

Dedicated Outdoor Air System

with Energy Recovery Ventilator

Energy-efficient Fresh Air for Buildings

Breathe in Fresh Air

Delivers fresh, ventilated air to improve indoor air quality in all weather and climate conditions

Delivers Energy Savings

Pre-cools fresh air with energy recovered from exhaust air for energy savings and reduced utility costs

Seamless Pairing with HVAC

Flexible integration with primary HVAC to reduce ventilation heat load and maintain indoor air quality





More Fresh Air For Healthier Workplace Buildings

Ambient indoor air pollution is increasingly recognised as a major factor that adversely affects health and productivity in the workplace. Bringing fresh outside air into the workplace enhances and maintains the quality of indoor air and decreases the risk of airborne bacteria and carbon dioxide build-up.

The **Airbitat Dedicated Outdoor Air System (DOAS) with Energy Recovery Ventilator (ERV)** is a high-performance energy-efficient fresh air system that enables continuous conditioning of outside air through a patented liquid cooling technology, drives fresh air exchange to meet building requirements while reducing utility costs. It is designed to reduce a building's cooling loads and provide controlled and conditioned ventilation that improves indoor air quality and occupant health, while reducing GHG emissions and saving energy.

The rising need for fresh air

Fresh air exchange helps to retard airborne bacteria and carbon dioxide build-up.

Removes toxic gases and unpleasant smells.

Prevents sick-building syndrome and boosts productivity.

The rising cost of cooling

Exhaust-air energy recovery technology is a valuable opportunity to reduce operating costs of buildings by recycling energy from the building's exhaust air to pre-treat incoming air supply to a building's HVAC system.

Pre-conditioning reduces the cooling load on HVAC systems and enables energy efficiency and savings.



Multiply Fresh Air, Maximise Energy Savings

The **Airbitat DOAS + ERV** helps building owners increase their volume of fresh, natural air at minimal energy cost. It works both as a dedicated outdoor air system (DOAS) and an integrated energy recovery ventilator (ERV) to harvest energy from a building's exhaust air. Designed to reduce the use of energy intensive air-conditioning to pre-cool fresh air, the **Airbitat DOAS with its ERV** module delivers more than 30% energy savings over conventional DOAS when implemented with a building's AHU.

The **Airbitat DOAS + ERV** maximises energy recovery from a building's exhaust air through its patented liquid cooling technology and transforms it to deeply pre-cooled incoming fresh air supply, significantly reducing HVAC cooling loads to deliver energy efficiency and instantly multiplying fresh air supply at a minimal cost. It delivers fresh air and energy savings while enabling continuous conditioning with no cross contamination of air, all with minimal installation requirements and flexible pairing with existing HVAC systems.

30% Energy Savings

80% Heat Recovery Rate

 Reduction in HVAC Cooling Loads

 Fresh Air Supply

Sustainable Technology

✓ No Waste Heat

✓ No Refrigerants

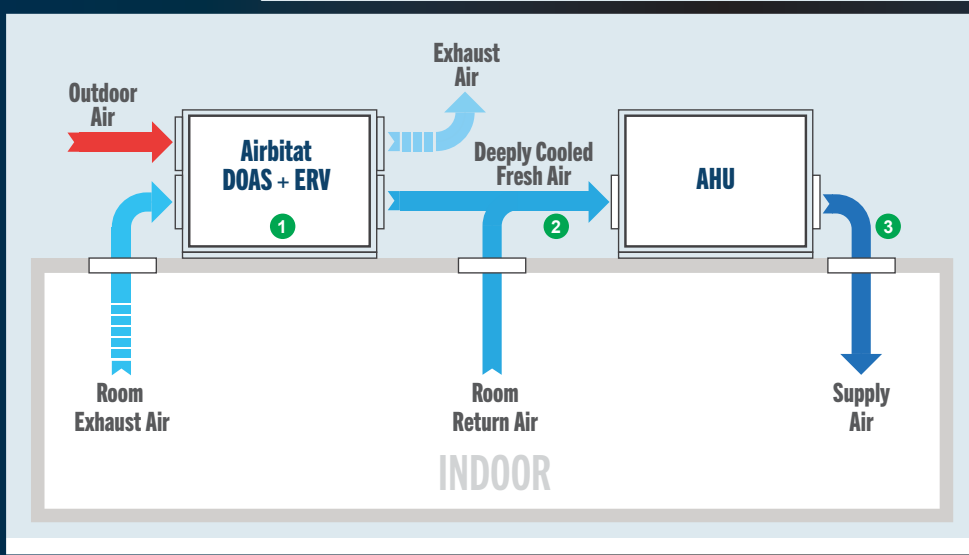
✓ No Compressor

Experience The Enhanced Comfort of Fresh Air

Powered by our sustainable **Reevac® Deep Cooling** technology, the **Airbitat DOAS + ERV** system preconditions the temperature and humidity of incoming fresh air to achieve an optimum balance between indoor and outdoor ambient air. With no refrigerants and compressors, the **Airbitat DOAS + ERV** deeply cools incoming fresh air before it mixes with building return air for fresher and more comfortable workplace environments.

