER

Ultra efficiency in hot water and chilled water supply

The Accent HWC Series achieves unparalleled levels of energy efficiency by simultaneously providing high efficiency hot water and chilling, via water-to-water heat pump design. Most commonly with the unit connected to the condenser water ring main of a building, the primary function is hot water heating. But with heat transfer to a storage tank, the by-product is chilled water which lowers load to the building chiller.

Capability

The Accent Hot Water to Chilled Water (HWC) range includes units using R407c for hot water heating up to 61°C, with a minimum entering water temperature on the building loop of 12°C, giving a return water temperature of 7°C. Warmer temperatures to the ring main or water source see the heat transfer and efficiencies improve. The ambient temperature of the installation location has no impact on the performance of this type of plant, with the units being compact and suitable for indoor or external installation.

Efficiency

The ability of these units to provide a dual efficiency sees combined COPs of up to 9.6. The efficiency in hot water production is in the range of 5.0 to 5.3 and this leads to substantial savings in energy use and heating cost. The savings are magnified where the cooling by-product lessens a building's chilling load. COPs in cooling are in the range of 3.9 to 4.3.

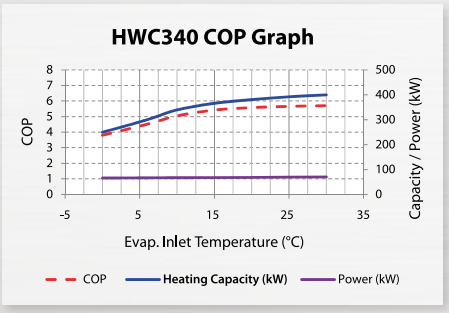
Range

The range is extensive and covers single compressor models between 17kW nominal output (heating) to quad compressor models up to 339kW. Technical data for a cross-section of the range is given on the following page. Contact would be welcomed on other capacity and design configuration options.

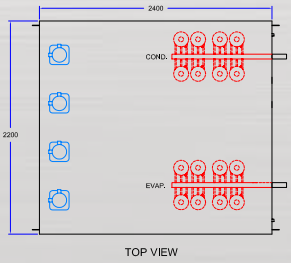
Hong Kong - A successful market for the Accent heat pump

Extra Features

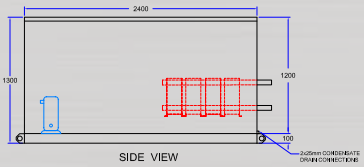
Copper heat exchanger either side, single-wall but with optional vented design. Flow switch protection. Multiple safeties including low temperature freeze protection on the chilled water side. Full commercial construction with marine grade aluminium case. Digital controls and upgradable to Rheem IQ® including BMS connectivity.



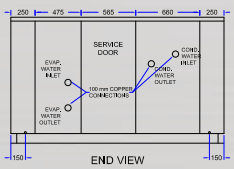
DIMENSIONAL DRAWING OF ACCENT MODEL HWC340



TOP VIEW



SIDE VIEW



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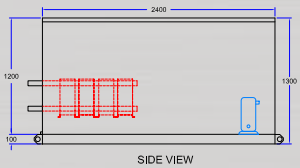
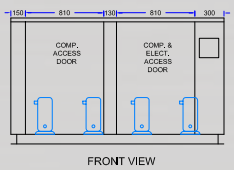
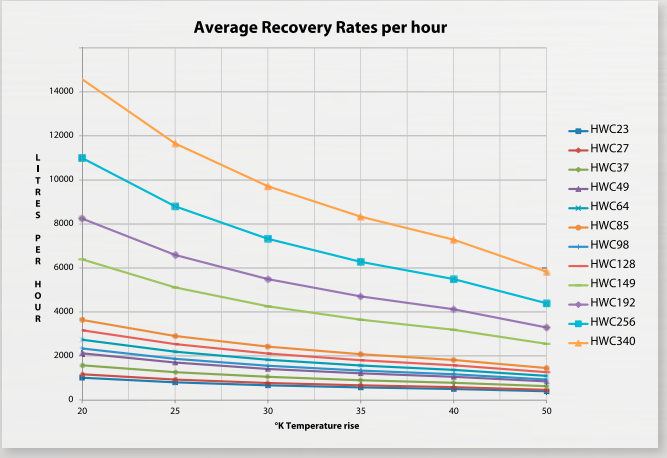


SIDE VIEW



FRONT VIEW



Hot Water to Chilled Water Series (HWC) - Cold Side 20°C EWT

Model	Electrical	FLA (Full Load Amps)	Rated Load Amps 10°C SST / 51°SCT	Max LWT °C	Min CB size	Heating kW	Heating Power	Heating COP	Heating Water Flowrate L/S	Cooling kW	Cooling Power	Cooling COP	Cooling Water Flowrate L/S	Combined COP
HWC23	3 Ph/380-415V/50Hz	10.7	8.4	61	20	23.6	4.7	5.0	0.9	18.9	4.7	4.0	0.9	9.1
HWC27	3 Ph/380-415V/50Hz	13.2	10.4	61	20	27.3	5.5	5.0	1.1	21.3	5.5	3.9	1.0	8.9
HWC37	3 Ph/380-415V/50Hz	16.6	13.1	61	20	37.0	7.0	5.3	1.5	29.9	7.0	4.3	1.4	9.5
HWC49	3 Ph/380-415V/50Hz	21.8	16.6	61	25	49.6	9.4	5.3	2.0	40.3	9.4	4.3	1.9	9.6
HWC64	3 Ph/380-415V/50Hz	31.2	25.3	61	40	64.0	12.7	5.0	2.6	51.3	12.7	4.0	2.5	9.1
HWC85	3 Ph/380-415V/50Hz	37.9	28.4	61	50	84.8	16.9	5.0	3.4	68.0	16.9	4.0	3.2	9.1
HWC98	3 Ph/380-415V/50Hz	43.6	33.2	61	50	99.3	18.7	5.3	3.9	80.5	18.7	4.3	3.8	9.6
HWC128	3 Ph/380-415V/50Hz	62.4	50.6	61	80	128.0	25.4	5.0	5.1	102.6	25.4	4.0	4.9	9.1
HWC149	3 Ph/380-415V/50Hz	65.4	49.8	61	80	148.9	28.1	5.3	5.9	120.8	28.1	4.3	5.8	9.6
HWC192	3 Ph/380-415V/50Hz	93.6	75.9	61	100	192.0	38.1	5.0	7.7	154.0	38.1	4.0	7.4	9.1
HWC256	3 Ph/380-415V/50Hz	124.8	101.2	61	150	256.0	50.8	5.0	10.2	205.3	50.8	4.0	9.8	9.1
HWC340	3 Ph/380-415V/50Hz	151.6	113.5	61	160	339.2	67.4	5.0	13.5	271.8	67.4	4.0	13.0	9.1

Design conditions Hot side 39°C water inlet, 45°C water outlet and 51°C SCT, Cold side 20°C water inlet, 15°C water outlet and 10°C SST.

Hot Water to Chilled Water Series (HWC) - Cold Side 12°C EWT

Model	Voltage	FLA (Full Load Amps)	Rated Load Amps 2°C SST / 51°SCT	Max LWT °C	Min CB size	Heating kW	Heating Power	Heating COP	Heating Water Flowrate L/S	Cooling kW	Cooling Power	Cooling COP	Cooling Water Flowrate L/S	Combined COP
HWC23	3 Ph/380-415V/50Hz	10.7	8.3	61	20	17.3	4.7	3.7	0.7	12.6	4.7	2.7	0.6	6.4
HWC27	3 Ph/380-415V/50Hz	13.2	10.3	61	20	21.1	5.4	3.9	0.8	15.7	5.4	2.9	0.8	6.8
HWC37	3 Ph/380-415V/50Hz	16.6	13.1	61	20	29.1	7.0	4.1	1.2	22.1	7.0	3.1	1.1	7.3
HWC49	3 Ph/380-415V/50Hz	21.8	16.6	61	25	38.9	9.3	4.2	1.6	29.5	9.3	3.2	1.4	7.3
HWC64	3 Ph/380-415V/50Hz	31.2	25.2	61	40	50.1	12.6	4.0	2.0	37.5	12.6	3.0	1.8	7.0
HWC85	3 Ph/380-415V/50Hz	37.9	28.2	61	50	66.6	16.6	4.0	2.6	50.0	16.6	3.0	2.4	7.0
HWC98	3 Ph/380-415V/50Hz	43.6	33.1	61	50	77.8	18.7	4.2	3.1	59.1	18.7	3.2	2.8	7.3
HWC128	3 Ph/380-415V/50Hz	62.4	50.4	61	80	100.2	25.2	4.0	4.0	75.0	25.2	3.0	3.6	7.0
HWC149	3 Ph/380-415V/50Hz	65.4	49.7	61	80	116.6	28.0	4.2	4.7	88.6	28.0	3.2	4.2	7.3
HWC192	3 Ph/380-415V/50Hz	93.6	75.7	61	100	150.3	37.8	4.0	6.0	112.5	37.8	3.0	5.4	7.0
HWC256	3 Ph/380-415V/50Hz	124.8	100.9	61	150	200.4	50.4	4.0	8.0	150.1	50.4	3.0	7.2	7.0
HWC340	3 Ph/380-415V/50Hz	151.6	112.6	61	160	266.3	66.2	4.0	10.4	200.1	66.2	3.0	9.6	7.0

Design conditions Hot side 39°C water inlet, 45°C water outlet and 51°C SCT, Cold side 12°C water inlet, 7°C water outlet and 2°C SST.

HYDRONIC HEATING

A clean and silent approach to space heating

Hydronic heating provides a luxurious form of space heating for homes and commercial buildings, with heated water circulated either via underfloor loops or radiators. Hydronic heating creates constant temperature distribution and its radiant heating warms objects rather than air by natural convection, giving great heating efficiency and comfort.

Capability

The Accent hydronic heat pump uses R407c and is available in both air-to-water and ground-sourced/water-to-water design. Air-to-water type is suitable for an operating range between 0°C to 40°C ambient. The use of water-to-water design (with the water source may be a dam, river or canal) or ground-coupled type (where the fluid is typically a water/glycol mix which is circulated in a closed ground loop) allows the use of heat pumps in cold climate zones where sub-zero ambient temperatures would otherwise preclude this technology. For a water-sourced unit, the minimum entering water temperature to the heat pump's secondary side would be 12°C, with the leaving water at 7°C. These parameters lower to 0°C/-5°C for water circulating in a closed ground-loop given that the risk of freezing is eliminated by the use of glycol. These units are capable of heating water up to 61°C but are also manufactured as reverse cycle to provide a potential for space heating and cooling.

