

PoolPac™ Range



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.

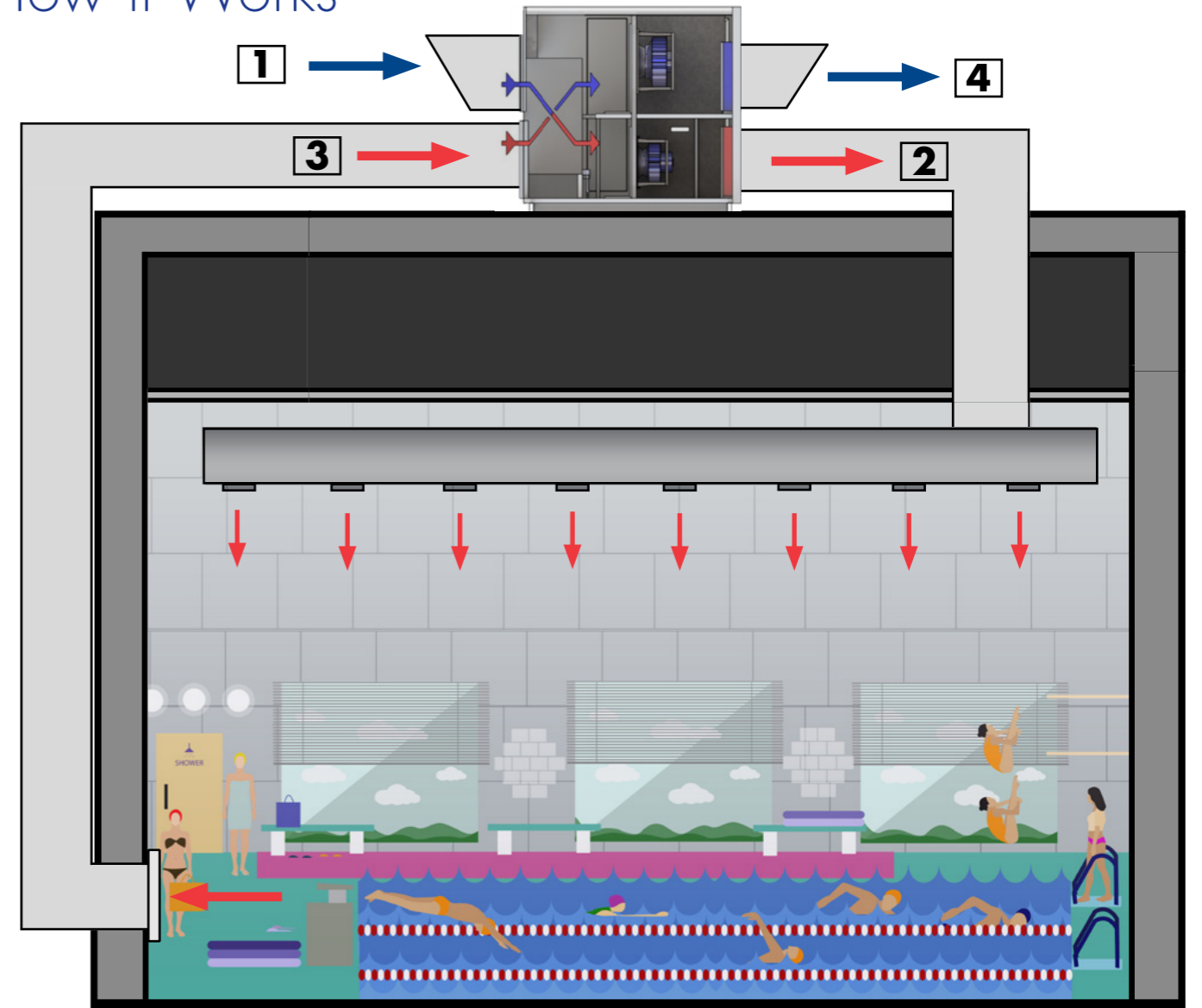
To overcome these challenges, Air Change have been supplying PoolPac™ units for the past 20 years to heat and ventilate pool projects ranging from very large commercial aquatic centres to small residential indoor pools.

