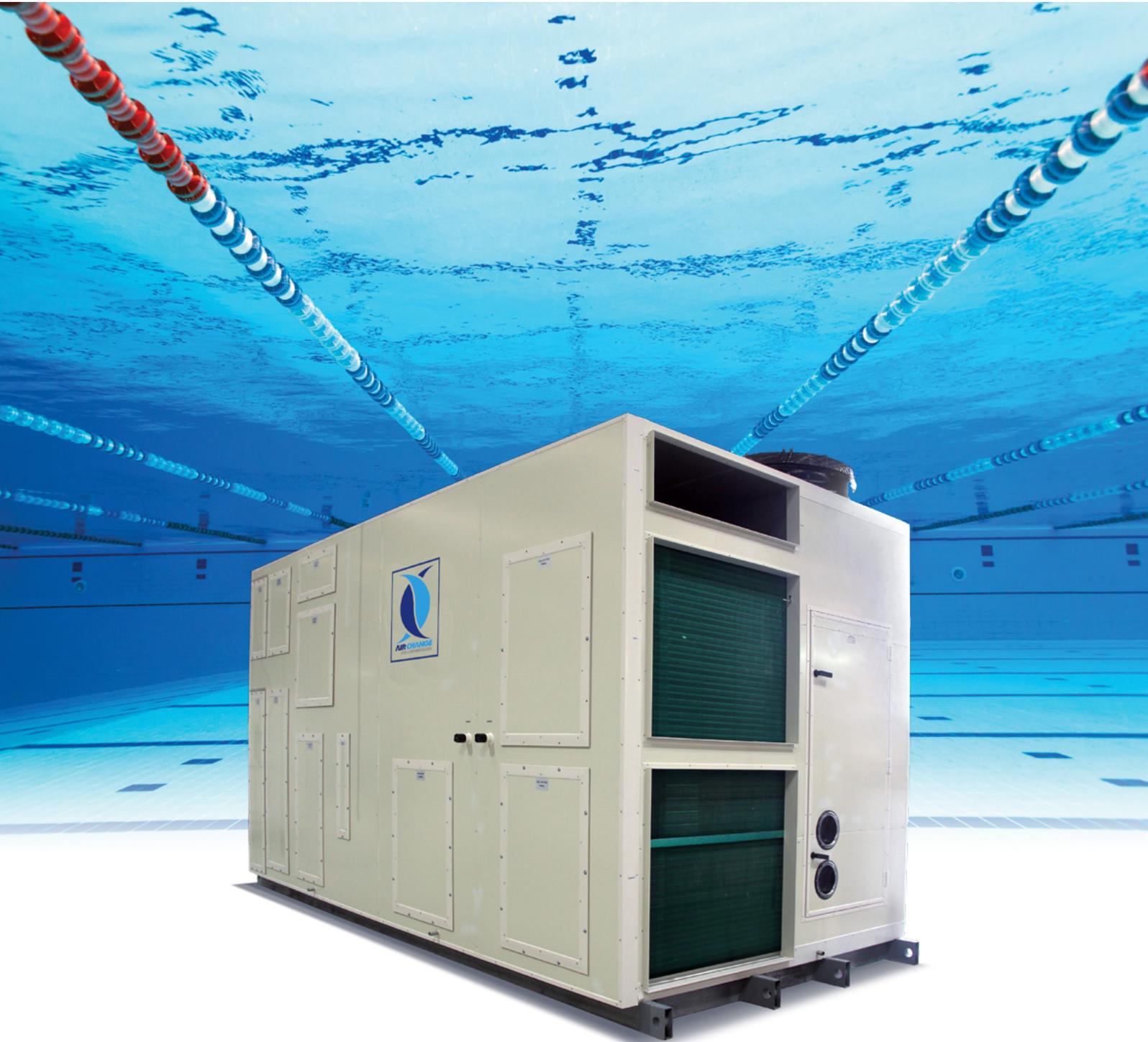


PoolPac Plus

The PoolPac Plus combines indoor pool water heating and air handling to produce large energy savings without compromising occupant comfort or building integrity.



