2022 PoolPac™ Range

AIR CHANGE
DOAS & DEHUMIDIFICATION

PoolPac™ Introduction

Indoor pool halls offer unique HVAC challenges which, if not addressed properly, can have catastrophic consequences. By their very nature, indoor pool halls are humid, toxic, corrosive, energy demanding environments that require specialised HVAC systems to ensure the occupants and the building fabric are adequately protected. Some of the challenges presented by pool halls include:

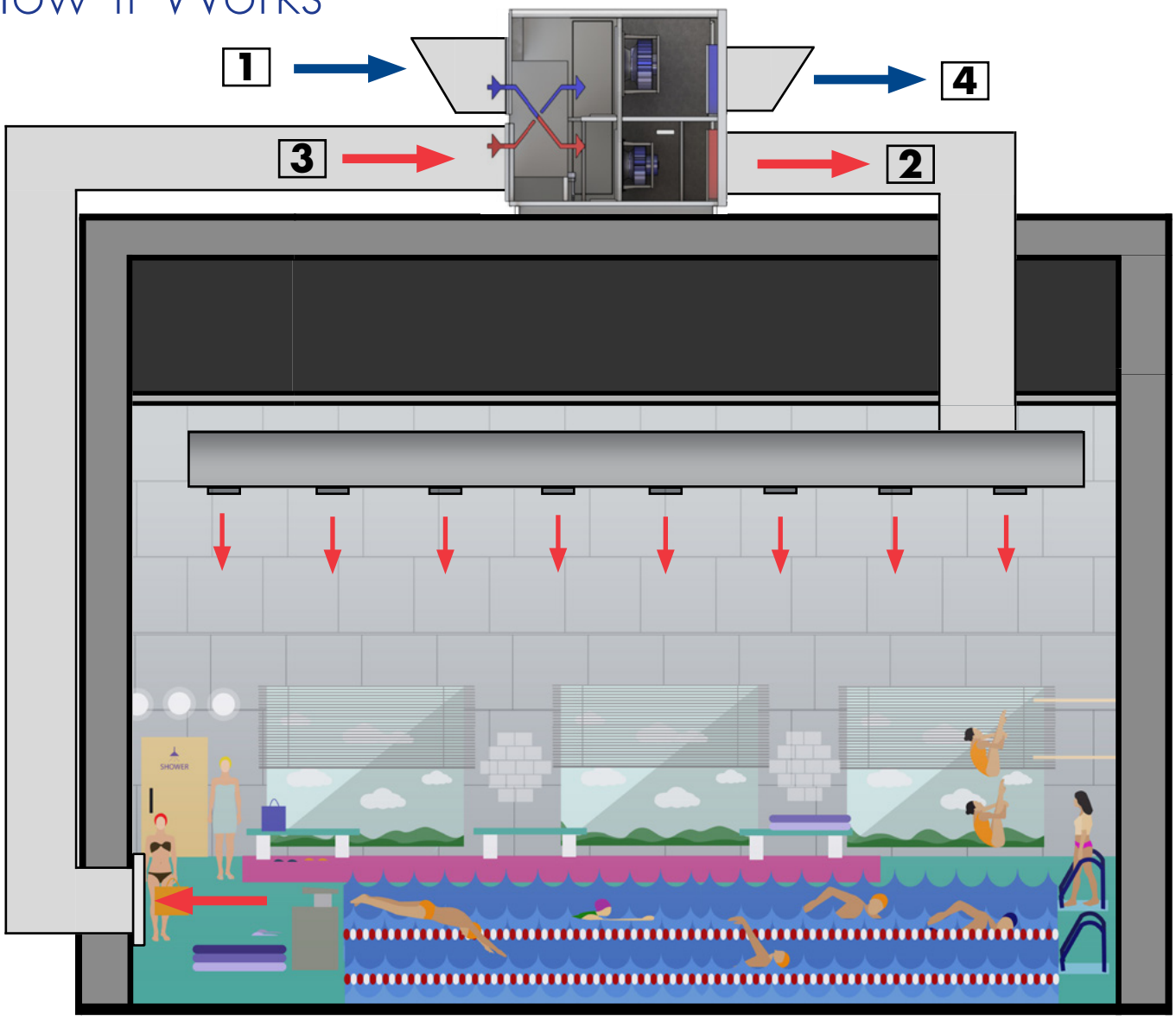
- Controlling humidity to acceptable levels in order to prevent mould growth, occupant discomfort and degradation of the building and its contents when condensation occurs on colder surfaces.
- Providing sufficient ventilation to manage airborne chloramine levels. Chloramines can produce obnoxious odours, in addition to skin, eye and respiratory irritation.
- Protecting equipment as chloramines are highly corrosive.
- Maintaining temperature efficiently as pool halls are typically large spaces with vast glazed surfaces.

