ACCENT AIR

COMMERCIAL HEAT PUMPS

ACCENT AIR
A RHEEM COMPANY

THE ACCENT RANGE

CONTENTS

Southern Ocean Lodge, Kangaroo Island, South Australia

Indoor Swimming Pool

Holiday Inn Resort: Baruna Bali

North Sydney Olympic Swimming Pool

Part of the Rheem Australia Group, Accent Air is internationally recognised as expert in the field of high efficiency electric Heat Pumps for hot water and pool heating applications. Accent is the preferred Heat Pump manufacturer to the aquatic industry in Australia with large scale projects for indoor and outdoor Olympic pool venues around Australia and overseas. The company's expertise is reflected in the extensive and diverse range of Heat Pumps it brings to the market.

Accent Commercial Heat Pumps are designed with the commercial user in mind. With a capacity of up to 250kW for Air-to-Water models and up to 375kW for Water-to-Water models Accent is able to meet your every need.

The Accent range of Heat Pumps includes Air-to-Water, Ground-Sourced and Water-to-Water models. These Heat Pumps are used in a variety of applications including Hot Water, Pool Heating, pool chilling and mechanical heating and cooling.

Air-to-Water Heat Pumps:

The Accent 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.

While Accent is Australia's leading manufacturer of commercial Heat Pumps, it retains the ability to custom manufacture to project specific design criteria, ensuring that maximum heating performance and control is provided to the building or pool owner. A broad range of design options are available in Heat Pump design as well as the selection of components, such as the use of copper or titanium heat exchangers and in unit casing material.

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 often used at resorts in tropical locations for maintaining pool water at a comfortable swimming temperature. It is also used in homes to provide space heating and cooling.

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.

Chillers:

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.

Heat Recovery:

Refrigerant heat recovery or desuperheating is available in Accent Heat Pump design to provide hot water up to 75°C for a secondary application. Accent heat recovery units are also available for direct connection to refrigeration plant, ranging from air conditioning units to large scale central plant.

High Efficiency:

Coefficient of Performance (COP) varies depending on ambient air conditions. Accent's hot water Heat Pumps average a COP of over 4 which means more than 75% of the energy used to produce hot water is free from the atmosphere. Accent's Pool Heat Pumps have an average summer COP of 5 up to a maximum COP of 6.

Accent Back-Up:

Accent products are supported by an Australian based technical support team ensuring correct sizing, specification and installation. Accent trades with the world through an international network of distributors and dealers. Accent distributors are commercial project specialists providing a comprehensive package of technical support, product, installation and after sales service for their local industry.

PERFORMANCE

Air-to-Water Heat Pumps

Accent has only selected the world's best components for its Heat Pumps including; Copeland Scroll Compressors and Ziehl fans. The superior scroll compressor technology of Copeland is employed to provide a quieter unit with the reliability and efficiency expected in a commercial product. Every Accent Air-to-Water Heat Pump has a minimum of two Ziehl propeller fans ensuring both redundancy and one of the quietest commercial Heat Pumps on the market.

The entire evaporator coil is epoxy coated to provide long lasting protection from corrosive atmospheres. The evaporator incorporates rifle bore copper tubes, which increase heat transfer by up to 20% over smooth bore tubing. Slit aluminium fins provide even greater transfer of heat from the air to the refrigerant.

Heat exchanger options include double-wall (vented) tube in tube /coaxial and double wall stainless steel flat plate heat exchangers. Water and refrigerant circulate in separate tubes with an air gap providing a safety mechanism preventing any potential cross contamination of refrigerant into potable water.

Accent pool Heat Pumps use coaxial titanium tube-in-tube heat exchangers with a polyethylene outercase, with the breakthrough twisted titanium maximising heating performance and efficiency.

Accent offer a 10 year warranty on Titanium heat exchangers*.

Options:

Accent commercial Heat Pumps are available with a range of options including:

Specialist Treatments for Corrosive Environments:

Heat Pumps are often installed in highly corrosive environments. These may be outdoor locations close to crashing surf or situations where road or air-bourne industrial pollutants are an issue. Plant rooms can also be subject to chemical discharge to air in certain circumstances.

Anti-Corrosion Evaporator Treatments
The standard coil is epoxy coated. This process can be repeated to be provided with a double dipped coil. Premium anti-corrosion treatment is also available.

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.

Marine Grade Aluminium, stainless steel or zinc annealed powder coated cabinets are available.

Anti-corrosive painting of fan motors and blades – provides important corrosion protection from harsh environments.

Specialist Treatments for Noise Sensitive Environments:

Accent offers various options in fan selection making the unit the quietest Heat Pump available.

