

2020 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.

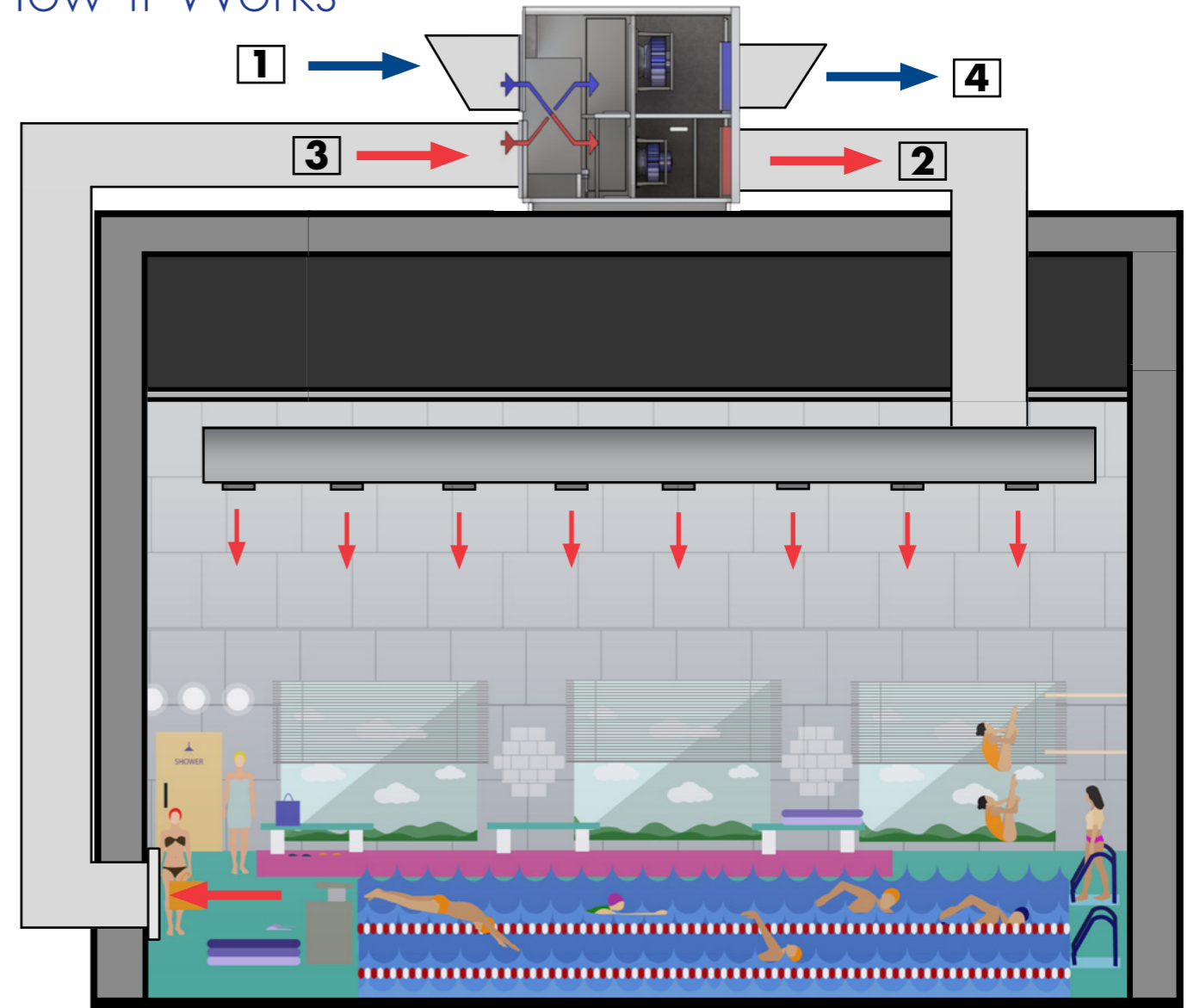
To overcome these challenges, Air Change have been supplying PoolPac™ units for the past 20 years to heat and ventilate pool projects ranging from very large commercial aquatic centres to small residential indoor pools.

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.