To overcome these challenges, Air Change have been supplying PoolPac™ units for the past 20 years to heat and ventilate pool projects ranging from very large commercial aquatic centres to small residential indoor pools.

By combining air-to-air heat recovery technology that can withstand this highly corrosive environment with a reverse cycle DX heat pump, the Air Change PoolPac™ is able to ventilate and provide pool hall temperature control in an energy efficient manner. PoolPac™ units are manufactured with resilient components and surface treatments that have been proven to withstand the harsh indoor pool environment.

With nominal airflows ranging from 750l/s to 6500l/s, and design options available, there is a PoolPac™ solution to meet the requirements of any pool project. Contact one of our experienced sales engineers for a detailed unit selection.

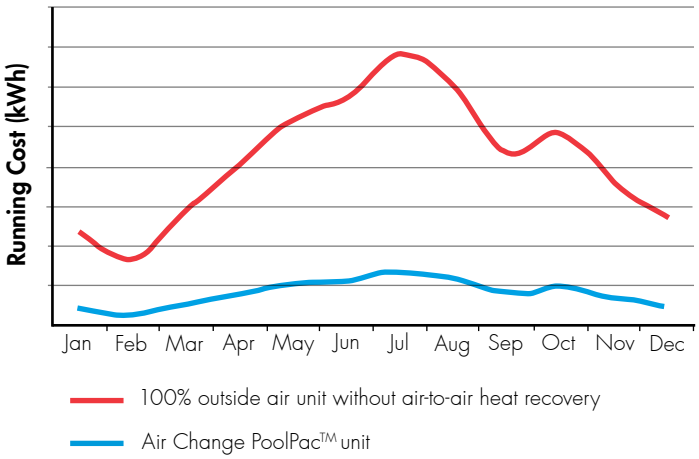
How it Works



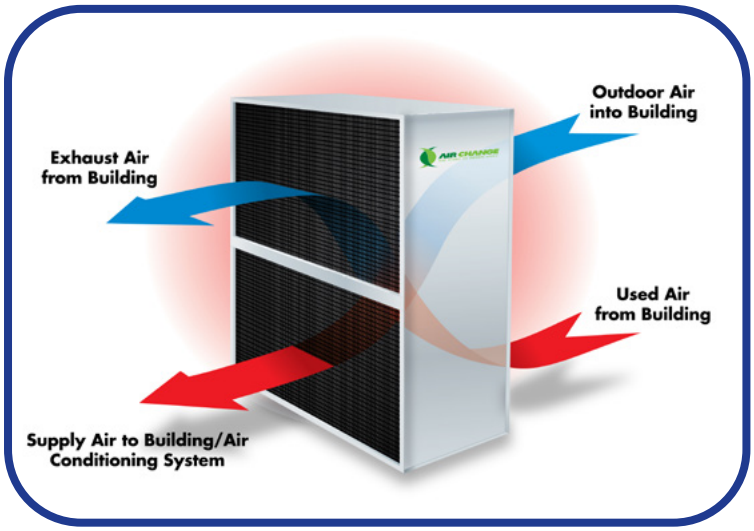
Heating Mode Scenario

1. 100% fresh outside air enters the unit and passes through an air-to-air heat exchanger where it recovers heat from the return air (stage 3) that is to be exhausted.
2. Once the air has been pre-heated passing through the air-to-air heat exchanger, additional heat is added by a DX condenser coil to maintain the desired room temperature. Typically room temperature should be kept a couple degrees higher than the pool water temperature to limit pool heat loss. Introducing fresh air controls the room humidity and chloramine concentration.
3. Warm humid air returns to the unit where it exchanges heat with the cold fresh air before it is exhausted from the building.
4. Before the warm humid air is exhausted outside, any surplus energy in this energy rich airstream is absorbed by the DX evaporator coil which boosts the system COP.