Fan upgrade: the use of larger blade fans at lower speed or centrifugal fans will reduce noise.

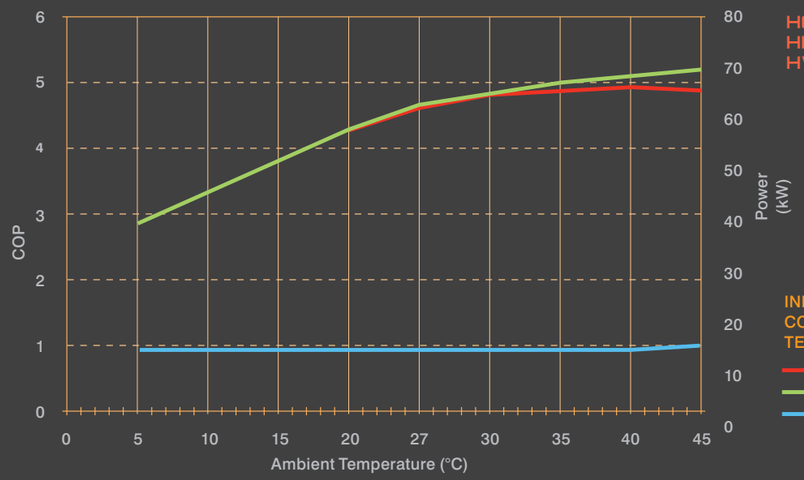
Acoustic Treatments: acoustic options such as compressor jacket, acoustic lining and acoustic hood are available.

Horizontal discharge design or remote discharge fans are available on models up to 100kW output. Horizontal discharge models can be stacked two high 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.

All Weather Performance:

Automatic defrost is standard on every Accent Air-to-Water Heat Pump. Accent's advanced de-ice control allows the Heat Pump to continue performing in low ambient temperature conditions. Hot gas bypass or full reverse cycle de-ice is standard.