Efficiency

The efficiency of these units in hot water production is broadly in the range of 2.5 to 5.0, with this figure varying depending on the temperature requirements of the application as well as the temperature of the heat source.

Range

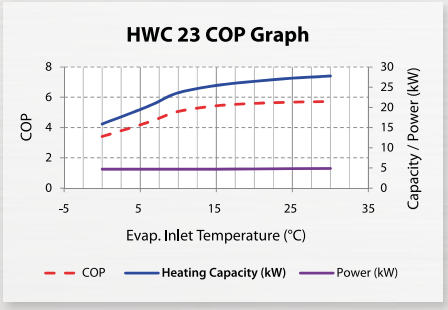
Our residential range focuses on home space heating with single phase options to a nominal heating capacity of 23kW and three phase options to 50kW. The commercial range includes units up to 339kW. Technical data for a cross-section of the range is given on the following page. Contact would be welcomed on other capacity and design configuration options.

Breadth of use

The standard function of these units is to provide comfort space heating and cooling but the robustness and versatility of the Accent design has seen use in a wide variety of applications, particularly in primary industries (such as piggeries and poultry sheds) and agriculture (greenhouse heating).

Extra Features

Heat exchangers can be stainless steel plate or copper shell-in-tube. Copper shell-in-tube may be upgraded to cupro-nickel, either side, single-wall or with optional vented design. Flow switch protection. Multiple safeties including low temperature freeze protection on the chilled water side. Full commercial construction with marine grade aluminium case. Digital controls and upgradable to Rheem IQ® including BMS connectivity.



Gold Coast Aquatic Centre - 2018 Commonwealth Games Venue

Hydronic Heating (HW and HWW) Series

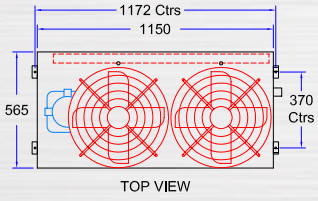
MODEL	Electrical	FLA (Full Load Amps)	Rated Load Amps 10°C SST / 51°SCT	Max. Leaving Water temp. °C	Min CB size	Heating kW	Power	COP	Airflow L/S	Water Flowrate L/S	Weight (kg)	Dimensions (mm) Length x Width x Height
Air-to-Water Type												
HW13.5-1	1 Ph/240V/50Hz	18.6	13.5	61	25	13.6	2.8	4.8	680	0.5	80	1000 x 475 x 1150
HW23-1	1 Ph/240V/50Hz	27.3	20.7	61	32	23.4	5.1	4.6	1600	0.9	110	1150 x 565 x 980
HW23-3	3 Ph/415V/50Hz	12.5	9.6	61	16	23.6	5.0	4.8	1600	0.9	110	1150 x 565 x 980
HW50-3	3 Ph/415V/50Hz	24.2	19.0	61	40	49.6	10.6	4.7	4700	2.0	240	1750 x 800 x 1015

Design conditions Hot side 39°C water inlet, 45°C water outlet @ 51°C SCT, 20°C Ambient, 60% RH @ 10°C SST

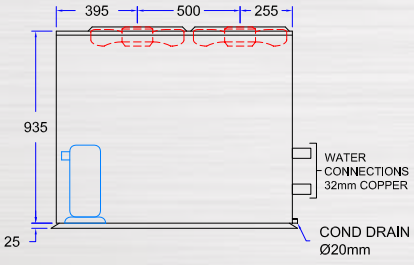
Ground-Sourced and Water-to-Water Type												
HWW23	3 Ph/415V/50Hz	10.7	8.4	61	20	27.0	5.0	5.0	-	0.9	100	900 * 700 * 625
HWW37	3 Ph/415V/50Hz	16.6	13.1	61	20	37.0	7.0	5.3	-	1.5	170	1400* 700 * 775
HWW49	3 Ph/415V/50Hz	21.8	16.6	61	25	49.6	9.4	5.3	-	1.9	230	1750 * 800 * 825
HWW64	3 Ph/415V/50Hz	31.2	25.3	61	40	64.0	12.7	5.0	-	2.5	300	1750 * 800 * 825

Design conditions Hot side 39°C water inlet, 45°C water outlet and 51°C SCT, Cold side 20°C water inlet, 15°C water outlet and 10°C SST.

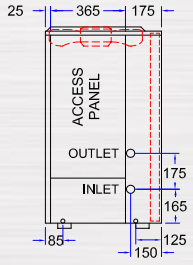
DIMENSIONAL DRAWING OF ACCENT MODEL HW23-3



TOP VIEW



BACK VIEW



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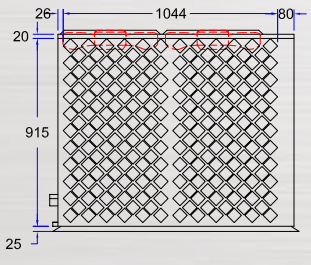
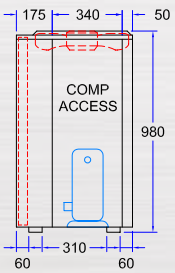
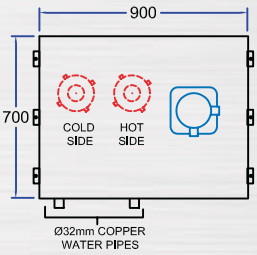


FRONT VIEW

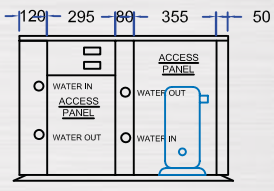


END VIEW

DIMENSIONAL DRAWING OF ACCENT MODEL HWW23



TOP VIEW



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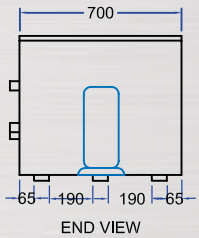
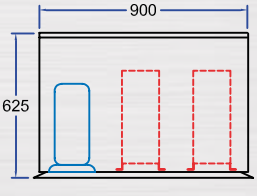
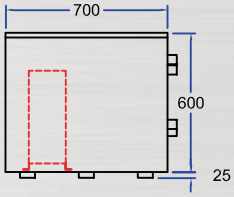


END VIEW



BACK VIEW



END VIEW

AQUACULTURE WATER HEATING AND CHILLING

Industry-focused design and an unparalleled track record

Rheem has been at the forefront of providing purpose-designed plant for the heating and cooling of water for the aquaculture industry for two decades. The products vary from large Raypak gas boilers providing tank heating via secondary heat exchange to directly connected Accent high efficiency heat pumps, providing both water heating and cooling.

Capability

Accent heat pump's and chillers meet a diversity of aquaculture needs, with a capability to heat or chill tank and seawater from 6°C to 40°C. The range is available in both air-to-water and water-to-water design and for direct or indirect connection. Air-to-water type is suitable for most locations, with an ambient temperature operating range between 0°C to 40°C. The use of water-to-water design allows the use of heat pumps in cold climate zones where sub-zero ambient temperatures would otherwise be problematic. The Accent units may be designed for heating only, reverse cycle heating and cooling or as chillers. The Raypak closed loop boiler provides a robust gas option with high temperature hot water circulated for heating via a secondary heat exchanger.

Efficiency

With application temperatures typically maintained in the range of 24°C to 27°C, the Accent heat pump can work to COPs of up to 6.0. COPs in heating are lower at colder ambients and are also lower when the plant is operated for water chilling.

Range

The Accent unit has broad application in aquaculture with capacity options ranging from plug-connected heat pump heaters at 9kW output up to 339kW heating capacity for large-scale aqua farming projects. Technical data for a cross-section of the range is given on the following page. Contact would be welcomed on other capacity and design configuration options.

Breadth of use

The versatility is enormous with uses made for aquaculture and aquascience ranging across fish species such as barramundi, salmon, tuna and trout to shellfish such as abalone, lobsters and prawns, both in Australia and internationally.

Extra Features

Full commercial construction with marine grade aluminium case and Rheem Cote® anti-corrosion treatment of the evaporator. Titanium heat exchangers in direct connection units. Digital controls and upgradable to Rheem IQ® including BMS connectivity.

Huon Salmon, Tasmania - hatchery water chilling to 8°C

Chiller Models High Temperature

MODEL	Electrical	FLA (Full Load Amps)	Rated Load Amps 10°C SST / 51°SCT	Min CB size	Cooling kW	Power	COP	Airflow L/S	Water Flowrate L/S	Water connection size mm	Weight (kg)	Dimensions (mm) Length x Width x Height
CHW12-1	1 Ph/240V/50 Hz	19.4	12.6	25	11.7	2.7	4.3	1600	2.8	40	80	1150 x 565 x 980
CHW13.5-1	1 Ph/240V/50 Hz	21.9	15.5	32	13.6	3.1	4.3	1600	2.8	40	85	1150 x 565 x 980
CHW21-3	3 Ph/415V/50 Hz	12.9	8.8	20	20.7	4.4	4.7	1835	2.8	40	145	1487 x 615 x 990
CHW43-3	3 Ph/415V/50 Hz	24.2	17.4	32	43.1	9.4	4.6	4500	2.8	40	240	1750 x 800 x 1015
CHW55-3	3 Ph/415V/50 Hz	33.6	25.9	40	55.1	12.4	4.5	4700	2.8	40	260	1750 x 800 x 1215