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.



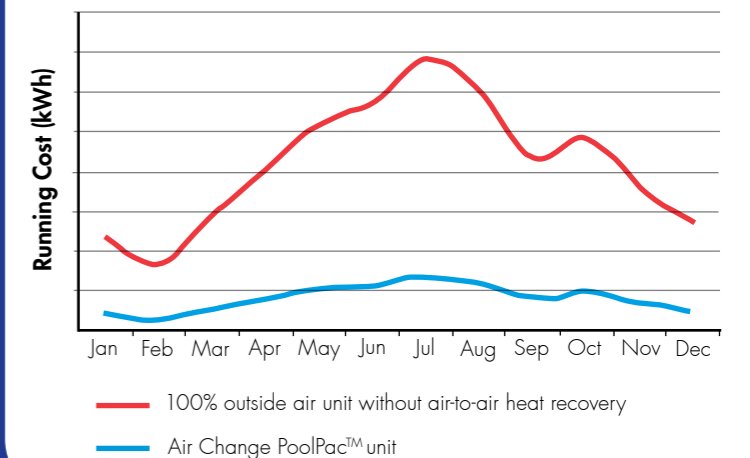
How it Works



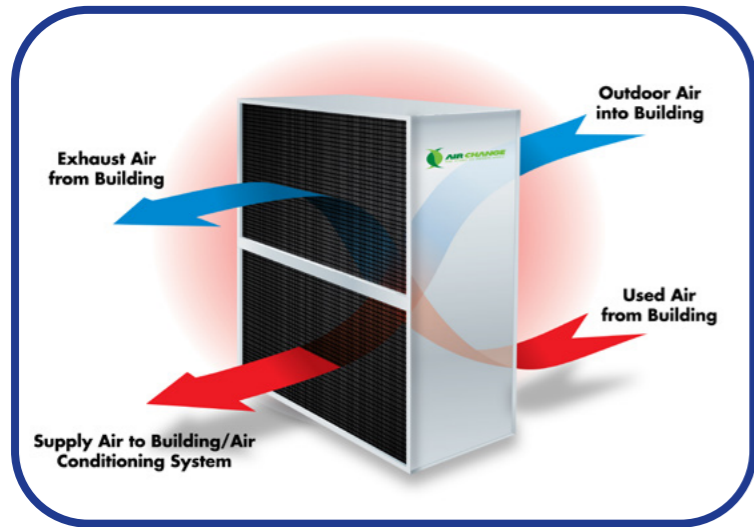
Heating Mode Scenario

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



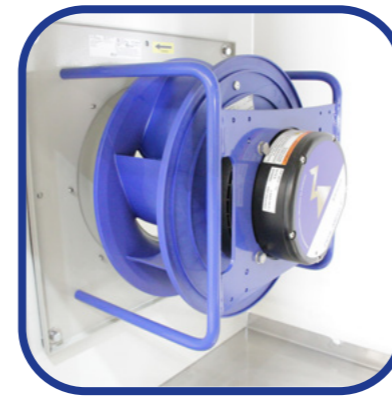
Features



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.

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.



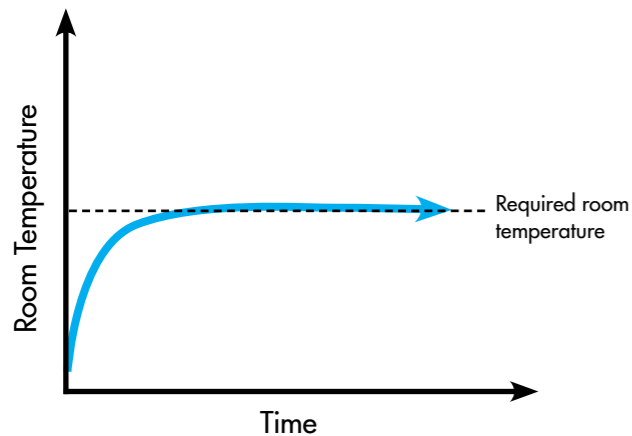
BLDC Inverter Compressors

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.