Outside Air Load Modelling - Sydney Example



Features

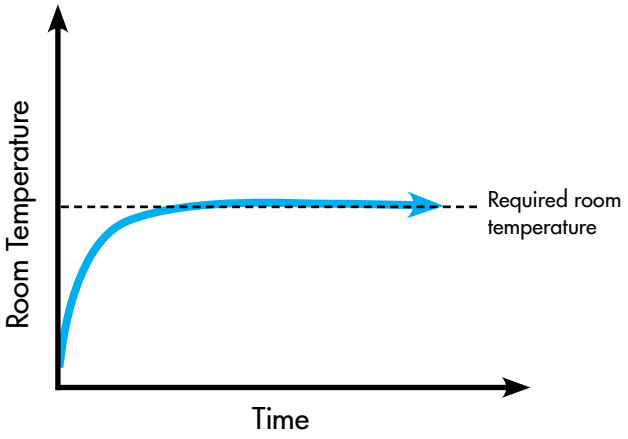


Air-to-Air Heat Exchangers

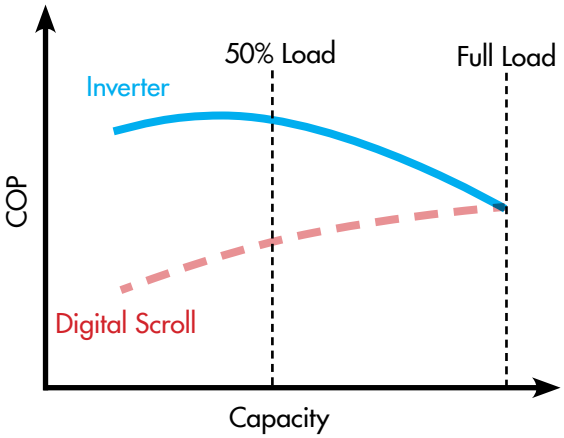
Air Change's unique counterflow plate heat exchangers provide optimal heat transfer between outside air and return air, reducing the outside air load with significant running cost savings. The sensible-only transfer media that is used in PoolPac™ units is impervious to moisture, meaning that humidity is not reintroduced back into the indoor space. The polymer plate construction ensures corrosion resistance in harsh pool environments.

BLDC Inverter Compressors (Optional)

The variable capacity of inverter compressors provide a match of heating or cooling capacity with the heating or cooling load. Because the load and capacity are matched, inverter compressors offer enhanced energy efficiency during capacity turn-down due to the reduced compressor lift. As DX systems typically spend minimal time at full design load, this translates to significant seasonal energy savings.



Smooth and steady control of room temperature achieved by inverter compressors.



Indicative COP vs. capacity profiles of inverter and digital scroll compressors.

Features

EC Supply Air and Exhaust Air Fans

EC fans offer optimal levels of energy efficiency. They also have high static pressure development, making them suitable for applications requiring high filtration grades or long ductwork runs.

Clima*Sync* Control System (Optional)