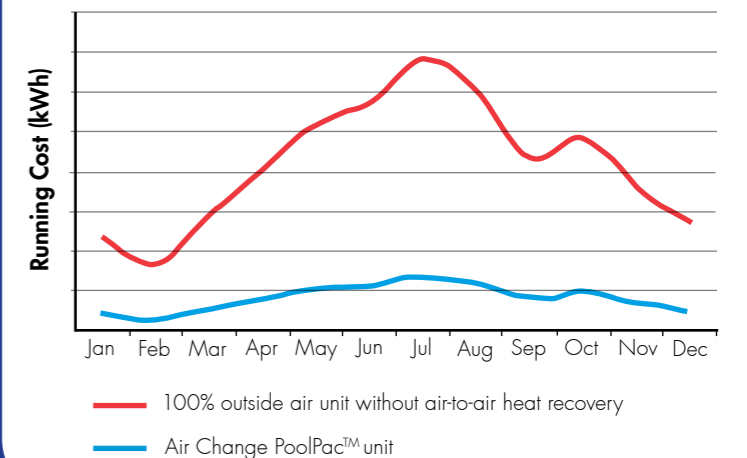
How it Works



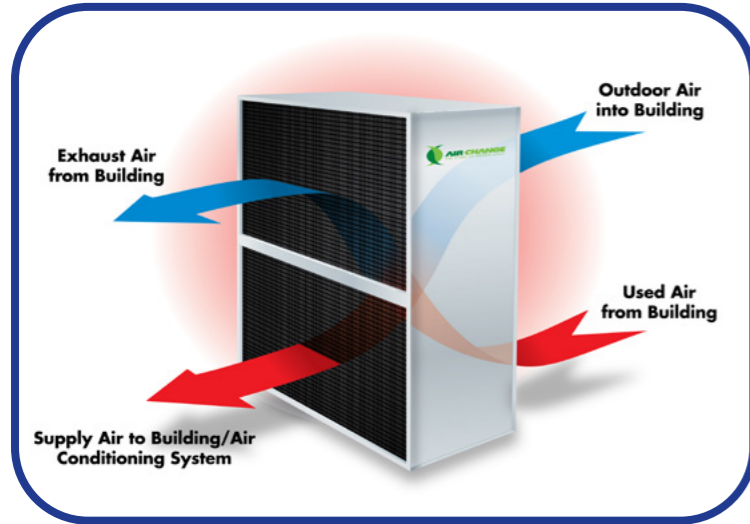
Heating Mode Scenario

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 in order to limit pool evaporation. 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



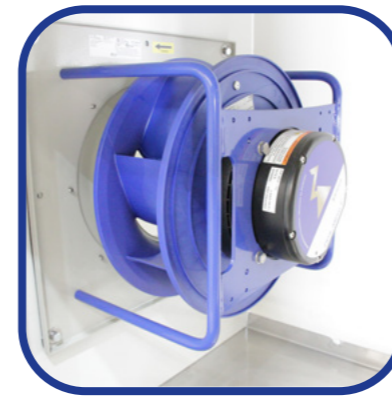
Features



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.



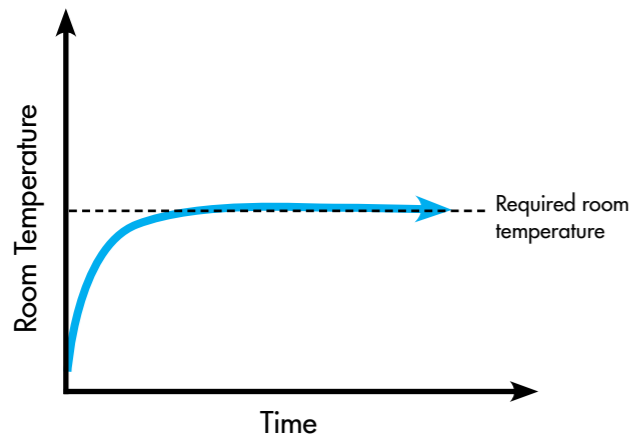
BLDC Inverter Compressors (Optional)

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.

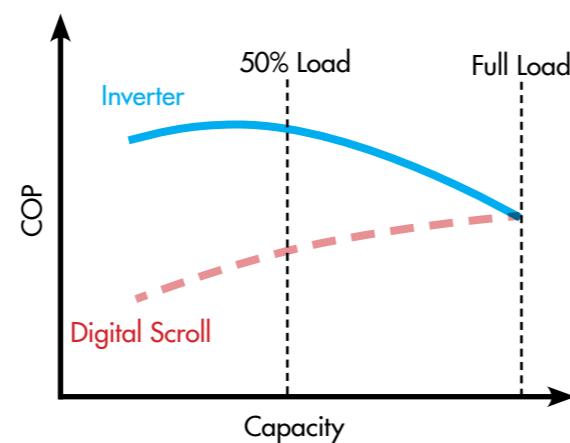


ClimaSync Control System (Optional)

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

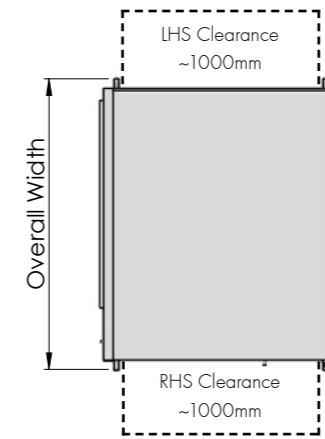
- Morayfield Health Hub, QLD
- Sandgate Aquatic Centre, QLD
- Vibe Hotel Hobart, TAS
- Swancare Leisure Centre, WA
- Atwell College, WA
- Aloha Surfhouse, WA
- Renmark Recreational Centre, SA
- Swimtastic Auckland, NZ
- Selwyn Aquatic Centre Extension, NZ
- Waterworld Hamilton, NZ