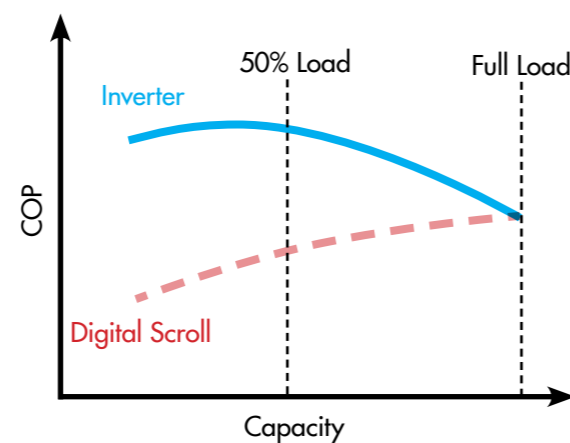


ClimaSync Control System (Optional)

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.



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



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



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

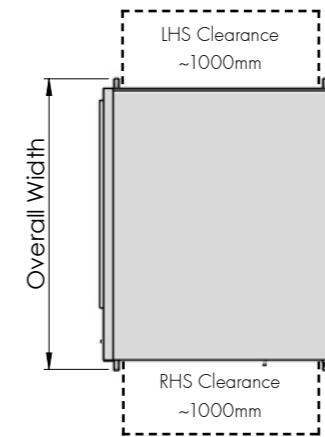


Technical Data

	ACPP														
Model Number:	500	750	1000	1200	1400	1700	2000	2300	2800	3200	3600	4200	5000	6500	
Supply Air (l/s)	500	750	1000	1200	1400	1700	2000	2300	2800	3200	3600	4200	5000	6500	
Return Air (l/s)	500	750	1000	1200	1400	1700	2000	2300	2800	3200	3600	4200	5000	6500	
Outside Air	Up to 100%														
Condenser Make-Up Air (l/s)	120	175	230	400	380	470	550	650	800	880	1010	1120	1300	1870	
Exhaust Air (RA + CMA) (l/s)	620	925	1230	1600	1780	2170	2550	2950	3600	4080	4610	5320	6300	8370	
Comp. Capacity	Cooling (kW)	8	12	16	20	23	28	33	38	46	52	59	69	82	107
	Heating (kW)	11	16	21	26	30	36	43	49	60	68	77	90	107	139
Comp. Stages	1	1	1	1	1	1	1	1	1	1	1	2	2	2	
Comp. Type	Brushless DC (BLDC) Inverter														
Refrigerant	R32 or R410A														
Fan Type	EC Plug Fans - Variable Speed														
Volts / Ph / Hz	415 / 3 / 50														
Construction	50mm PIR Sandwich Panel														
Weight (kg)	750	750	850	900	900	1000	1450	1450	1850	1950	2000	2200	2650	3000	
Dimensions	All units are custom-made to suit individual projects, dimensions are indicative and subject to change														
Body Width (mm)	1200	1200	1800	2050	2050	2050	2100	2100	2750	2750	2750	3300	4000	4600	
Body Depth (mm)	1750	1750	1750	1850	1850	1850	2300	2300	2300	2300	2300	2300	2300	2300	
Overall Height (mm)	1600	1600	1600	1600	1600	1600	2100	2100	2300	2300	2300	2300	2400	2400	

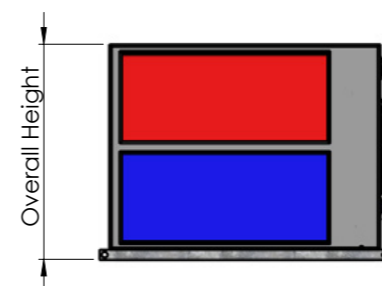
*Specifications are subject to change. Refer to project certified documentation for finalised details.