 **REEVAC**
DEEP COOLING

How it works



- 1 Incoming fresh air is powerfully pre-cooled by Airbitat DOAS + ERV deep cooling technology.
- 2 Pre-cooled fresh air mixes with building's return air to main AHU.
- 3 AHU supplies conditioned air boosted with fresh air to enhance indoor air quality and workplace comfort.

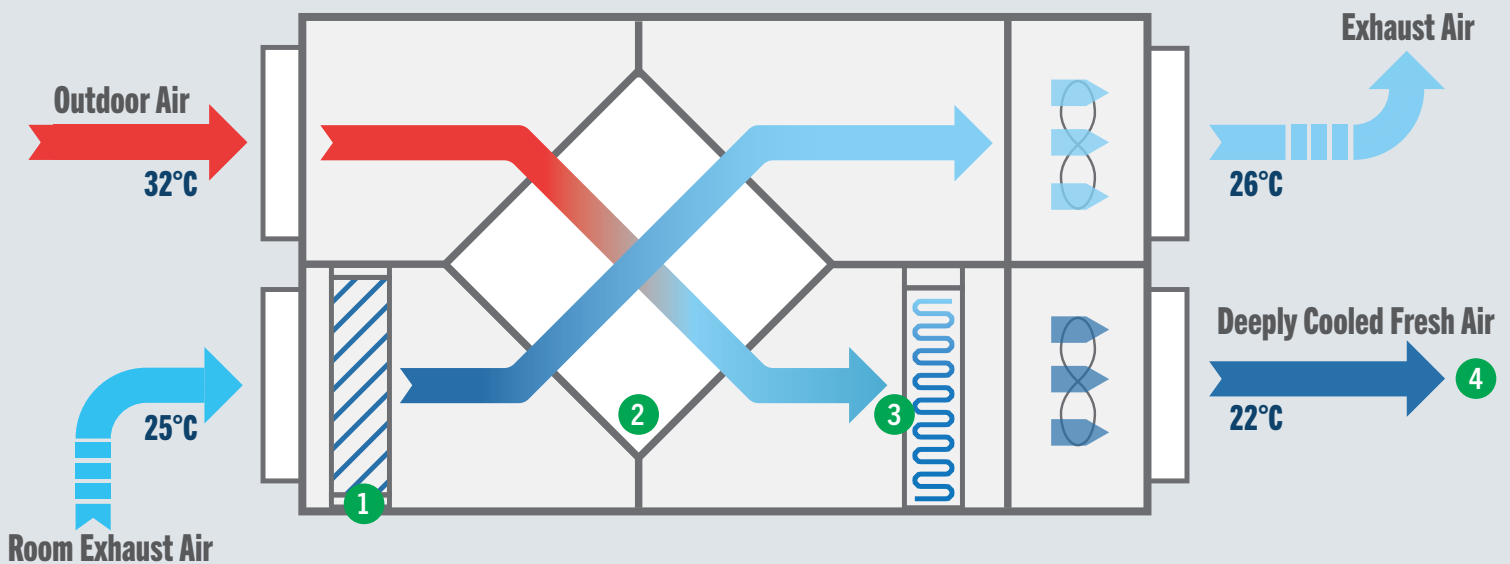
The Airbitat Advantage

The Airbitat DOAS + ERV system is designed for maximum energy recovery and pre-cooling of fresh air. Powered by its patented Reevac® Deep Cooling technology, it is a sustainable cooling process that releases no waste heat and does not use refrigerants nor a compressor. All this in a compact system footprint.