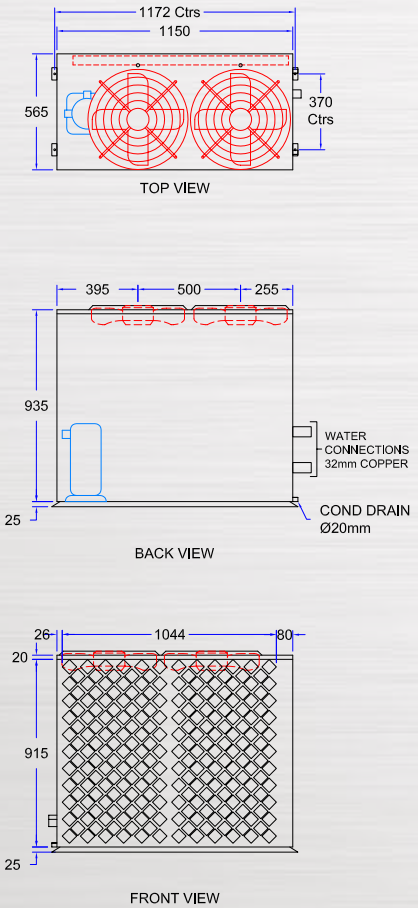
Design conditions 27°C leaving water temperature 27°C ambient temperature 45°C SCT and 10°C SST

Chiller Models Low Temperature

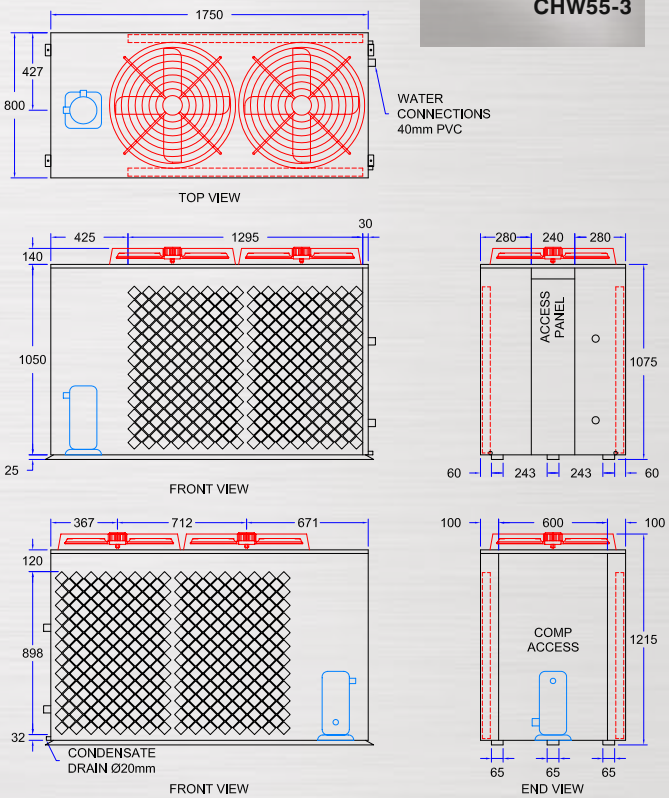
MODEL	Electrical	FLA (Full Load Amps)	Rated Load Amps 10°C SST / 51°SCT	Min CB size	Cooling kW	Power	COP	Airflow L/S	Water Flowrate L/S	Water connection size mm	Weight (kg)	Dimensions (mm) Length x Width x Height
CHW8.5-1	1 Ph/240V/50 Hz	19.4	13.0	25	8.6	2.8	3.1	1600	2.8	40	80	1150 x 565 x 980
CHW10-1	1 Ph/240V/50 Hz	21.7	15.2	32	10.2	3.1	3.3	1600	2.8	40	85	1150 x 565 x 980
CHW15-3	3 Ph/415V/50 Hz	12.9	8.7	20	15.3	4.4	3.5	1835	2.8	40	145	1487 x 615 x 990
CHW32-3	3 Ph/415V/50 Hz	24.2	17.3	32	32.0	9.3	3.4	4500	2.8	40	240	1750 x 800 x 1015
CHW40-3	3 Ph/415V/50 Hz	33.6	25.8	40	40.7	12.2	3.3	4500	2.8	40	260	1750 x 800 x 1215

Design conditions 7°C leaving water temperature 27°C ambient temperature 45°C SCT and 2°C SST

DIMENSIONAL DRAWING OF ACCENT MODEL CHW10-1



DIMENSIONAL DRAWING OF ACCENT MODEL CHW55-3



RESIDENTIAL POOL AND SPA GAS AND HEAT PUMP HEATING

65 years experience and Australia's most trusted brands

The Accent and Raypak brands are synonymous with the heating of Australian pools and spa and between them, represent over 65 years market history. This experience is reflected in a broad product range, built to perform under all conditions, with unparalleled expertise in design and application which can be trusted to find the right solution for each individual project.

Capability

Rheem gas and heat pump product has the capability to heat the biggest or smallest of residential pools or spas, for season extension through to year-round constant heating. Our heat pumps are carefully matched to a pool's heat load to ensure constant temperature maintenance whilst Raypak gas provides the capability for rapid heating – giving virtual on-demand heating of spas and same-day responsiveness for most pools.

Efficiency

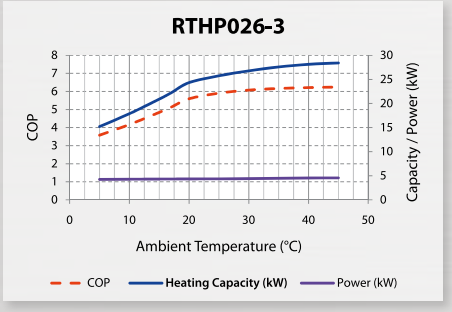
Whilst the market is full of grey noise in relation to efficiency, Rheem stands clearly as the true and verifiable benchmark. The Rheem RA Series carries AHRI Certification of compliance to the Florida Minimum Energy Performance Standard requiring a minimum COP of 4.0 at 10°C ambient. Although this is an American Standard, Accent has voluntarily adopted this same design requirement for its Premium Range. The outstanding heat capture of these units when the outside air is cold translates to market-leading COPs of up to 6.5 as the air warms to 27°C, reducing energy use and saving heating costs. Raypak's atmospheric type gas heaters operate at 82% efficiency, equal to any heater in its category.

Range

The Rheem heat pump is available from plug-connected units at 7-10kW heating output to hard-wired single and three options up to 28kW. The standard design is air-to-water type but water-to-water type is also available. The Raypak gas range begins with the Spartan 131 spa heater and extends to the highly powerful Residential Model PO430, giving an unrivalled 94kW heating capacity. Technical data for a cross-section of the range is given on the following page. Contact would be welcomed on other capacity and design configuration options.

Extra Features

The Rheem Premium heat pump includes a full commercial construction with marine grade aluminium case, Rheem Cote® anti-corrosion treatment of the evaporator, titanium heat exchangers, digital controls and upgradable to Rheem IQ® including BMS connectivity. The imported Rheem Classic Series is built tough with Rheem's exclusive DuraSteel cabinet, power defrost and full onboard diagnostics. Raypak gas offers the reliability of atmospheric burner design and the robustness of powder coated all metal construction.



Residential Pool and Spa Heat Pumps

Model	Electrical	Heating Capacity	Power input	COP	FLA (Full Load Amps)	Rated load amps @ 10°C SST & 45°C SCT	Minimum circuit breaker size	Water Flow L/S	Design TD	Design Pressure drop	Water Connection Size (mm)	Weight (kg)	Dimensions (mm) Length x Width x Height
RA5356	1 Ph/240V/50Hz	23.0	3.6	6.4	29.0	21.8	40	2.5	2.2	48	50	137	876 x 876 x 978
RA6356	1 Ph/240V/50Hz	28.0	4.9	5.8	36.2	26.8	40	2.5	2.7	48	50	141	876 x 876 x 1080
RA6358	3 Ph/415V/50Hz	28.0	4.9	5.8	13.1	10.1	20	2.5	2.7	62	50	141	876 x 876 x 1080
RA8358	3 Ph/415V/50Hz	32.0	5.6	5.7	15.1	12.0	20	2.5	3.1	62	50	162	876 x 876 x 1080
RTHP010-1	1 Ph/240V/50Hz	9.2	1.8	5.2	9.6	8.4	16	1.5	1.4	40	40	70	1000 x 475 x 800
RTHP015-1	1 Ph/240V/50Hz	14.1	2.5	5.7	19.1	11.8	25	1.5	2.2	40	40	80	1085 x 530 x 1150
RTHP024-1	1 Ph/240V/50Hz	24.5	4.6	5.4	27.3	18.6	40	2.8	2.1	40	40	110	1150 x 565 x 980
RTHP026-1	1 Ph/240V/50Hz	25.5	4.6	5.6	27.3	18.6	40	2.8	2.2	40	40	145	1487 x 615 X 990
RTHP024-3	3 Ph/415V/50Hz	24.9	4.4	5.7	11.9	8.9	20	2.8	2.1	40	40	110	1150 x 565 x 980
RTHP026-3	3 Ph/415V/50Hz	25.8	4.4	5.9	11.9	8.8	20	2.8	2.2	40	40	145	1487 x 615 X 990
RTHP030-3	3 Ph/415V/50Hz	28.2	5.0	5.6	15.6	10.8	20	2.8	2.4	40	40	155	1487 x 615 X 990

Residential Pool and Spa Gas Heaters

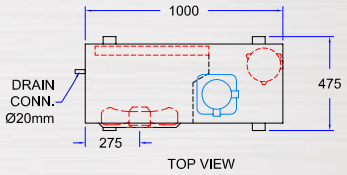
Model	Nominal Rating				Approximate Dimensions				Connections		Indoor Installations	
	Natural Gas		Propane Gas		All Models				Gas	Water		
	Input MJ/h	Output kW	Input MJ/h	Output kW	Height mm	Width mm	Depth mm	Weight kgs	mm	mm	Flue Diameter mm	Height Overall mm
131 Spartan	120	24	117	24	860	440	650	35	20	40	NA	NA
200 Residential	196	44	185	41	1085	530	650	70	20	50	175	1550
280 Residential	278	62	261	58	1085	640	650	75	20	50	200	1550
350 Residential	343	76	323	72	1085	730	650	85	20	50	225	1605
430 Residential	420	94	369	88	1085	870	650	90	20	50	250	1605

Model	Temperature Rise per Hour (Spa)			
	Spa Volume (Litres)			
	2000	3000	4000	5000
131 Spartan	10°	6°	5°	4°
200 Residential	17°	12°	9°	7°
280 Residential	25°	17°	12°	10°
350 Residential	32°	21°	16°	12°
430 Residential	38°	26°	19°	15°

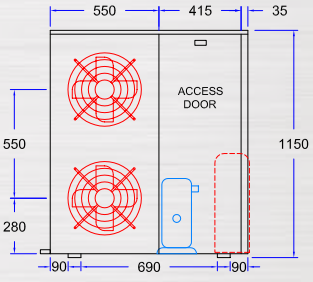
Model	Temperature Rise over 24 hours (Pool)				
	Pool Surface Area (m2)				
	20	40	60	80	100
131 Spartan					
200 Residential	21°	15°	10°	8°	6°
280 Residential	26°	20°	14°	10°	8°
350 Residential	32°	25°	18°	13°	10°
430 Residential	34°	27°	20°	15°	12°

Note: Temperature rise is provided as a guide only and is based on outdoor installations and an average wind speed of 2.2km/h and depth of 1.3m. Temperature rise will be greater with indoor installations or lower with higher wind speeds.