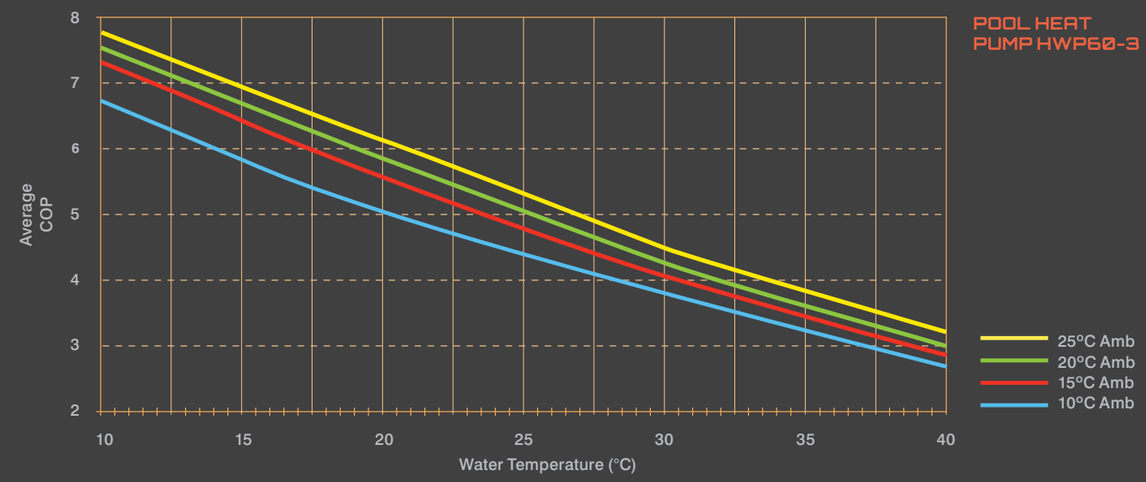
HOT WATER HEAT PUMP HW60-3

INPUT, OUTPUT AND COP VS AMBIENT TEMPERATURE

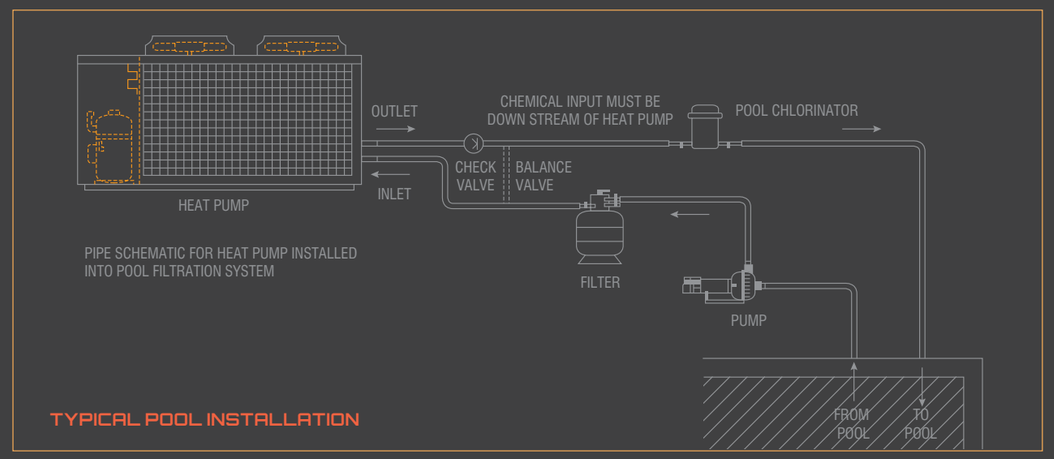
- Average COP
- Heating Capacity (kW)
- Average Power Input (kW)

* Conditions apply. Refer to the warranty statement.

