

# *armc@r*

*air solutions*



COMPANY PROFILE

# ABOUT US

THE LEADERS IN AIR TO AIR HEAT RECOVERY.

ARMCOR AIR SOLUTIONS IS A DYNAMIC, PROFESSIONAL COMPANY RESPECTED BY THE AIR CONDITIONING INDUSTRY FOR OUR TRACK RECORD IN PROVIDING ADVICE, QUALITY EQUIPMENT, AND WELL-BALANCED SUPPORT.

## OUR EXPERTISE

**ERV** (Energy Recovery Ventilation)

**AHU** (Air Handling Units)

**PAC** (Package Air Conditioning Equipment)

We invite you to partner with Armcor, the leaders in innovative ERV, Heat recovery Equipment and AHU solutions and experience the satisfaction of personalised support from concept design through to on-time delivery.



## WHAT IS ENERGY RECOVERY?

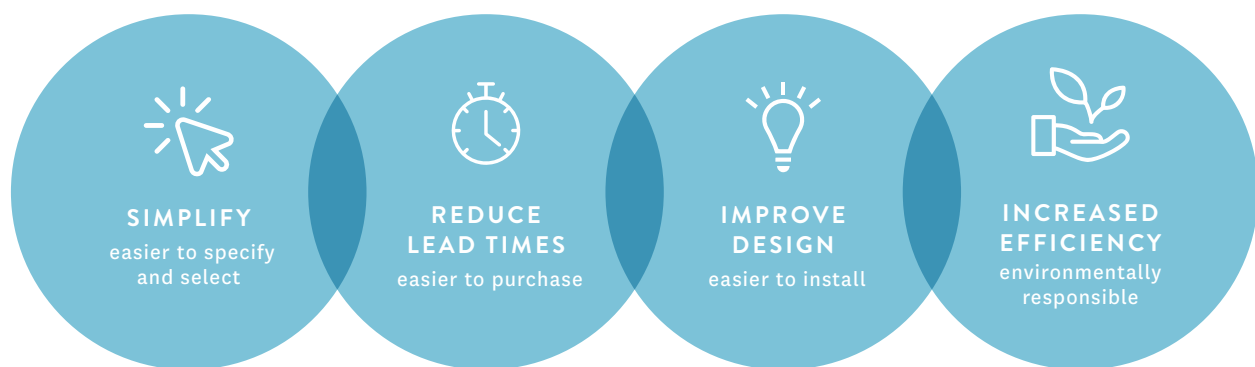
**Every occupied building needs fresh air.**

Whenever fresh air is introduced there is an opportunity to recover heat from the exhaust air. This transfer process is Energy Recovery.