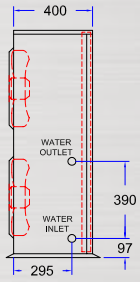
DIMENSIONAL DRAWING OF ACCENT MODEL RTHP015-1



TOP VIEW



FRONT VIEW



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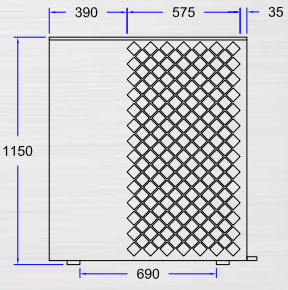


BACK VIEW

END VIEW

COMMERCIAL AND AQUATIC CENTRE POOL HEATING

Trust, Experience and Commitment

Rheem is the premier name in the heating of commercial pools in Australia and Asia. Our reputation is built on a trust developed with specifiers, installers and users over a combined 65 years history in the Australian market with our Raypak gas heater and the Accent pool heat pump. The products are now truly international with an installation spread from the United Arab Emirates, South Africa and India through to most countries of South East Asia with the prestige of having provided heating and cooling for major international competitions such as the Commonwealth Games, Pan Pacs, Asian Games and most recently, the Pacific Games. The confidence in the Rheem name, the expertise and experience of our people and our commitment to locally based research and development creates an unbeatable mix.

Capability

Rheem gas and heat pump product has the capability and flexibility to meet the needs of any project, whether they be major aquatic centres or resort pools. Raypak gas provides heating, either by direct connection to the pool water or by the provision of a closed loop design, heating indirectly via a secondary heat exchanger. Accent heat pumps have the versatility to provide heating, heating and cooling or chilling only.

Efficiency

Rheem's Accent Commercial Heat Pump stands at the forefront of product design and reflects an ongoing commitment to true and verifiable high efficiency performance. COPs measured at full load are in the range of 5.4 to 5.9 with ratings at the common market standard of 27°C ambient, but most importantly Accent's design focuses on maintaining efficiency at colder air-on temperatures and is evident in the large total evaporator area which characterizes the Accent design. Raypak's atmospheric type gas heaters operate at 82% efficiency, equal to any heater in its category.

Range

Our heat pumps are available in multiple capacity steps up to a maximum 354kW heating in both air-to-water and water-to-water type. Raypak gas is available from 539MJ to a massive 4224MJ input, equivalent to 960kW heating as a single unit for direct or indirect connection. Technical data for a cross-section of the range is given on the following page. Contact would be welcomed on other capacity and design configuration options.

Extra Features

Full commercial heat pump construction with marine grade aluminium case, Rheem Cote® anti-corrosion treatment of the evaporator, titanium heat exchangers, Rheem IQ® control including BMS connectivity. Raypak Commercial Gas B-Type design includes a cupronickel heat exchanger, bronze headers, exclusive stainless steel burner design and flow sensing protection to water flow. Both ranges are characterised by ready access to parts, technical support and easy serviceability.

Taurama Aquatic Centre, Papua New Guinea

Commercial and Aquatic Centre Heat Pumps

Model	Nominal Heating Capacity	Nominal power input	No: of Comp	Nominal Amps per Phase	Min. CB Size	Water Flow (l/s)	Working Press. Drop (kPa)	No: of Fans	Water Connection Size (mm)	Weight (kg)	Dimensions (mm) Length x Width x Height
RTHP040-3	39	6.7	1	14	25	2.8	40	2	40	170	1750 x 800 x 825
RTHP051-3	51	9.4	1	17	40	2.8	40	2	40	230	1750 x 800 x 1015
RTHP065-3	66	12.4	1	26	40	2.8	40	2	40	300	1750 x 800 x 1215
HWP80-3	95	17.4	2	38	63	5.6	90	4	40	650	1735 x 1600 x 825
HWP100-3	118	22.2	2	45	63	5.6	90	4	80	800	2200 x 1610 x 2020
HWP120-3	142	26.2	2	60	80	5.6	80	4	80	850	2200 x 1610 x 2270
HWP150-3	177	32.8	3	68	80	8.4	90	6	80	1200	3462 x 1962 x 2040
HWP180-3	213	39.3	3	87	100	8.4	90	6	80	1350	3462 x 1962 x 2290
HWP200-3	235	43.5	4	90	100	11.2	90	8	80	1500	3462 x 1962 x 2040
HWP250-3	280	52.2	4	110	120	11.2	90	8	80	1700	3462 x 1962 x 2290
HWP300-3	354	64.8	4	148	160	11.2	90	8	80	2000	3462 x 1962 x 2290

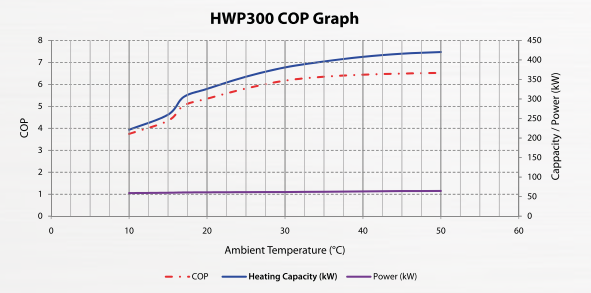
Note: Heat pump input and output varies with ambient (air-on) conditions. The Nominal Heating Capacity shown above is the nominal summer performance, being at an air-on temperature of 27°CDB, 18°CWB (ambient air temperature), at 50% RH, with an entering water temperature of 27°C.

Commercial and Aquatic Centre Gas Heaters

Model	Nominal Rating				Approximate Dimensions				Connections		Indoor Installations	
	Natural Gas		Propane Gas		All Models				Gas	Water		
	Input MJ/h	Output kW	Input MJ/h	Output kW	Height mm	Width mm	Depth mm	Weight kgs	mm	mm	Flue Diameter mm	Height Overall mm
127 Premium	110	25	103	23	895	580	280	42	20	40	125	1100
167 Premium	163	36	154	34	905	390	610	67	20	40	150	1470
280 Premium	278	62	261	58	1085	640	650	75	20	50	200	1550
430 Premium	420	94	369	88	1085	870	650	90	20	50	250	1605

Model	Temperature Rise per Hour (Spa)				Temperature Rise over 24 hours (Pool)				
	Spa Volume (Litres)				Pool Surface Area (m²)				
	2000	3000	4000	5000	20	40	60	80	100
127 Premium	10°	6°	5°	4°					
167 Premium	14°	9°	7°	6°					
280 Premium	25°	17°	12°	10°	26°	20°	14°	10°	8°
430 Premium	38°	26°	19°	15°	34°	27°	20°	15°	12°

Note: Temperature rise is provided as a guide only and is based on outdoor installations and an average wind speed of 2.2km/h and depth of 1.3m. Temperature rise will be greater with indoor installations or lower with higher wind speeds.



North Sydney Olympic Pool

ELITE SPORTS

The choice of champions

Rheem is the most trusted source of water heating and chilling for Australia's elite athletes and high-level commercial sports with its technologies involved in hot and cold recovery pools and baths for virtually every landmark training venue or sporting arena. Our installation list covers a who's who of Australian sport and covers iconic stadiums such as the Sydney Cricket Ground, Ballymore Stadium, Blundstone Arena and the redeveloped Adelaide Oval to Olympic-focused facilities such as the Australian Institute of Sport.

Capability

Accent technology provides a capability to heat or chill from 6°C to 40°C. The range is available in both air-to-water and water-to-water design and for direct or indirect connection. Air-to-water type is suitable for most locations, with an ambient temperature operating range between 0°C to 40°C. The use of water-to-water design covers all operating conditions and allows the simultaneous heating of a hot pool as a by-product of the chilling of the cold pool, all from a single unit. The Accent unit may be designed for heating only, reverse cycle heating and cooling or as chilling only. The Raypak gas heater provides a robust high capacity option for rapid temperature boosting or hot pool heating.

Efficiency

Benchmark efficiency levels are maintained by the specialist design of the units supplied for elite sport heating and cooling, with the units featuring increased heat exchanger capacity, enlarged evaporators and specialist control.

Range

While the formal range of heat pumps and chillers extends to 60kW heating and 50kW chilling, Rheem has the capability to custom-design and build larger systems. Likewise, while our Raypak gas plant used in the elite sports heating would typically be in the range of 62kW to 94kW, higher capacity options are also available. Technical data for a cross-section of the range is given on the following page. Contact would be welcomed on other capacity and design configuration options.

Breadth of use

Rheem chillers and heater options for ice baths and hot recovery pools are not limited to elite sports and their use extends to resorts, health clubs and homes.

Extra Features

Full commercial construction with marine grade aluminium case and Rheem Cote® anti-corrosion treatment of the evaporator. Titanium heat exchangers. Digital controls and upgradable to Rheem IQ® including BMS connectivity. Possible inclusion of remote condenser to plunge-pool design. Possible manufacture in split design where ventilation is an issue. Gas plant available as direct or indirect connection.