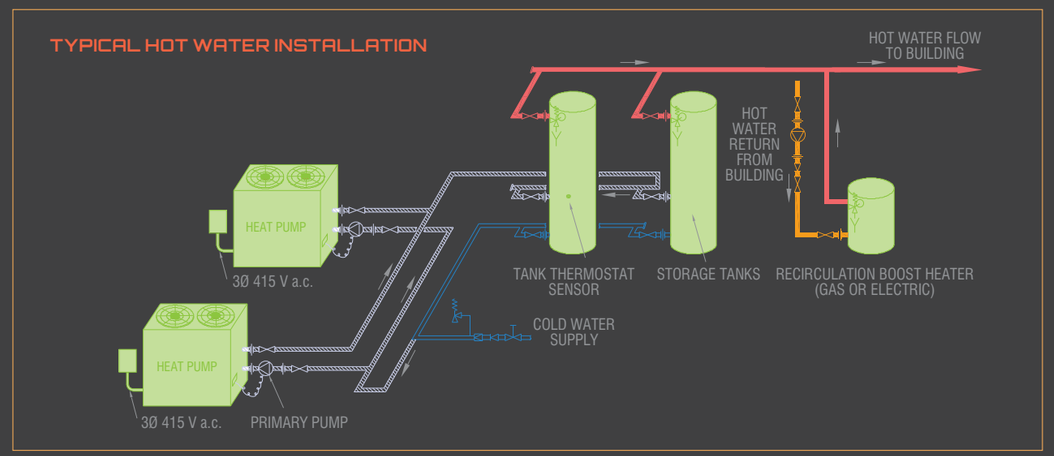
TYPICAL INSTALLATION



POOL HEAT PUMP HWP60-3



TYPICAL POOL INSTALLATION



ACCENT HOT WATER HEAT PUMP

MODEL	HW20-3		HW25-3		HW30-3		HW38-3		HW50-3		HW60-3	
ELECTRICAL INPUT	Three Phase		Three Phase		Three Phase		Three Phase		Three Phase		Three Phase	
Voltage	380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz	
Amps Per Phase	12.0 Amps		12.0 Amps		20.0 Amps		20.0 Amps		25.0 Amps		30.0 Amps	
Min. Circuit Size	20.0 Amps		20.0 Amps		25.0 Amps		25.0 Amps		40.0 Amps		63.0 Amps	
Refrigerant	R407C		R407C		R407C		R407C		R407C		R407C	
Nominal Heating capacity	20.49 kW		21.4 kW		25.3 kW		33.7 kW		44.8 kW		58.4 kW	
Power input	5.0 kW		5.2 kW		6.1 kW		7.6 kW		10.3 kW		13.4 kW	
COP	4.1		4.11		4.15		4.44		4.35		4.36	
Noise Level	59 dB(A) @ 3 m		59 dB(A) @ 3 m		60 dB(A) @ 3 m		62 dB(A) @ 3 m		69 dB(A) @ 3 m		69 dB(A) @ 3 m	
TECHNICAL DATA												
	Compressor	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**
Make	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl
Type	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller
Number Per Unit	1	2	1	2	1	2	1	2	1	2	1	2
FLA (Full Load Amp)	10.0 Amps (Each)	0.64 Amps (Each)	10.0 Amps (Each)	0.64 Amps (Each)	16.4 Amps (Each)	0.84 Amps (Each)	16.4 Amps (Each)	0.84 Amps (Each)	19.6 Amps (Each)	0.89 Amps (Each)	27.2 Amps (Each)	0.89 Amps (Each)
Voltage / Phase	415 / 3	240 / 1	415 / 3	240 / 1	415 / 3	240 / 1	415 / 3	240 / 1	415 / 3	240 / 1	415 / 3	415 / 3
Pole/RPM	2/2,900	6/890	2/2,900	6/890	2/2,900	6/890	2/2,900	6/890	2/2,900	6/890	2/2,900	6/890
Air Flow	N/A	1600 L/s	N/A	1600 L/s	N/A	2000 L/s	N/A	2300 L/s	N/A	4500 L/s	N/A	4700 L/s
HEAT EXCHANGER (Water Side)												
Type of Water Tube	Copper		Copper		Copper		Copper		Copper		Copper	
Design	Co-Axial		Co-Axial		Co-Axial		Co-Axial		Co-Axial		Co-Axial	
Flow Rate Excl. By Pass	0.8 L/s		1.0 L/s		1.6 L/s		1.5 L/s		1.8 L/s		2.4 L/s	
Max. Outlet Water Temp	61°C		61°C		61°C		61°C		61°C		61°C	
Design Pressure Drop	80 kPa		80 kPa		80 kPa		80 kPa		80 kPa		80 kPa	
Max. Operating Pres.	2,450 kPa		2,450 kPa		2,450 kPa		2,450 kPa		2,450 kPa		2,450 kPa	
GENERAL INFORMATION												
Water Connections	32mm Copper		32mm Copper		32mm Copper		50mm Copper		50mm Copper		50mm Copper	
Drain	20mm PVC		20mm PVC		20mm PVC		20mm PVC		20mm Aluminium		20mm Aluminium	
Defrost	Automatic Hot Gas Injection		Automatic Hot Gas Injection		Automatic Hot Gas Injection		Automatic Hot Gas Injection		Automatic Hot Gas Injection		Automatic Hot Gas Injection	
Cabinet Construction	1.2mm Stucco Aluminium Marine Grade		1.2mm Stucco Aluminium Marine Grade		1.2mm Stucco Aluminium Marine Grade		1.2mm Stucco Aluminium Marine Grade		1.2mm Stucco Aluminium Marine Grade		1.2mm Stucco Aluminium Marine Grade	
Approx. shipping weight	100 kg		120 kg		120 kg		170 kg		230 kg		300 kg	
Size L x W x H	1150mm x 565mm x 980mm		1150mm x 565mm x 980mm		1750mm x 800mm x 825mm		1750mm x 800mm x 825mm		1750mm x 800mm x 1015mm		1750mm x 800mm x 1215mm	