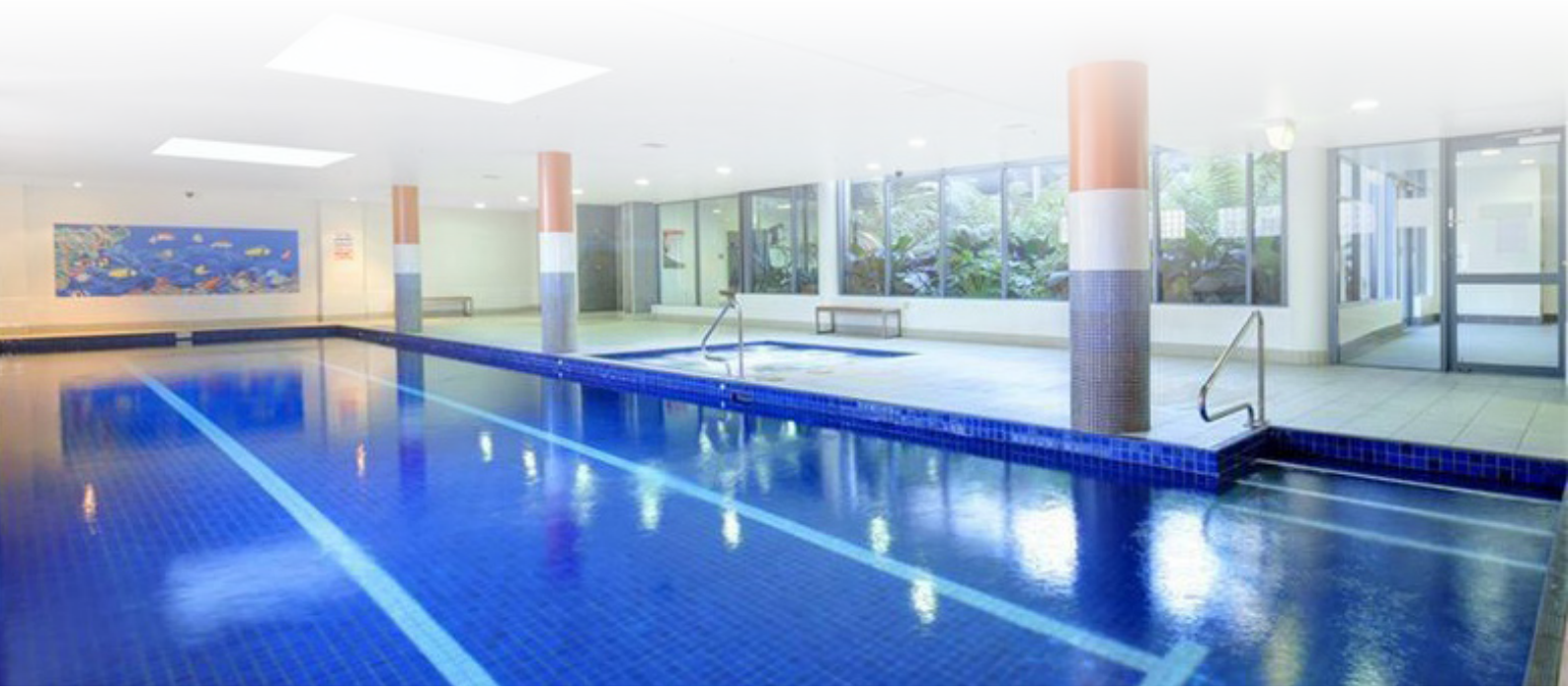
The optional ClimaSync Control System ensures optimal performance and reliability. The control logic and operational functions are programmed to meet the requirements of each project. Features include proactive thermostat logic, performance status and trends, advanced protection logic, alarm histories, and time scheduling. Unit operation is achieved through touchscreen human machine interface, high level interface, or through online connectivity.

Corrosion Resistance

All components of PoolPac™ units are specially selected or treated for corrosion resistance to ensure reliable operation and longevity in harsh indoor pool environments.

Recent Projects

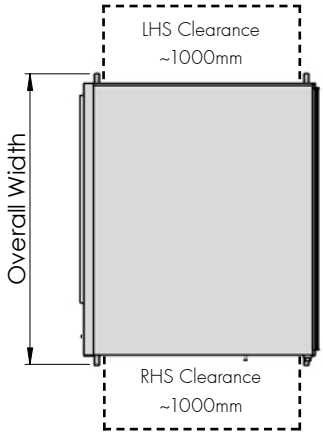
- Dubbo Hydrotherapy Pool, NSW
- Ryde Aquatic Centre, NSW
- Ashfield Aquatic Centre, NSW
- Fairfield Leisure Centre, NSW
- Wangaratta Aquatic Centre, VIC
- Melbourne Grand Apartments, VIC
- Belgravia Kids Gym & Swim, VIC
- Shayne Reese Swimming, VIC
- Concordia College, QLD
- Caboolture Aquatic Centre, QLD
- Morayfield Health Hub, QLD
- Sandgate Aquatic Centre, QLD
- Vibe Hotel Hobart, TAS
- Swancare Leisure Centre, WA
- Atwell College, WA
- Aloha Surfhouse, WA
- Renmark Recreational Centre, SA
- Swimtastic Auckland, NZ
- Selwyn Aquatic Centre Extension, NZ
- Waterworld Hamilton, NZ