Greater Western Sydney Giants AFL High Performance Centre plunge pools

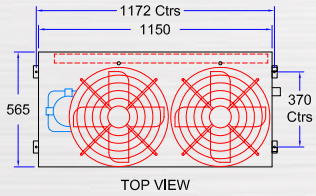
Elite Sports - Reverse Cycle Heat/Cool

Model	Total heat rejection kW	Power	COP	FLA (Full Load Amps)	RLA (Rated Load Amps)	Flowrate (L/S)	Min CB size	Total Cooling kW	Power	COP	RLA (Rated Load Amps)	Flowrate (L/S)	Weight (kg)	Dimensions (mm) Length x Width x Height
RTCH25-3HC	24.3	4.3	5.7	12.5	8.7	2.8	20	14.7	3.8	3.9	8.0	2.8	100	1150 x 565 x 980
RTCH38-3HC	38.3	6.7	5.7	19.0	14.4	2.8	20	25.2	6.0	4.17	13.7	2.8	170	1750 x 800 x 825
RTHC51-3HC	51.3	9.4	5.5	24.2	17.4	2.8	40	33.7	8.4	4	16.2	2.8	230	1750 x 800 x 1015
RTHC66-3HC	66.3	12.4	5.4	33.6	25.9	2.8	40	43.0	11.1	3.89	24.6	2.8	300	1750 x 800 x 1215

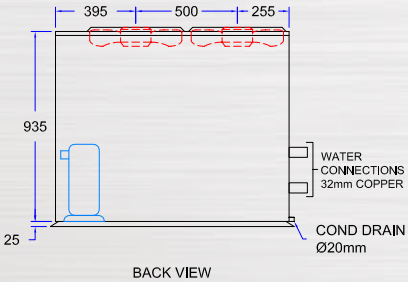
Design conditions: Ambient 27°C DB 60% RH, Heating 27°C EWT 10°C SST & 45°C SCT, Cooling 10°C EWT 2°C SST & 40°C SCT
Power supply 380 -415V / 50 Hz / 3 phase

North Adelaide Football Club High Performance Centre plunge pools

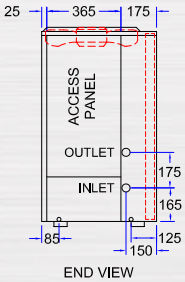
DIMENSIONAL DRAWING OF ACCENT MODEL RTCH25-3HC



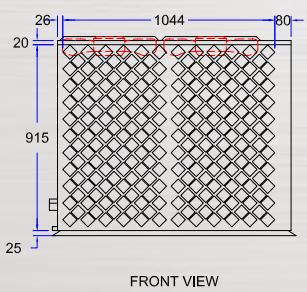
TOP VIEW



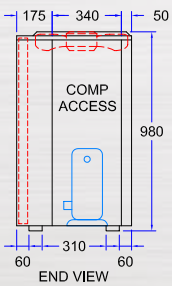
BACK VIEW



END VIEW

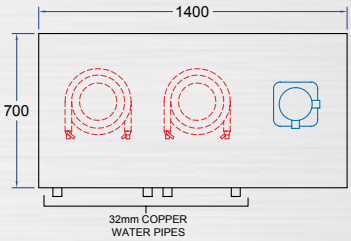


FRONT VIEW

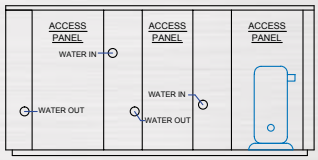


END VIEW

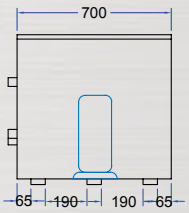
DIMENSIONAL DRAWING OF ACCENT MODEL HWW20



TOP VIEW



FRONT VIEW



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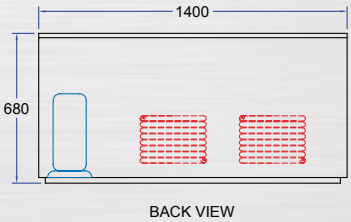
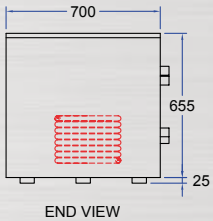


BACK VIEW



END VIEW

DEHUMIDIFIERS

Controlling relative humidity in pool halls

Controlling relative humidity in a pool hall is critical for the comfort of bathers but just as importantly, it is critical for the health of the space as a workplace or place of fun and enjoyment but also for the integrity of the building. Accent's dual heritage in air conditioning and pool heating means that it has a unique skill set to provide energy-efficient solutions into the aquatic sector for space condition control via refrigerant dehumidification.

Capability

Accent's DH Series Dehumidifiers are typically designed to maintain the relative humidity inside pool halls at the ideal band of 50-65%. The units are for indoor installation with recirculation of the return air from the pool hall at a temperature range of 20°C to 35°C. The moisture removal capability of the range extends from 7 litres/hour to 39 litres/hour at 24°C/60% RH.

Efficiency

Dehumidification control of a pool hall provides substantial energy efficiency, in contrast to the alternative method of make-up and exhaust. Up to 80% of the energy value held in the warm moist air of the pool hall is recovered and used by the DH unit either for space heating or as a secondary source of pool water heating.

Range

The range extends from 3HP to 12HP options. Technical data for a cross-section of the range is given on the following page. Contact would be welcomed on other capacity and design configuration options.

Breadth of use

While the design of our plant is modular to allow larger-scale project use, Rheem dehumidification is best suited to smaller pool centres such as swim schools and hotel and resort facilities. Residential use is also common. Code requirements vary by area and can impact on application.

Extra Features

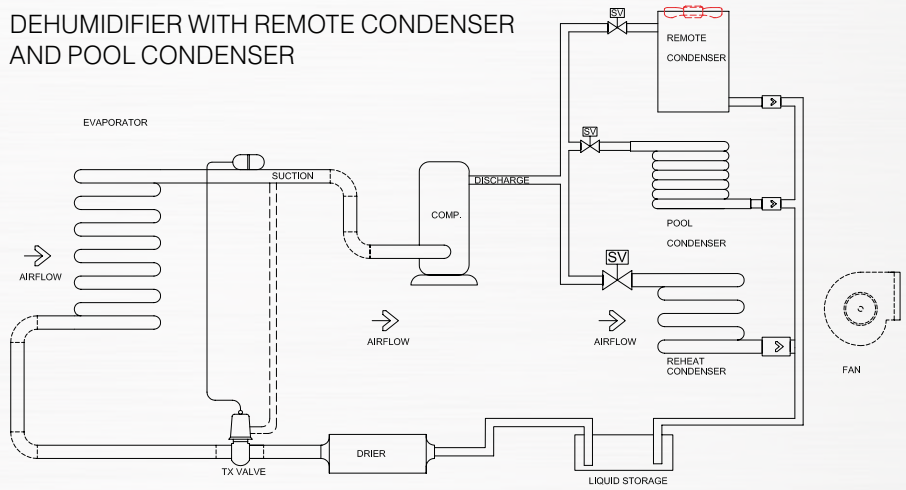
Full commercial construction with marine grade aluminium case and Rheem Cote® anti-corrosion treatment of the coils. Digital controls. Optional upgrade to remote evaporator to allow heat rejection to outdoors and the provision of a cooling function. Optional pool condenser allows heat recovery to pool water heating.

Ian Thorpe Aquatic Centre, Sydney

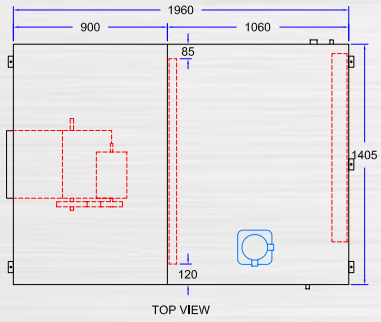
DH Series Dehumidifiers

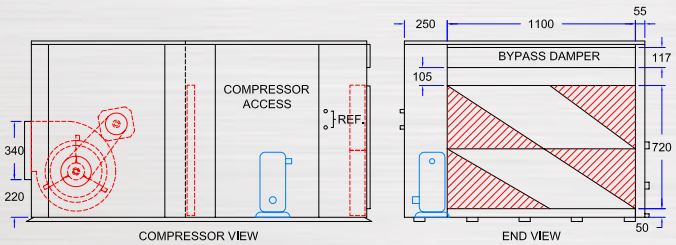
Model	Electrical	FLA (Full Load Amps)	RLA (Run Load Amps)	Min CB size	Power	Moisture Removal @24°C 60% RH litres/hr	Approx Outlet Temp °C	Total Heat Rejection kW	Sensible Cooling Capacity kW	Max Space Heat Capacity kW	Supply Air L/S	Weight (kg)	Dimensions (mm) Length x Width x Height
DH300	1 Ph/415V/50Hz	23.7	16.5	32	3.0	7	33	12	4.5	7.5	500	150	1050 x 1050 x 615
DH500	3 Ph/415V/50Hz	16.6	13.6	20	6.0	12	33	20	7.5	12.5	900	200	1600 x 1250 x 725
DH800	3 Ph/415V/50Hz	27.4	22.7	32	10.0	18	33	28	12.5	15	1500	300	1600 x 1405 x 1055
DH1200	3 Ph/415V/50Hz	26.8	21	32	9.7	27	33	47	18.5	25	2250	450	1855 x 1605 x 1200

DEHUMIDIFIER WITH REMOTE CONDENSER AND POOL CONDENSER

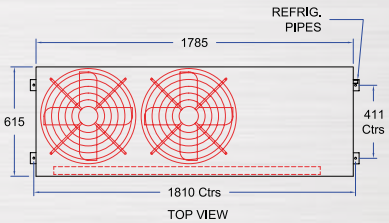


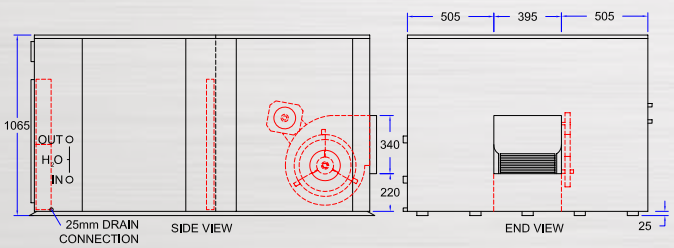
DIMENSIONAL DRAWING OF ACCENT MODEL DH800