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

TECHNICAL AIR-TO-WATER

MODEL	HW80-3		HW100-3		HW150-3		HW200-3		HW250-3	
ELECTRICAL INPUT	Three Phase		Three Phase		Three Phase		Three Phase		Three Phase	
Voltage	380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz	
Amps Per Phase	38.0 Amps		45.0 Amps		58.0 Amps		130 Amps		130 Amps	
Min. Circuit Size	63.0 Amps		63.0 Amps		80.0 Amps		150 Amps		150 Amps	
Refrigerant	R407C		R407C		R407C		R407C		R407C	
Nominal Heating capacity	67.3 kW		89.6 kW		133.4 kW		200 kW		258 kW	
Power input	15.2 kW		20.5 kW		30.8 kW		66 kW		73.5 kW	
COP	4.43		4.37		4.33		3.00		3.40	
Noise Level	68 dB(A) @ 3 m		69 dB(A) @ 3 m		72 dB(A) @ 3 m		73 dB(A) @ 3 m		73 dB(A) @ 3 m	
TECHNICAL DATA										
	Compressor	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**
Make	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl
Type	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller
Number Per Unit	2	4	2	4	3	6	4	8	4	8
FLA (Full Load Amp)	16.4 Amps (Each)	0.64 Amps (Each)	19.6 Amps (Each)	0.89 Amps (Each)	19.6 Amps (Each)	0.89 Amps (Each)	27.2 Amps (Each)	0.89 Amps (Each)	30.4 Amps (Each)	0.89 Amps (Each)
Voltage / Phase	415 / 3	240 / 1	415 / 3	415 / 3	415 / 3	415 / 3	415 / 3	415 / 3	415 / 3	415 / 3
Pole/RPM	2/2,900	4/1440	2/2,900	6/890	2/2,900	6/890	2/2,900	6/900	2/2,900	6/890
Air Flow	N/A	5000 L/s	N/A	9200 L/s	N/A	13800 L/s	N/A	18000 L/s	N/A	20000 L/s
HEAT EXCHANGER (Water Side)										
Type of Water Tube	Copper		Copper		Copper		Copper		Copper	
Design	Co-Axial		Co-Axial		Co-Axial		Co-Axial		Shell & Tube	
Flow Rate Excl. By Pass	2.74 L/s		3.6 L/s		5.31 L/s		10.00 L/s		6.3 L/s	
Max. Outlet Water Temp	61°C		61°C		61°C		61°C		61°C	
Design Pressure Drop	80 kPa		80 kPa		80 kPa		80 kPa		80 kPa	
Max. Operating Pres.	2,450 kPa		2,450 kPa		2,450 kPa		2,450 kPa		2,450 kPa	
GENERAL INFORMATION										
Water Connections	65mm Copper		65mm Copper		65mm Copper		65mm Copper		65mm Copper	
Drain	20mm Aluminium		20mm Aluminium		20mm Aluminium		20mm Aluminium		20mm Aluminium	
Defrost	Automatic Hot Gas Injection		Automatic Hot Gas Injection		Automatic Hot Gas Injection		Automatic Hot Gas Injection		Automatic Hot Gas Injection	
Cabinet Construction	1.2mm Stucco Aluminium Marine Grade		1.2mm Stucco Aluminium Marine Grade Galvanised Base		1.2mm Stucco Aluminium Marine Grade Galvanised Base		1.2mm Stucco Aluminium Marine Grade Galvanised Base		1.2mm Stucco Aluminium Marine Grade Galvanised Base	
Approx. shipping weight	650 kg		800 kg		1200 kg		1500 kg		1700 kg	
Size L x W x H	1735mm x 1600mm x 825mm		2200mm x 1610mm x 2020mm		3462mm x 1962mm x 2040mm		3462mm x 1962mm x 2290mm		3462mm x 1962mm x 2290mm	

Rating conditions-20C ambient, 60% RH, 39ºC Water in, 45ºC Water out.
Materials and data subject to change without notice due to ongoing product improvements.

Accent Air Heat Pumps utilise a host of features to perform optimally in all weather conditions