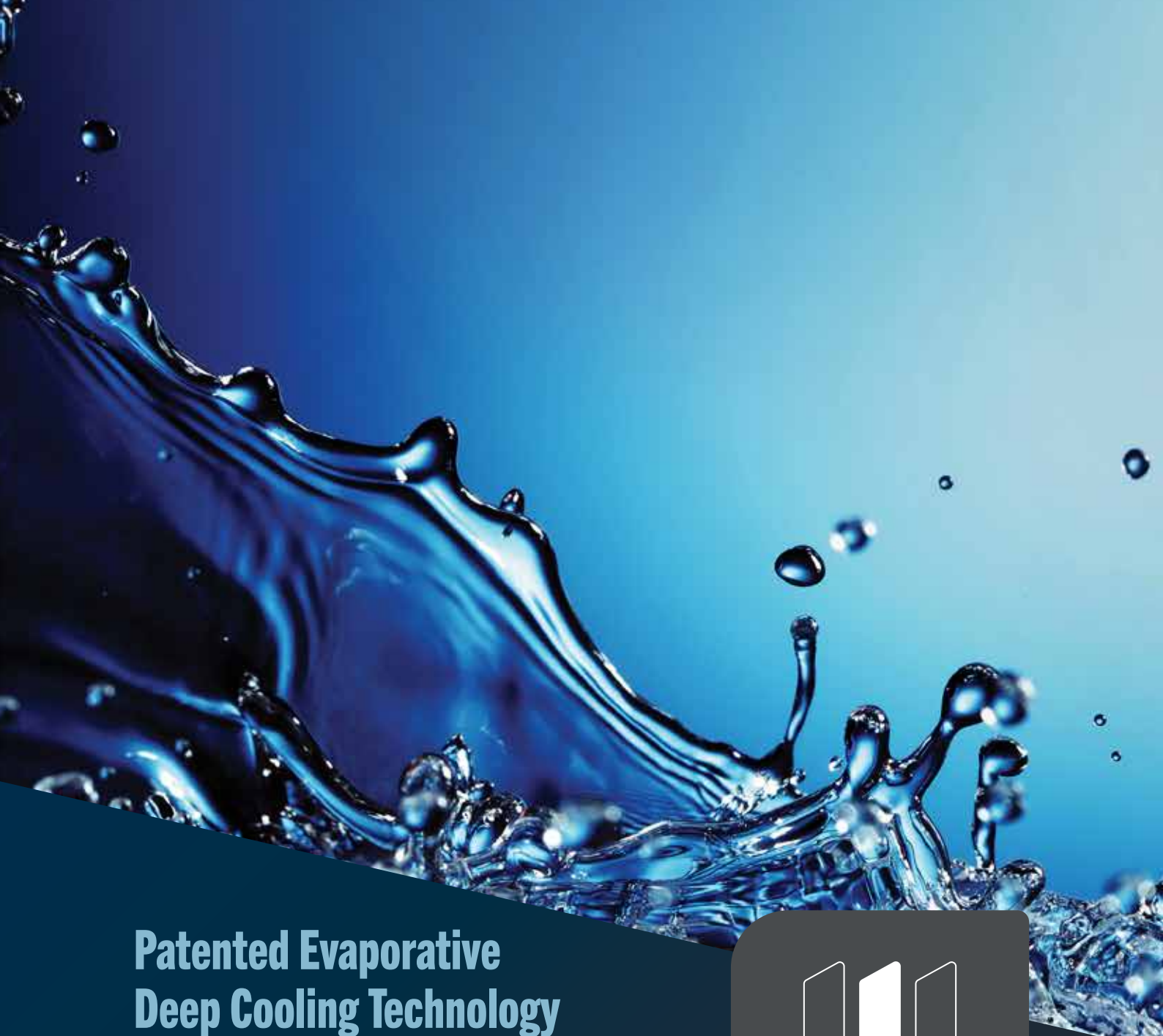
- ✓ Maximises energy harvest of building exhaust air through sensible cooling
- ✓ Harnesses free energy through the evaporation to boost its cooling capacity in a two-stage adiabatic cooling process
- ✓ Effortlessly recovers cold air by-product to cool incoming fresh air through air-to-air heat exchanger
- ✓ Suitable for deployment in all climates with flexible configuration to HVAC systems



How Airbitat DOAS + ERV works



- 1 Exhaust air drawn from an indoor conditioned space is cooled by evaporation and enters an air-to-air heat exchanger.
- 2 Outdoor supply air is pre-cooled through air-to-air heat exchanger with the exhausted indoor air.
- 3 This pre-cooled outdoor supply air is then passed through the 2nd stage of air-to-water heat exchanger to produce deeply cooled fresh air supply.
- 4 The deeply cooled fresh air supply reduces the AHU cooling loads and boosting its efficiency.



Patented Evaporative Deep Cooling Technology

Developed through 8 years of scientific engineering, **Reevac® Deep Cooling** technology is a patented evaporative process that delivers cold water at wet bulb temperature, without the use of refrigerants or energy-intensive compressors in every climate. **Reevac® Deep Cooling** has been applied in evaporative cooling products and projects for both outdoor and infrastructure cooling.



REEVAC
DEEP COOLING

3 PATENTS

granted internationally
and 5 under application.

1000 DEPLOYMENTS

to various industries worldwide
since 2015, and growing.

13 COUNTRIES

worldwide including US, Europe,
Middle East, South Korea, Australia,
Japan, and Singapore.