 **AIR CHANGE**
DOAS & DEHUMIDIFICATION

How it works

The Air Change PoolPac Plus is a direct expansion (DX) heat pump system designed to control the pool hall air temperature and humidity while simultaneously providing heat to maintain the pool water temperature. Your pool hall environment will be improved and your energy costs reduced using the PoolPac Plus.

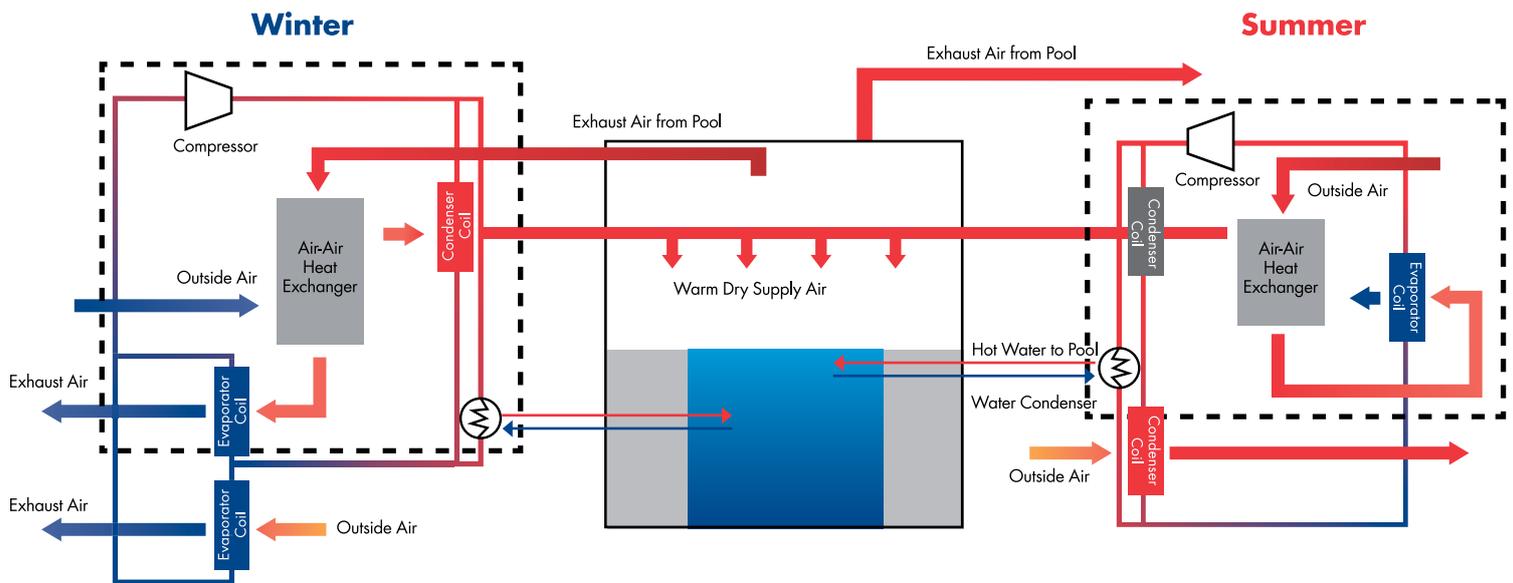
Air to air heat exchange technology is the key to any energy efficient Air Change product, but the PoolPac Plus design (patent pending) uses the heat exchanger and the refrigeration circuit in two different ways depending on the season.