ACCENT POOL HEAT PUMP

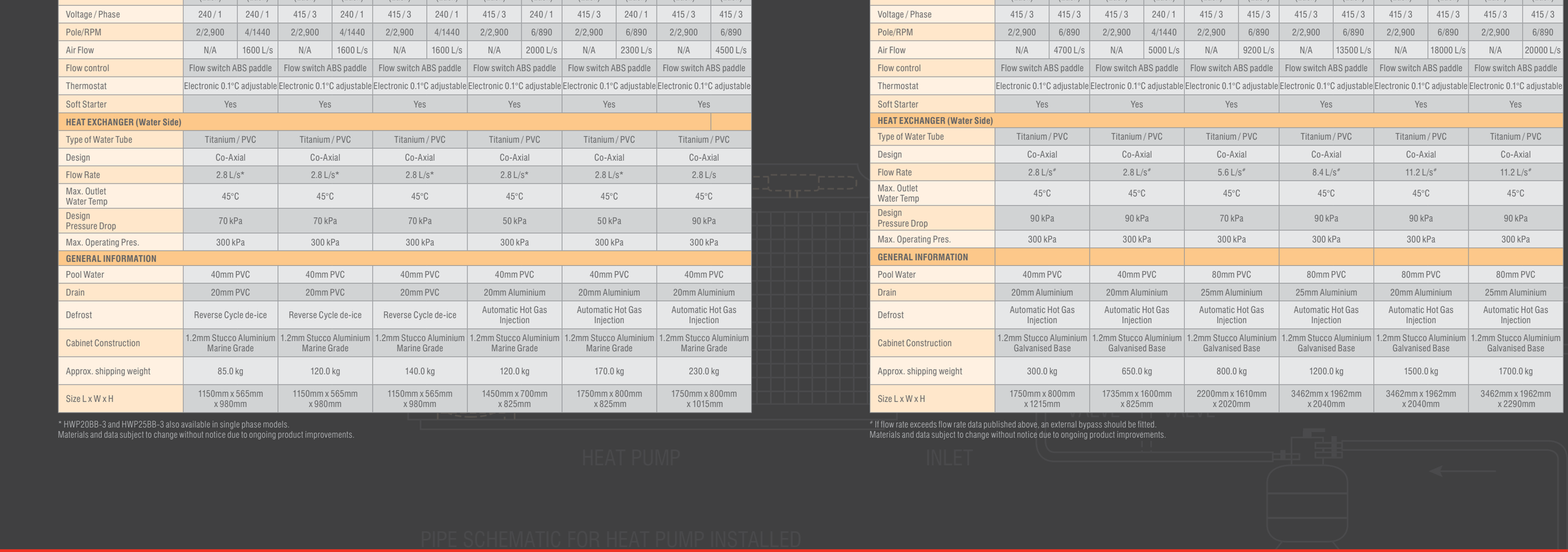
MODEL	HWP17BB-1		HWP20BB-3*		HWP25BB-3*		HWP30-3		HWP38-3		HWP50-3	
ELECTRICAL INPUT	Single Phase		Three Phase		Three Phase		Three Phase		Three Phase		Three Phase	
Voltage	220-240 Volts / 50Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz	
Amps Per Phase	22.0 Amps		12.0 Amps		13.0 Amps		15.0 Amps		20.0 Amps		25.0 Amps	
Min. Circuit Size	32.0 Amps		20.0 Amps		20.0 Amps		20.0 Amps		25.0 Amps		40.0 Amps	
Refrigerant	R407C		R407C		R407C		R407C		R407C		R407C	
PERFORMANCE												
	Winter	**Summer**	**Winter**	**Summer**	**Winter**	**Summer**	**Winter**	**Summer**	**Winter**	**Summer**	**Winter**	**Summer**
Air On Conditions	15°CDB, 12°CWB	25°CDB, 18°CWB	15°CDB, 12°CWB	25°CDB, 18°CWB	15°CDB, 12°CWB	25°CDB, 18°CWB	15°CDB, 12°CWB	25°CDB, 18°CWB	15°CDB, 12°CWB	25°CDB, 18°CWB	15°CDB, 12°CWB	25°CDB, 18°CWB
Entering Water Temp.	27°C	27°C	27°C	27°C	27°C	27°C	27°C	27°C	27°C	27°C	27°C	27°C
Nominal Capacity	17.0 kW	20.4 kW	20.0 kW	24.9 kW	25.0 kW	31.0 kW	30.0 kW	35.4 kW	38.0 kW	43.7 kW	50.0 kW	57.5 kW
Power Input	3.78 kW	4.08 kW	4.4 kW	4.98 kW	5.5 kW	6.2 kW	6.6 kW	7.08 kW	8.3 kW	8.74 kW	10.9 kW	11.5 kW
COP	4.5	5.0	4.5	5.0	4.55	5.0	4.57	5.0	4.58	5.0	4.6	5.0
Noise Level	59 dB(A) @ 3m	59 dB(A) @ 3m	59 dB(A) @ 3m	59 dB(A) @ 3m	59 dB(A) @ 3m	59 dB(A) @ 3m	60 dB(A) @ 3m	60 dB(A) @ 3m	62 dB(A) @ 3m	62 dB(A) @ 3m	69 dB(A) @ 3m	69 dB(A) @ 3m
TECHNICAL DATA												
	Compressor	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**
Make	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl
Type	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller
Number Per Unit	1	2	1	2	1	2	1	2	1	2	1	2
FLA (Full Load Amp)	19.3 Amps (Each)	0.64 Amps (Each)	10.00 Amps (Each)	0.64 Amps (Each)	10.0 Amps (Each)	0.64 Amps (Each)	12.0 Amps (Each)	0.84 Amps (Each)	16.4 Amps (Each)	0.84 Amps (Each)	19.6 Amps (Each)	0.64 Amps (Each)
Voltage / Phase	240 / 1	240 / 1	415 / 3	240 / 1	415 / 3	240 / 1	415 / 3	240 / 1	415 / 3	240 / 1	415 / 3	415 / 3