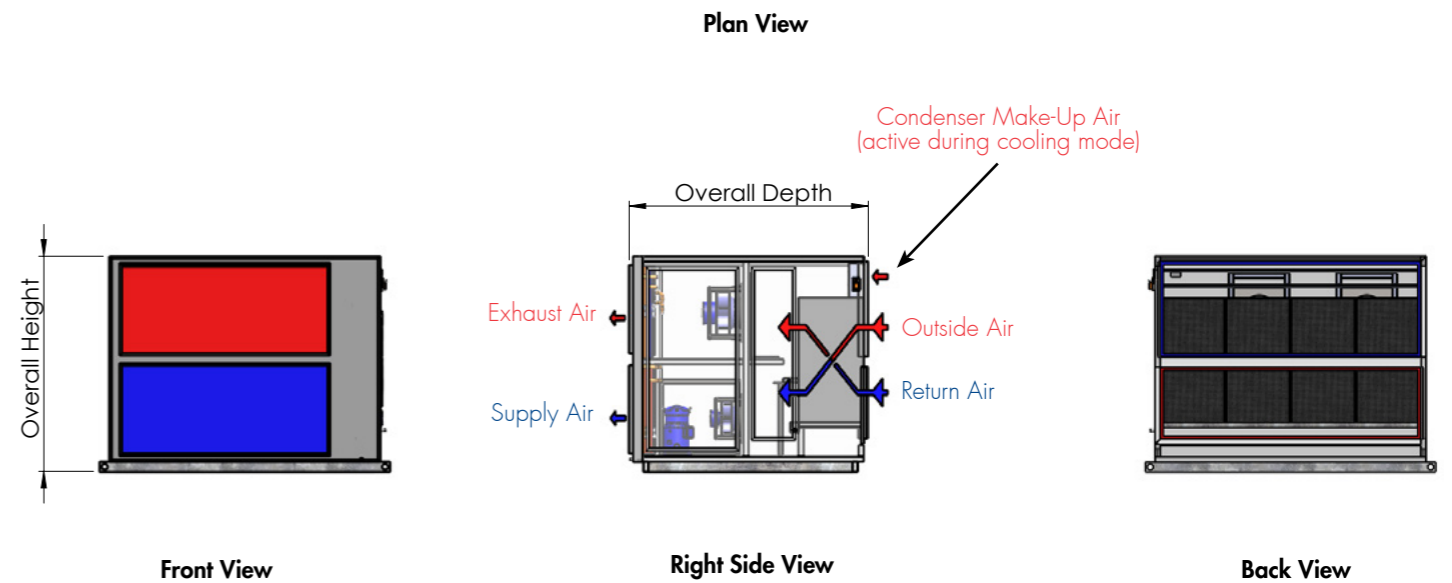
Technical Data

| | ACPP | | | | | | | | | | | | | |
|------------------------------|---|------|------|------|------|------|------|------|------|------|------|------|------|--|
| Model Number: | 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. Stages (Fixed Speed) | Heating (kW) | | | | | | | | | | | | | |
| | 20 | 25 | 25 | 29 | 40 | 40 | 52 | 59 | 68 | 85 | 91 | 107 | 125 | |
| 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.



Outside air and return air filter boxes supplied by others.



Contact Us

Air Change Australia

New South Wales (Head Office)

2 Ashford Ave, Milperra NSW 2241

Phone (02) 8774 1400

Email sales@airchange.com.au

Queensland

Unit 3, 78 Logan Rd,
Woolloongabba QLD 4102

Phone (07) 3891 1974

Email sales.qld@airchange.com.au

Victoria

Suite 3A, 529 Burwood Rd, Hawthorn VIC
3122

Phone (03) 9482 1010

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

Unit 17, 16 Sustainable Ave, Bibra Lake WA
6163

Phone (08) 9418 2448

Email paul@industrialair.com.au

Website www.industrialairwa.com.au

North Queensland

Capricorn Air Conditioning

13 Mackley St, Garbutt QLD 4814

Phone (07) 4775 5222

Email sam2@capaircon.com.au

Tasmania

Major Air - Launceston

76 York St, Launceston TAS 7250

Phone (03) 6344 6888

Website www.majorair.com.au

Major Air - Hobart

Unit 2, 10 Lampton Ave,
Derwent Park TAS 7009

Phone (03) 6273 6455

Website www.majorair.com.au

Air Change South East Asia

Malaysia

No 5, Jalan Mega 1/9,
Taman Perindustrian Nusa Cemerlang

79200 Nusajaya, Johor

Phone (+60) 7509 8230

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@smardt-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

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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