In winter, the heat exchanger preheats the cold outdoor air using the hot moist air that is being expelled from the building, reducing the air heating load. The heat pump refrigeration circuit then recycles the remaining heat from the exhaust air to raise the supply air temperature to its desired set point and maintain the water temperature. Whereas a conventional pool water heat pump will use outside air as the heat source, the PoolPac Plus

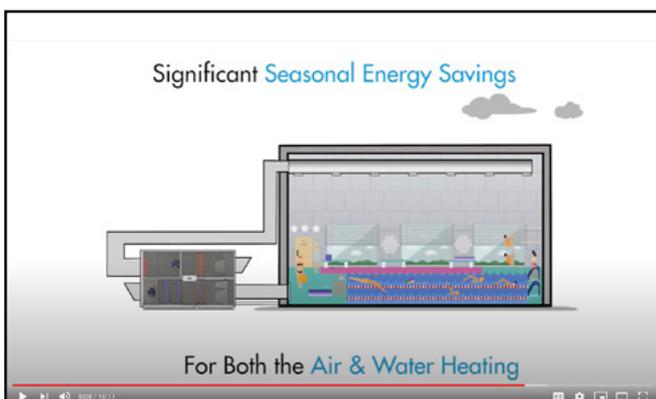
innovatively uses the energy from the exhaust air to improve heating efficiency. If required, a second refrigeration evaporator allows the PoolPac Plus to maintain air and water temperatures in very cold climates without the need for auxiliary heating.

In summer, when outdoor air humidity levels rise, the air humidity must be lowered before entering the building to avoid stifling and uncomfortable conditions that occur when the air humidity is raised further by the pool water evaporation. In this mode, the refrigeration circuit gains all heat required for air and water heating from the dehumidification of the outdoor air, using the heat exchanger to precool and reheat the air to effect energy savings. A plastic core with mylar transfer media ensures the heat exchanger efficiency is unaffected by corrosion or media disintegration.

The overall result – the PoolPac Plus delivers a perfect indoor environment at the lowest possible energy cost.



Watch our Explainer Video on  YouTube



Scan to watch!



Avanti Apartments Pool

Avanti apartments, built over a decade ago, and located in Hornsby 25 km Norwest of Sydney's CBD, includes two towers with 198 residential apartments, 45 commercial spaces, 8 shops, a childcare centre, heated pool, spa and fully equipped gym. Since the original construction, Avanti have been struggling with mould, mildew and corrosion in a pool space that had inferior ventilation installed during the original build. This poor indoor air quality led to the eventual deterioration of the ceiling panels within the pool area, and the corrosion of many surfaces in the space.

Avanti also had the added challenge of space restrictions due to the limited available plant space.

Air Change, with its local engineering and manufacturing team were able to tailor a customised 'turn-key' solution for Avanti from design, through to installation and maintenance. The original brief from Avanti was simple:

1. Provide energy efficient heating for the pool, both air and water
2. Eliminate issues involving condensation and corrosion
3. Improve indoor air quality within the pool environment

Air Change's solution was to supply a split DX heat pump system. A fully ducted fan coil incorporating an air to air heat exchanger was installed in the ceiling space to manage the quality and temperature of the air.

To heat the pool water, Air Change installed a heat pump in the lower car park. The most innovative aspect of this design is that the two units are linked, to ensure the energy from the exhaust air in the pool room released during water evaporation is recycled back into the pool air and water. This system dramatically reduces the heating costs compared with conventional pool water heating systems. The air to air heat recovery further reduces the overall running cost by improving the overall system efficiency.

The installed equipment has an energy metering and logging device that tracks energy consumption. Current indications show an annual energy cost reduction of 51%. More importantly, the pool air environment is healthier and more comfortable whilst preserving the building fabric and this all occurs at a lower heating cost than before the system upgrade.

As the cost of gas increases on the Australian East Coast, the Air Change PoolPac Plus system offers an ideal solution to reduce energy running costs, minimise condensation and improve air quality in new pools and refurbishments.



The indoor pool at Avanti Apartments



Air Change's PoolPac Plus installed in Avanti Apartments' plant room.

Contact Us

Air Change Australia

New South Wales (Head Office)

2 Ashford Ave, Milperra NSW 2214

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 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@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.

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