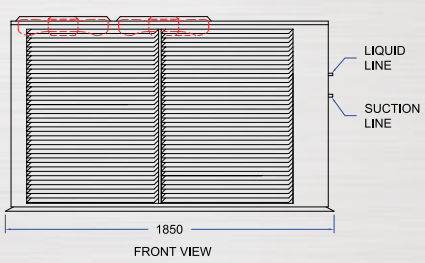


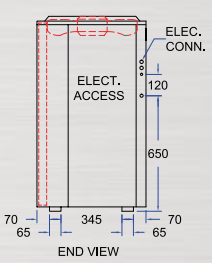


DIMENSIONAL DRAWING OF ACCENT MODEL DH800-RC









RHEEM IQ®

Rheem's new tariff optimising intelligent control

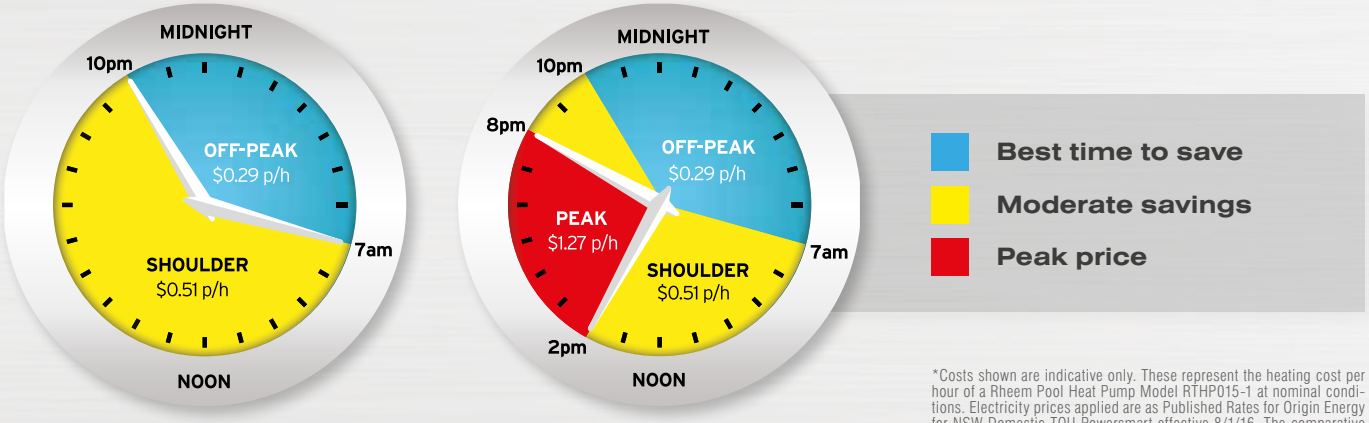
Rheem Thermal has a clear and ongoing commitment to locally based research and development. A key motivator in this work is the achievement of ever improving efficiency thresholds in the energy use of our products. But while improved energy efficiency has clear environmental benefits for the planet, it is also critical that efficiency gains translate to reductions in electricity billing. Rheem IQ® bridges this gap and provides a tariff intelligence to the running of Rheem heat pumps so to provide least cost heating.

Electricity pricing is increasingly structured on a time-of-use and/or demand basis. This means that the electricity price per kWh changes potentially by time-of-day and day of the week. The variance in operating cost of electrical equipment between peak and off peak times can be up to four times.

Rheem IQ® creates programming logic to optimise off peak and shoulder pricing operation by slight movements of the target water temperature.

The most directly applicable use of Rheem IQ® is in pool heating, where cheaply produced off peak heat contribution is effectively stored in the pool. Differing temperature parameters are available in each tariff period with the intention of peak operation is postponed or avoided to the maximum extent feasible, consistent with the desire for the temperature of the pool at different times of the day and weekend.

HEAT PUMP POOL HEATING COSTS BY HOUR*



Weekends & Public Holidays **Week Days**

*Costs shown are indicative only. These represent the heating cost per hour of a Rheem Pool Heat Pump Model RTHP015-1 at nominal conditions. Electricity prices applied are as Published Rates for Origin Energy for NSW Domestic TOU Powersmart effective 8/1/16. The comparative heating cost for Domestic connection would be approx $0.56/hour. Electricity pricing varies by State and contact with local retailers should be made to validate rates applicable to any particular case.

The time clock graphics clearly show the basis on which the Rheem tariff intelligence is able to achieve substantial reductions in heating costs and save money.

Achieving a balance of off peak and shoulder electricity use will see pool heating costs almost halved compared with connection to the standard flat rate.

Saving Pump Costs

The potential for saving in heating costs is extended to the recirculating pump. Rheem IQ® has the potential to control power to the water pump, so that the savings extend to the total heating system. The pump will operate only for those hours needed for heating and in line with the run profile determined by the intelligent controller to minimise heating costs.

Advanced Operational Control and User Interrogation Features

The tariff intelligence of the controller is only one of the new features offered, with the functionality extending to outdoor fan control, circulating pump control, de-ice management, alarm logging and PCo connectivity. For example, the BMS interface capability of the unit will allow direct interrogation, status checking and performance data review.

CASE STUDY 1

SYDNEY OPERA HOUSE

Creating a sustainable future for an architectural icon

When it comes to challenging retrofits, few can match the task of helping the Sydney Opera House win a prestigious 4 Star Green Star rating from the Green Building Council of Australia.

Completed in 1973, Australia's most iconic structure required a series of energy efficiency improvements in order to see it become one of the few World Heritage buildings to be awarded green certification. Two key areas to be addressed was the generation of internal hot water and the ability to remove heat from the building.

Rheem was asked to take part in the ambitious project in late 2014, due to its extensive array of hot water system expertise. Not surprisingly, the task wasn't a simple one.

The Opera House represents a unique proposition, in that it bears a constant cooling load due to the lighting and people loads. The building draws water from Sydney Harbour through large capacity heat exchangers and uses it to transfer heat (generated by chillers, which keep the internal spaces at the desired temperature) to the harbour. So the key question became: how could the heat generated by the chillers also be used to improve energy efficiency and make a powerful case for green credentials?

A unique dual benefit solution

Rheem commissioned the installation of two Accent water-to-water hot water heat pumps deep within the Opera House structure in July 2015. Both units were designed to extract heat from the air conditioning condenser water loop at high efficiency for use in heating the building's hot water storage capacity.

In carrying out that task, the condenser water is cooled, so the heat pump not only provides high efficiency hot water but assists with the task of chilling, or dispersing heat out of the building. When you combine the efficiencies in hot water and chilling, the Accent unit is operating at a COP of above 7.0, making the system a crucial component of the energy efficiency improvements which led to the 4 Star Green Star performance rating.

The project was unique and required considerable direct involvement by Rheem in the application design. The expertise Accent has in water heat pump design, and particularly around water-to-water-type heat pumps, proved to be invaluable.

Features

- Opera House has reduced energy use by more than 10% over the past 5 years.
- 2 Accent Models HWW50

CASE STUDY 2

TAURAMA AQUATIC CENTRE, PORT MORESBY, PAPUA NEW GUINEA

As host nation of the 2015 Pacific Games, the Papua New Guinea Government commissioned the construction of the Taurama Aquatic Centre and Indoor Sports Complex as a sporting facility to international competition standards for swimming, volleyball, basketball and a variety of other indoor sports.

Accent was involved from early stages in the design of a heat pump system with reverse cycle capability to provide both heating and cooling of the centre's Olympic standard 50m competition pool and separate 25m warm up pool, which together have a combined water volume of 3,500,000 litres.

With an average daily temperature in Port Moresby for July of 29.2°C, the critical challenge for these outdoor pools was to ensure the achievement of a water temperature of between 25 to 28°C (77 to 82°F) in line with the rules set by FINA for international competition.

Rheem's strong heritage with major international competition pools which commenced with the heating and cooling of the Bangkok Aquatic Centre in Thailand for the 1998 Asian Games was clearly recognised with the project consultants directly specifying three Accent pool heat pump models HWP250 to meet the estimated total pool cooling load of 500kW and heating load of 300kW. This system was commissioned by Accent in May 2015 and the pools were successfully held at 27°C during the competition.

Features

- 3 Accent Models HWP250
- Reverse cycle design
- 500KW cooling load
- 300kW heating load
- 3,500,000 litres of water
- Site Commissioning by Accent

CASE STUDY 3

HOLIDAY INN RESORT BARUNA BALI

The Holiday Inn Resort Baruna Bali is built in a traditional low-rise Balinese style, complementing its beachfront setting. In 2008 the resort underwent a major renovation and refurbishment and opened for business in March 2009. All major mechanical, hydraulic and electrical services were replaced and upgraded with the latest high efficiency systems available

Features

- 192 Rheem solar collectors
- 11 Accent hot water heat pumps
- 63 Rheem storage tanks
- 5 separate hot water zones
- Design capacity 60,000L per day
- Savings in excessive 80%

The resort has some 195 rooms with a number of kitchens, bars, laundry, gym and day spa facilities. During the design phase hotel owners expressed their desire to incorporate the latest high efficiency water heating systems into the hydraulic design. This resulted in the installation of the first and largest hot water hybrid solar/ heat pump system in Indonesia.

The system design features solar preheat, consisting of Rheem solar collectors and storage feeding into a heat pump and storage boost system. In the event solar gain is reduced by inclement weather the heat pump system automatically boosts the water ensuring an uninterrupted hot water supply to guests and facilities within the resort.

Some 192 Rheem solar collectors, 11 Accent hot water heat pumps and 63 Rheem storage tanks were installed servicing 5 separate hot water zones. The system was designed to Intercontinental design parameters to deliver 60,000L per day and save in excess of 80% of the energy used by a traditional hot water system.

The Accent heat pumps were an ideal choice for boosting in this climate. COP's of 4-5 are experienced. Traditionally when solar pre-heat systems are installed electric or gas boost heaters are used to boost in times of less solar gain. Boosting with a heat pump reduces the energy a traditional electric or gas heater would use to boost the water by 75-80% making this the most energy efficient system available.

The system was supplied and installed by PT Dewata Vulcanindo of Indonesia.

CASE STUDY 4

GOLD COAST AQUATIC CENTRE

Rheem was contacted by commercial pool specialists, Trisley Hydraulic Services, with a clear brief: a new pool heating system was needed to heat almost nine million litres of water at the Gold Coast Aquatic Centre.

The new system was part of a major, $41 million upgrade of the centre, which was needed to bring the facilities up to international competition standards for 2014 Pan Pacific Masters Games and, ultimately, the Gold Coast Commonwealth Games being held in April 2018.

The centre includes an existing 50m, 25m and diving pools, in addition to the new 50m competition pool, indoor learn-to-swim pool and a splash pool. The work also included the heating and chilling of hot and cold athlete recovery pools.
In line with the specification released by aquatics consultants, Stevenson & Associates, Rheem provided eight Accent Air heat pumps with a total capacity of 1900KW.