Technical Data

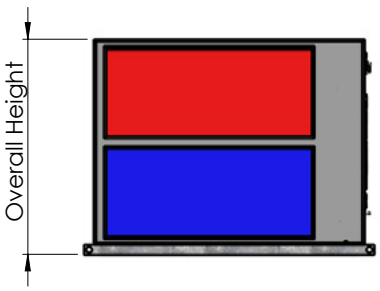
Model Number:	ACPP 750	1000	1200	1400	1700	2000	2300	2800	3200	3600	4200	5000	6500
Supply Air (l/s)	750	1000	1200	1400	1700	2000	2300	2800	3200	3600	4200	5000	6500
Return Air (l/s)	750	1000	1200	1400	1700	2000	2300	2800	3200	3600	4200	5000	6500
Outside Air	100%												
Condenser Make-Up Air (l/s)	450	600	400	360	540	240	900	700	600	2200	2000	1700	700
Exhaust Air (RA + CMA) (l/s)	1200	1600	1600	1760	2240	2240	3200	3500	3800	5800	6200	6700	7200
Comp. Capacity **Cooling** (kW)	16	20	20	23	32	32	40	45	52	65	70	82	96
Comp. Capacity **Heating** (kW)	20	25	25	29	40	40	52	59	68	85	91	107	125
Comp. Stages (Fixed Speed)	1	1	1	1	1	2	2	2	2	2	2	2	2
Refrigerant	R407C for Standard Fixed Speed Compressors. R410A for Optional Inverter Compressors												
Fan Type	3 Phase EC Plug Fans - Variable Speed												
Volts / Ph / Hz	415 / 3 / 50												
Construction	50mm PU Sandwich Panel												
Weight (kg)	600	650	750	750	800	1250	1250	1650	1700	1750	1800	2100	2500
Dimensions													
Overall Depth (mm)	1630	1630	1630	1630	1630	2350	2350	2390	2390	2390	2390	2500	2350
Overall Width (mm)	1760	1950	2200	2200	2200	2250	2250	2900	2900	2900	2900	3550	4200
Overall Height (mm)	1450	1450	1550	1550	1550	1950	1950	2145	2145	2145	2145	2285	2450

*Specifications are subject to change. Refer to project certified documentation for finalised details.

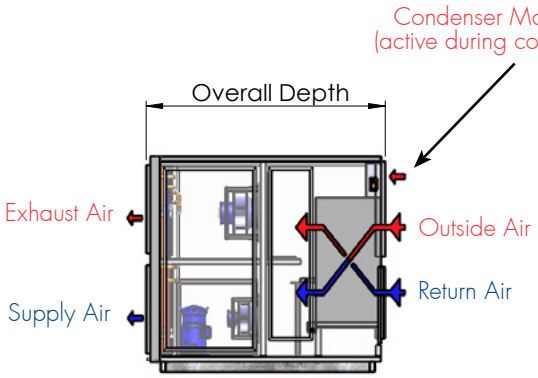


Plan View

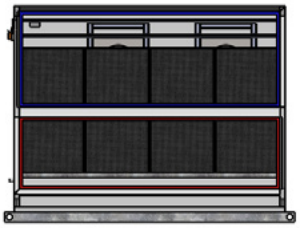
Outside air and return air filter boxes supplied by others.



Front View



Right Side View



Back View

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AIR CHANGE
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For more than 20 years, Air Change has provided unique equipment and engineering solutions for local and international clients using our internationally patented heat and energy recovery technology. During that time, we have developed a comprehensive range of energy efficient products to deliver controlled indoor climate conditions satisfying the requirements of all project stakeholders: the developer, the design engineer, and the building's owner and occupants.

www.airchange.com.au

Refrigerant Trading Authorisation No: AU23586

Multi Award Winning Technology

ARBS Industry Awards "Product Excellence" Winner 2018
AIRAH "Product of the Year" Winner 2017
AIRAH "Excellence in Innovation" Winner 2012 & 2013