Pole/RPM	2/2,900	4/1440	2/2,900	4/1440	2/2,900	4/1440	2/2,900	6/890	2/2,900	6/890	2/2,900	6/890
Air Flow	N/A	1600 L/s	N/A	1600 L/s	N/A	1600 L/s	N/A	2000 L/s	N/A	2300 L/s	N/A	4500 L/s
Flow control	Flow switch ABS paddle		Flow switch ABS paddle		Flow switch ABS paddle		Flow switch ABS paddle		Flow switch ABS paddle		Flow switch ABS paddle	
Thermostat	Electronic 0.1°C adjustable		Electronic 0.1°C adjustable		Electronic 0.1°C adjustable		Electronic 0.1°C adjustable		Electronic 0.1°C adjustable		Electronic 0.1°C adjustable	
Soft Starter	Yes		Yes		Yes		Yes		Yes		Yes	
HEAT EXCHANGER (Water Side)												
Type of Water Tube	Titanium / PVC		Titanium / PVC		Titanium / PVC		Titanium / PVC		Titanium / PVC		Titanium / PVC	
Design	Co-Axial		Co-Axial		Co-Axial		Co-Axial		Co-Axial		Co-Axial	
Flow Rate	2.8 L/s*		2.8 L/s*		2.8 L/s*		2.8 L/s*		2.8 L/s*		2.8 L/s	
Max. Outlet Water Temp	45°C		45°C		45°C		45°C		45°C		45°C	
Design Pressure Drop	70 kPa		70 kPa		70 kPa		50 kPa		50 kPa		90 kPa	
Max. Operating Pres.	300 kPa		300 kPa		300 kPa		300 kPa		300 kPa		300 kPa	
GENERAL INFORMATION												
Pool Water	40mm PVC		40mm PVC		40mm PVC		40mm PVC		40mm PVC		40mm PVC	
Drain	20mm PVC		20mm PVC		20mm PVC		20mm Aluminium		20mm Aluminium		20mm Aluminium	
Defrost	Reverse Cycle de-ice		Reverse Cycle de-ice		Reverse Cycle de-ice		Automatic Hot Gas Injection		Automatic Hot Gas Injection		Automatic Hot Gas Injection	
Cabinet Construction	1.2mm Stucco Aluminium Marine Grade		1.2mm Stucco Aluminium Marine Grade		1.2mm Stucco Aluminium Marine Grade		1.2mm Stucco Aluminium Marine Grade		1.2mm Stucco Aluminium Marine Grade		1.2mm Stucco Aluminium Marine Grade	
Approx. shipping weight	85.0 kg		120.0 kg		140.0 kg		120.0 kg		170.0 kg		230.0 kg	
Size L x W x H	1150mm x 565mm x 980mm		1150mm x 565mm x 980mm		1150mm x 565mm x 980mm		1450mm x 700mm x 825mm		1750mm x 800mm x 825mm		1750mm x 800mm x 1015mm	