"A key requirement was to achieve lower energy and running costs," says Paul Stevenson from Stevenson + Associates. "And a secondary requirement was for an ecologically sustainable development (ESD) and lower emissions.

The heat pumps included upgrades to cope with the highly exposed coastal position and included full marine-grade aluminium construction and the unit's evaporators are treated with Rheem Cote®. Rheem's engineering ability and flexibility in manufacture to customise its product to site-specific needs is shown in the response to the specific visual and noise requirements of the project. The cases of the heat pumps were powder coated in a champagne colour to allow them to blend in with the enclosure designs. Low noise fans were used and the structural frames of the units were modified to allow the integration of large acoustic louvers, so to achieve targets in relation to reduced noise at pool deck.

The heat pumps also include Building Maintenance Control (BMS) capabilities. This enables the operators to control and interrogate the units in relation to a broad range of operating parameters, including checking operation, data logging of heat pump performance, monitoring temperatures etc.

A revolutionary feature is the hot and cold recovery pool system design, which is one of the showpiece components of the project. The Rheem water-to-water heat pump simultaneously heats the hot pool from the energy recovered from chilling of the cold pool.

Features:

- 1900kW total heat pump capacity
- Air-to-water and water-to-water plant
- 9,000,000 litres of water
- Specialist upgrades for visual, noise, controls and corrosion-resistance

CASE STUDY 5

NORTH SYDNEY OLYMPIC POOL

North Sydney Olympic Pool is a well known Sydney landmark, being situated under the Sydney Harbour Bridge with the adjoining Luna Park. In 1999 in a major environmental initiative, the heating system for the pool was upgraded from gas boiler to high efficiency electric heat pump.

North Sydney Council had a goal to install a system that was energy efficient and innovative, The NSW Sustainable Energy Development Authority also played a key role in sponsoring the transfer to high efficiency technology.

While heat pumps in Australia are typically of air-to-water design, the project team saw the potential for a water-to-water hot water heat pump system. The relatively constant temperature of the harbour provides a perfect heat source for water-to-water heat pumps. Harbour water is pumped through the heat pump heat exchangers, with sacrificial anodes and strainers on the inlet side of the units to prevent fouling. Heat is extracted from the sea water and returned back to the harbour.

Significant energy savings have been achieved with the additional capital required to install the heat pumps being recovered through energy cost savings in the first 3-4 years.

Accent custom-manufactured water to water heat pumps for this project with a nominal capacity up to 375kW each with a total installed capacity of 1100kW. water-to-water heat pumps were the ideal choice for the site due to limitations on available space. Equivalent air-to-water heat pumps would have taken up more than 10 times the space required for water-to-water heat pumps. This high efficiency heat pump system continues to operate today providing ongoing significant energy savings to North Sydney Council. The system was supplied and installed by Swimplex of Sydney, Australia.

Accent pioneered this type of technology in Australia and remains at the forefront of product innovation taking its experience and expertise to the world. Other projects of note include the Australian Institute of sport Alpine Training Centre in Thredbo NSW. In this project ground temperature is used as the heat source. Ground temperature remains relatively stable throughout the year and provides an ideal heat source in cold climates. air-to-water heat pumps are not suitable in such climates due to heat pump capacity de-rate that occurs during severe winter ambient temperatures.

CASE STUDY 6

HUON AQUACULTURE

The Huon Aquaculture Group in Tasmania is globally recognised as being the premium producer of fresh and smoked salmon products. For this business, there's no more vital task than providing the constant water heating or chilling required for optimum fish stock growth.

For a recent application at one of its key hatcheries, the company turned to Rheem for a specialist, large capacity chiller. The task encompassed a total volume of 330,000 litres and 260 square metres of exposed water area to support 9,000 kg of fish. All this is maintained within 12 x 22,000-litre tanks (housed within an insulated room). The system also includes a 40,000-litre bio filter. Huon Aquaculture is committed to rigorous environmental standards. The facility uses a full recirculation system, which means it reuses 95-99 per cent of the water needed, which ensures the fish live in optimum conditions and will go to sea healthy and in peak condition. The small amount of water exchanged in the hatchery each day gets used in other areas of the farm through composting, land spreading and irrigation.

The project brief required the chilling plant to be able to vary the water temperatures in the tanks from 7 to 14°C month-by-month depending on where the fish were in their growth cycle.

Rheem commissioned the installation of two Accent 50kW chillers in early 2015. The plant includes titanium heat exchangers so there is no risk any leaching of chemicals into the water from the materials at the contact point.

Features:

- Two Accent Models CHW50
- Chilling ability to 8°C
- Specialist fan speed and head pressure control
- Upgraded heat exchanger capacity

CASE STUDY 7

ROYAL HOBART HOSPITAL

Accent's involvement in the major Engineering Services Upgrades of the Royal Hobart Hospital (RHH) beginning in 1999 was one its early success stories. A Performance Contract was entered into between the Honeywell organisation and the Government of Tasmania. Systems and services upgraded as part of the project included the installation of Accent hot water heat pumps to replace redundant electrode boilers and site-wide heating water reticulation.

The upgrades were completed in August 1999 with the energy guarantee period commencing in late July. The guarantee was then for a reduction in energy costs of some $300,000 per annum.

The heat pumps were installed in groups of up to four units across four buildings of the campus. The units were linked to hot water storage of up to 10,000 litre tanks for provision of a tank temperature up to 65°C. Detailed monitoring of hot water usage was undertaken, with a maximum hourly use of some 3,400 litres being shown for GEHA building and with continuously strong hot water demand of an average 2,000 litres/hour over the 10 hour period from 9AM to 7PM.

Features:

- 13 Accent hot water heat pump Models HW42

CASE STUDY 8

UNIVERSITY OF WOLLONGONG iC INNOVATION CAMPUS

The Innovation Campus (iC) is a world-class, award-winning research and commercial precinct developed by the University of Wollongong (UOW) – one of Australia's leading research and teaching universities.

iC is a centre of Australian innovation and research excellence, as home to a number of UOW's leading research institutes working to develop solutions to some of the great scientific, engineering and social issues of the 21st century.

Rheem's involvement is hot water supply to a three level commercial office building within the campus, with multiple small fan coil units used for heating and cooling. Water is supplied at 55°C.

Features:

- Accent HW250
- BMS connectivity
- Compressor staging

CASE STUDY 9

CABLE BEACH CLUB RESORT & SPA

The award winning Cable Beach Club Resort & Spa at Broome in Western Australia welcomed its first guests in 1988 and began a twenty year history with Rheem in 1996 with the installation of a unique pool heating and cooling system.

While Broome's climate is glorious for the majority of the year, management faced an unusual problem with its outdoor Ocean Pool.

The pool is free form with a total area of around 405m2 and water volume of some 540m3. The pool was unheated and in winter could fall as low as 17°C to 20°C. In contrast, during the hot summer period, the water temperature reached 35°C making it far too warm for comfortable swimming.

The owner engaged Ove Arup Engineering Consultants from Sydney to investigate options. Economic evaluation clearly favoured the use of a reverse cycle air-to-water heat pump. Likewise, the heat pump approach provided the unique benefit of the dual capacity for heating or cooling.

The installation of the two Accent models HWP50 also provided the opportunity to tackle the ongoing operating cost of the resort laundry. Refrigerant gas desuperheaters were added to each compressor of the two heat pumps.

The desuperheater captured the heat of the refrigeration circuit and transferred this to the hot water storage tanks serving the laundry.

The value of the heat reclaim (preheating some 6,000 litres of water overnight to between 60°C to 63°C), equated to a reduction in gas heating costs for the laundry equal to the estimated cost of heat pump operation for pool heating and cooling.

The heat pump system was installed and commissioned by Accent prior to Easter 1997. Guest reaction to the "Cool Pool" was immediate and greatly increased utilisation and much direct positive feedback to Cable Beach management.

Features:

- Two Accent pool heat pump Models HWP50
- Heat recovery to each compressor,
- Two 3,000 litre hot water storage tanks, pumps and controls

CASE STUDY 10

ADELAIDE OVAL REDEVELOPMENT

The redevelopment of the iconic Adelaide Oval has been one of Australia's most lauded projects in delivering a modern spectacular stadium that is at forefront of structural and building services engineering, whilst retaining the sense of history.

The project includes five Accent chiller models CH20-3 providing chilled water for ice baths used for player and athlete recovery sessions. Physical restrictions in terms of the placement of plant meant these units were custom designed and built by Rheem as "splits", with the remote condensers installed up to 50m from the plant room units.

CASE STUDY 11

FLEURIEU REGIONAL AQUATIC CENTRE

The Fleurieu Regional Aquatic Centre will provide the Fleurieu Peninsula communities with a modern sport and recreation facility when opened in March 2017. The centre has already received national recognition for community partnership and collaboration.

The centre includes a 25M, program and warm water pools and includes an innovative mix of technology with a clear focus on sustainability and energy efficiency. Pool heating is provided by direct connection Accent heat pumps. Space heating and conditioning is provided by air handling plant with water at 45°C provided by an 800kW Accent's mechanical hot water heat pump system.