*We can cater tailored solution with various cabinet configurations including reduced and/or one sided access. Please contact our engineer for more details.

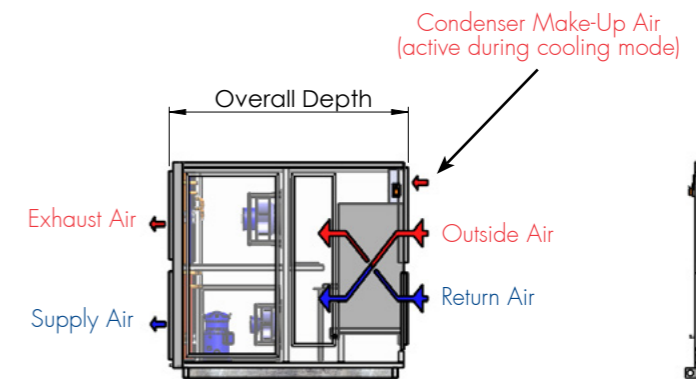


Plan View

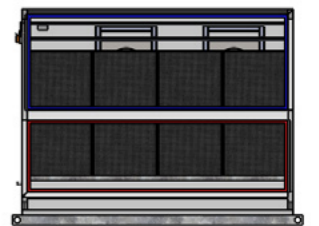
Outside air and return air filter boxes supplied by others.



Front View



Right Side View



Back View

Contact Us

Air Change Australia

New South Wales (Head Office)

11 Broadhurst Rd, Ingleburn NSW 2565

Phone (02) 8774 1400

Email sales@airchange.com.au

Queensland

Unit 3, 78 Logan Rd,
Woolloongabba QLD 4102

Phone (07) 3414 3942

Email sales.qld@airchange.com.au

Victoria

Level 17, Tower 4 Collins Square,
727 Collins Street, Melbourne VIC 3008

Phone 0455 068 132

Email sales.vic@airchange.com.au

Australian Distributors

South Australia & Northern Territory

Industrial Air

14 Princess St, Beverley SA 5009

Phone (08) 8354 0088

Email info@industrialair.com.au

Website www.industrialair.com.au

Western Australia

Industrial Air

24 Wynyard St, Belmont WA 6104

Phone (08) 9418 2448

Email lenny@industrialair.com.au

Website www.industrialairwa.com.au

Air Change South East Asia

Malaysia

No 61, Jalan i-Park 1/1
Perindustrian i-Park 81000 Bandar
Indahpura, Johor

Phone (+60) 7662 6299

New Zealand Distributors

Cooke Industries

31 Station Rd, Penrose, Auckland 1061

Phone +64 (0)9 579 2185

Email sales@cookeindustries.co.nz

Website www.cookeindustries.co.nz

South East Asian Distributors

Thailand

Synergine (Thailand) Co.Ltd

18/6 Sukhumvit 22

Sukhumvit Rd, Khlong Toey

Bangkok 10110

Phone (+66) 851487312

Email w.manprasit@synergine.com.hk

Indonesia

PT Smart Chiller Systems

CEO Suites, One Pacific Place Tower

15th Floor, Jl. Jen. Sudirman Kav. 52-53

12190 Jakarta

Email mp@smart-indonesia.com

Phone (+62) 21 2550 2413

Singapore

Energy Supplies & Engineering (S) Pte Ltd

61 Bukit Batok Crescent, #03-07B Heng
Loong Building, Singapore 658078

Contact 1- Desmond Tan

Email desmond@esengrg.com

Phone (+65) 9736 9956

Contact 2- Andrew Nah

Email andrew@esengrg.com

Phone (+65) 9771 8186



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

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Air Change Pty Ltd products internationally patent protected

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