* HWP20BB-3 and HWP25BB-3 also available in single phase models.
Materials and data subject to change without notice due to ongoing product improvements.

TECHNICAL AIR-TO-WATER

MODEL	HWP60-3		HWP80-3		HWP100-3		HWP150-3		HWP200-3		HWP250-3	
ELECTRICAL INPUT	Three Phase		Three Phase		Three Phase		Three Phase		Three Phase		Three Phase	
Voltage	380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz		380-415 Volts / 50 Hz	
Amps Per Phase	30.0 Amps		38.0 Amps		45.0 Amps		68.0 Amps		90.0 Amps		110.0 Amps	
Min. Circuit Size	40.0 Amps		63.0 Amps		63.0 Amps		80.0 Amps		100.0 Amps		120.0 Amps	
Refrigerant	R407C		R407C		R407C		R407C		R407C		R407C	
PERFORMANCE												
	Winter	**Summer**	**Winter**	**Summer**	**Winter**	**Summer**	**Winter**	**Summer**	**Winter**	**Summer**	**Winter**	**Summer**
Air On Conditions	15°CDB, 12°CWB	25°CDB, 18°CWB	15°CDB, 12°CWB	25°CDB, 18°CWB	15°CDB, 12°CWB	25°CDB, 18°CWB	15°CDB, 12°CWB	25°CDB, 18°CWB	15°CDB, 12°CWB	25°CDB, 18°CWB	15°CDB, 12°CWB	25°CDB, 18°CWB
Entering Water Temp.	27°C	27°C	27°C	27°C	27°C	27°C	27°C	27°C	27°C	27°C	27°C	27°C
Nominal Capacity	60.0 kW	69 kW	80.0 kW	95 kW	100.0 kW	118.0 kW	150.0 kW	177.0 kW	200.0 kW	248.0 kW	240.0 kW	280.0 kW
Power Input	13.0 kW	13.8 kW	17.4 kW	19 kW	22.2 kW	23.6 kW	32.8 kW	35.4 kW	43.5 kW	49.6 kW	52.2 kW	56 kW
COP	4.6	5.0	4.6	5.0	4.6	5.0	4.58	5.0	4.6	5.0	4.6	5.0
Noise Level	69 dB(A) @ 3m	69 dB(A) @ 3m	68 dB(A) @ 3m	68 dB(A) @ 3m	69 dB(A) @ 3m	69 dB(A) @ 3m	72 dB(A) @ 3m	72 dB(A) @ 3m	73 dB(A) @ 3m	73 dB(A) @ 3m	73 dB(A) @ 3m	73 dB(A) @ 3m
TECHNICAL DATA												
	Compressor	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**	**Compressor**	**Fan**
Make	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl	Copeland	Ziehl
Type	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller	Scroll	Propeller
Number Per Unit	1	2	2	4	2	4	3	6	4	8	4	8
FLA (Full Load Amp)	27.2 Amps (Each)	0.89 Amps (Each)	16.4 Amps (Each)	0.64 Amps (Each)	19.6 Amps (Each)	0.89 Amps (Each)	19.6 Amps (Each)	0.89 Amps (Each)	19.6 Amps (Each)	0.89 Amps (Each)	27.2 Amps (Each)	0.89 Amps (Each)
Voltage / Phase	415 / 3	415 / 3	415 / 3	240 / 1	415 / 3	415 / 3	415 / 3	415 / 3	415 / 3	415 / 3	415 / 3	415 / 3
Pole/RPM	2/2,900	6/890	2/2,900	4/1440	2/2,900	6/890	2/2,900	6/890	2/2,900	6/890	2/2,900	6/890
Air Flow	N/A	4700 L/s	N/A	5000 L/s	N/A	9200 L/s	N/A	13500 L/s	N/A	18000 L/s	N/A	20000 L/s
Flow control	Flow switch ABS paddle		Flow switch ABS paddle		Flow switch ABS paddle		Flow switch ABS paddle		Flow switch ABS paddle		Flow switch ABS paddle	
Thermostat	Electronic 0.1°C adjustable		Electronic 0.1°C adjustable		Electronic 0.1°C adjustable		Electronic 0.1°C adjustable		Electronic 0.1°C adjustable		Electronic 0.1°C adjustable	
Soft Starter	Yes		Yes		Yes		Yes		Yes		Yes	
HEAT EXCHANGER (Water Side)												
Type of Water Tube	Titanium / PVC		Titanium / PVC		Titanium / PVC		Titanium / PVC		Titanium / PVC		Titanium / PVC	
Design	Co-Axial		Co-Axial		Co-Axial		Co-Axial		Co-Axial		Co-Axial	
Flow Rate	2.8 L/s#		2.8 L/s#		5.6 L/s#		8.4 L/s#		11.2 L/s#		11.2 L/s#	
Max. Outlet Water Temp	45°C		45°C		45°C		45°C		45°C		45°C	
Design Pressure Drop	90 kPa		90 kPa		70 kPa		90 kPa		90 kPa		90 kPa	
Max. Operating Pres.	300 kPa		300 kPa		300 kPa		300 kPa		300 kPa		300 kPa	
GENERAL INFORMATION												
Pool Water	40mm PVC		40mm PVC		80mm PVC		80mm PVC		80mm PVC		80mm PVC	
Drain	20mm Aluminium		20mm Aluminium		25mm Aluminium		25mm Aluminium		20mm Aluminium		25mm Aluminium	
Defrost	Automatic Hot Gas Injection		Automatic Hot Gas Injection		Automatic Hot Gas Injection		Automatic Hot Gas Injection		Automatic Hot Gas Injection		Automatic Hot Gas Injection	
Cabinet Construction	1.2mm Stucco Aluminium Galvanised Base		1.2mm Stucco Aluminium Galvanised Base		1.2mm Stucco Aluminium Galvanised Base		1.2mm Stucco Aluminium Galvanised Base		1.2mm Stucco Aluminium Galvanised Base		1.2mm Stucco Aluminium Galvanised Base	
Approx. shipping weight	300.0 kg		650.0 kg		800.0 kg		1200.0 kg		1500.0 kg		1700.0 kg	
Size L x W x H	1750mm x 800mm x 1215mm		1735mm x 1600mm x 825mm		2200mm x 1610mm x 2020mm		3462mm x 1962mm x 2040mm		3462mm x 1962mm x 2040mm		3462mm x 1962mm x 2290mm	

If flow rate exceeds flow rate data published above, an external bypass should be fitted.
Materials and data subject to change without notice due to ongoing product improvements.



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 Heat Pump Boost heaters
- 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 pre-heat, 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 Heat Pump Boost heaters and 63 Rheem storage tanks were installed servicing 5 separate hot water zones. The system was designed to Intercontinental design parameters to deliver 60,000 L 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

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 Air 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.

The efficiency of Accent Heat Pumps has been demonstrated through testing of on-site Heat Pumps installed at Manly Aquatic Centre. ETM Refrigeration Analysis Meter testing showed coefficients of performance (COP) up to 6.0 in this application.

Authorised Dealer

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