CASE STUDY 12

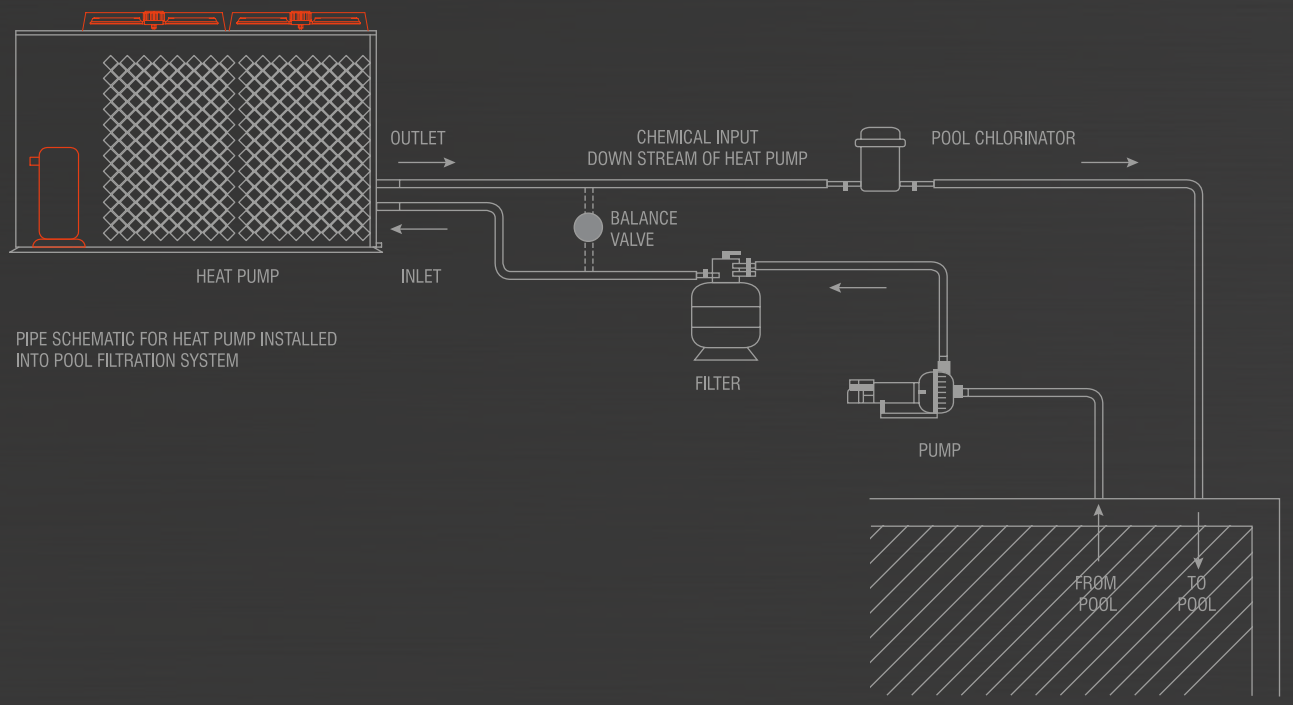
HARBOURVIEW HOTEL – MACAU

The Harbourview Macau boasts an exquisite architectural style reminiscent of 18th century Prague. This meant the specifics of the pool and hot water heating solutions for its 389 guest rooms and 55 suites was a critical aspect of the overall design.

In response to the design requirements, Rheem commissioned the installation of three 300-kilowatt hot water heat pumps and two 60-kilowatt heat pumps for the indoor swimming pool.

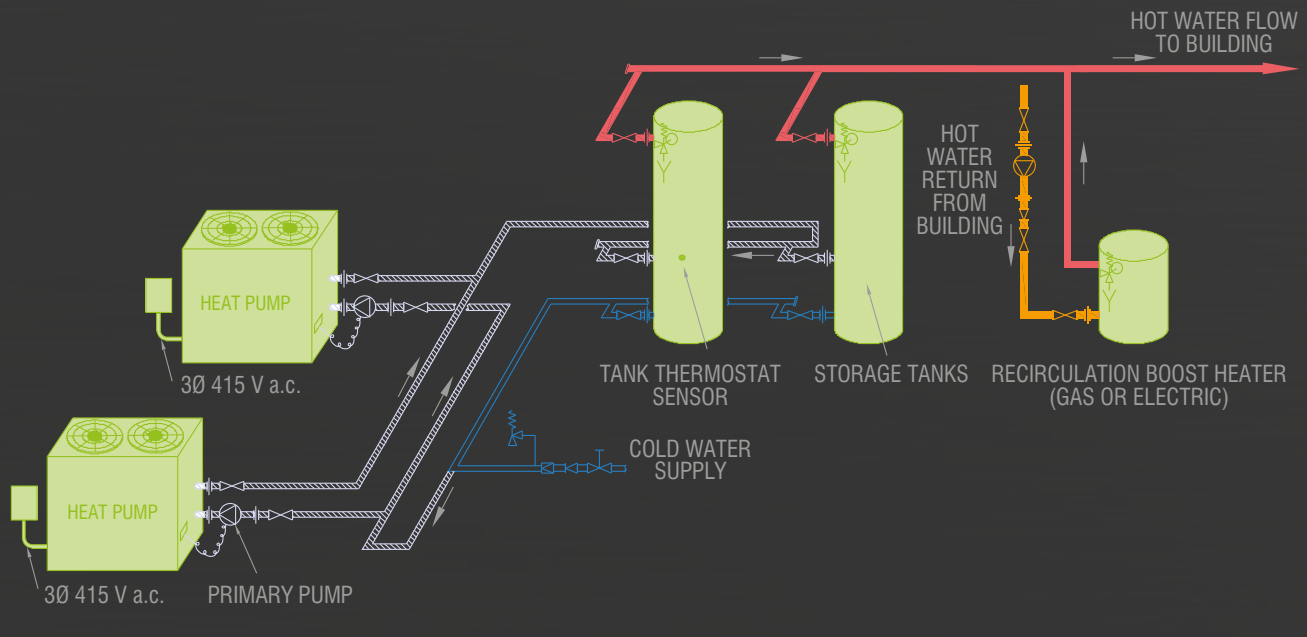
INSTALLATION SCHEMATICS

TYPICAL POOL INSTALLATION



PIPE SCHEMATIC FOR HEAT PUMP INSTALLED
INTO POOL FILTRATION SYSTEM

TYPICAL HOT WATER INSTALLATION



MINIMUM CLEARANCES REQUIRED FOR POOL HEAT PUMPS

FIGURE: 1 - RTHP010 & RTHP015

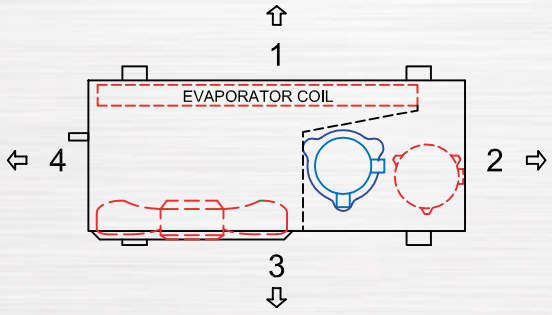


FIGURE: 2 - RTHP026

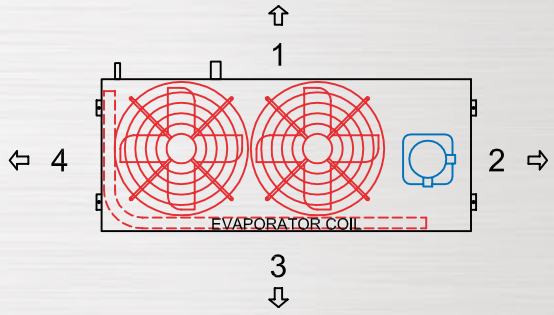


FIGURE: 3 - RTHP024 TO RTHP040

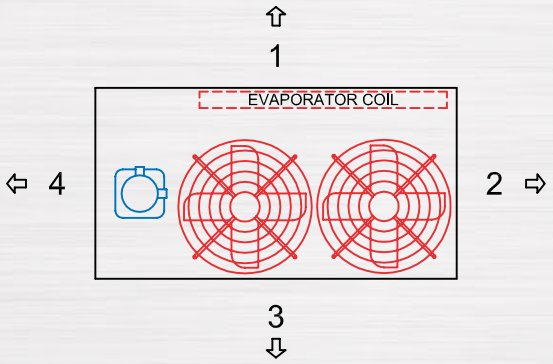


FIGURE: 4 - RTHP051 & RTHP065

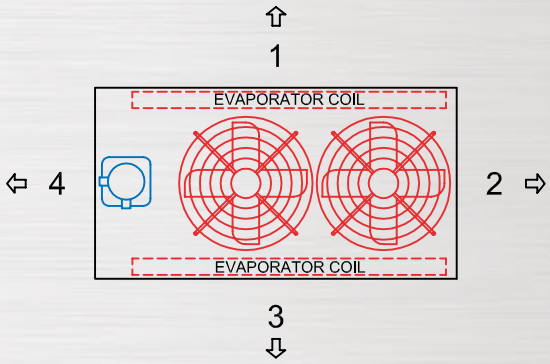
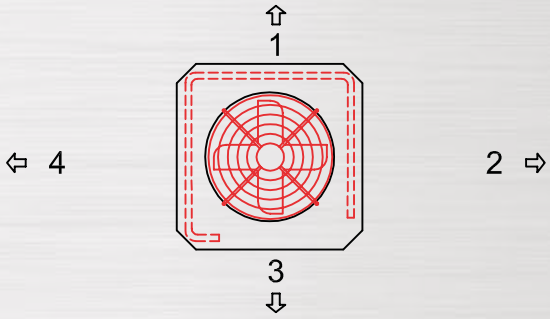


FIGURE: 5 - 5356 TO 8358



NOTE:

1) The above drawings represent standard units. contact Rheem Thermal Systems Group if further information is required on special built units.

2) When using multiple units allow 2000mm gap between the evaporator coils.

MINIMUM CLEARANCE REQUIRED					
MODELS	FIGURE –1	FIGURE –2	FIGURE –3	FIGURE –4	FIGURE –5
	MODELS RANGE RTHP010 TO RTHP015	MODELS RANGE RTHP026	MODELS RANGE RTHP024 TO RTHP040	MODELS RANGE RTHP051 TO RTHP065	MODELS RANGE 5356 TO 8358
1	EVAPORATOR COIL 500 mm	POOL WATER CONN. 200 mm	EVAPORATOR COIL 500 mm	EVAPORATOR COIL 1000 mm	EVAPORATOR COIL 300 mm
2	POOL WATER CONN. 200 mm	COMPRESSOR ACCESS 850 mm	POOL WATER CONN. 850 mm	POOL WATER CONN. 850 mm	EVAPORATOR COIL 300 mm
3	FAN ACCESS / COMP. 850 mm	EVAPORATOR COIL 1000 mm	PLAIN BACK NIL	EVAPORATOR COIL 1000 MM	COMPRESSOR ACCESS 850 mm
4	SIDE ACCESS 300 mm	EVAPORATOR COIL 1000 mm	COMPRESSOR ACCESS 850 mm	COMPRESSOR ACCESS 850 mm	EVAPORATOR COIL 1000 MM
5	HEIGHT CLEARANCE 300 mm	HEIGHT CLEARANCE 2500 mm	HEIGHT CLEARANCE 2500 mm	HEIGHT CLEARANCE 3500 mm	HEIGHT CLEARANCE 1500 mm

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