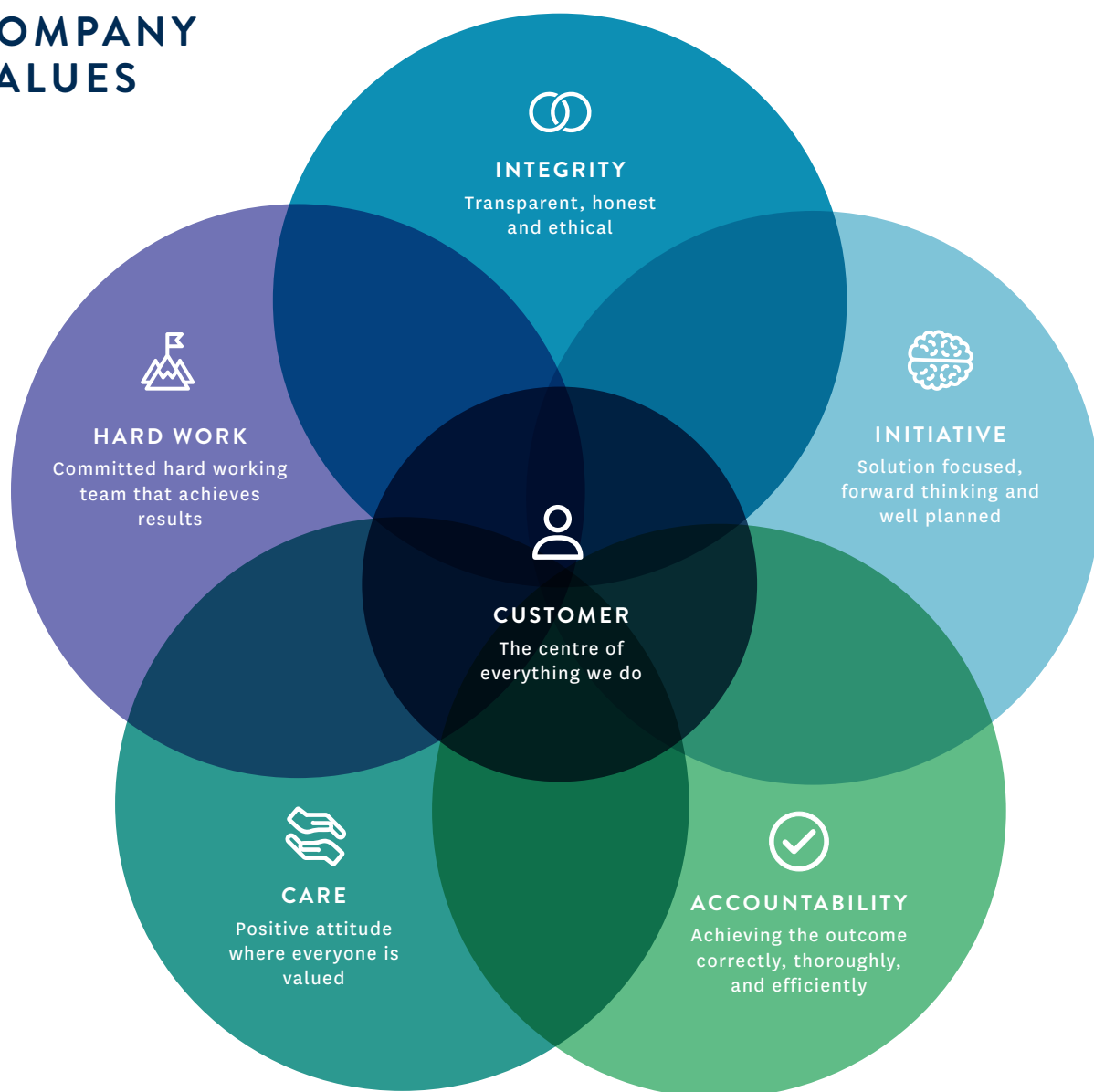
With the spirally costs of power, reducing consumption and recovering energy is vital.

The pre-treatment of fresh air has become a major consideration for building developers, owners, occupiers and HVAC consultants. Armcor Air Solutions are here to provide the solutions.

# OUR CONTINUOUS IMPROVEMENT PROGRAM



# COMPANY VALUES



# PAC ENERGY RECOVERY UNITS

## Packaged Airconditioning ERV XEP 500 – 8000



The XEP series combines the efficiency of energy recovery integrated with a packaged air conditioning system to provide a total solution to temperature control for applications that require substantial or full fresh air. The unit configuration suits external rooftop or ground level applications and include energy saving EC Plug Fans and the option of enthalpy or sensible heat exchange media.

Standard capacities range from 500 l/sec to 8,000 l/sec with cooling capacity up to 160kw. Equipment can be specifically designed for larger applications up to 18,000 l/sec.

## High Efficiency PAC-ERV XEPH 500 – 8000

Armcor’s High Efficiency range of Package Airconditioning ERV gives optimum efficiency using:

Digital Compressors(s) / Variable Refrigerant Technology (VRT) / Peak Demand Control / Tri-Capacity (Three Stage Operation)

## Swimming Pool ERV XES 300 – 8000



The XES series is a packaged air conditioning system with energy recovery that is particularly suited for applications where there is the requirement to provide full fresh to indoor swimming pool areas. Designed with the specific need to overcome condensation and the corrosive nature of the chlorine laden air, the XES PAC unit includes EC Plug Fans, in-built filters and polypropylene plate heat exchange media. The cabinet and components are lined with a corrosion resistant coating. An optional economy system is easily accommodated to allow bypass for both fresh and exhaust air.

## PROJECT APPLICATIONS & OPTIONS

APPLICATIONS INCLUDE	OPTIONS
Commercial Public Activity Venues, Sporting Complexes and Gymnasiums	Economy Cycle
Public Utility Buildings, Police, Ambulance Stations	Various control options
Nursing Homes, Child Care, Education	
Large Occupancy Buildings and Retail Showrooms	
Professional Suites	



Below: To provide the auditorium at Loreto Mendeveille Hall with quality conditioned air for the performances and large gatherings of students, two Armcor packaged ERV units were selected giving a total of 5000 l/sec of air with 112 kW of cooling capacity.



# ENERGY RECOVERY

## External Mount ERV XEM 500 – 8000



The XEM series is our standard heat recovery ERV solution for rooftop, ground level or plant room applications. These units utilize the Xchange plate heat exchanger to recover energy from the exhaust air and transfer it to the incoming fresh air, resulting in significant energy savings. Both enthalpy and sensible heat exchange media are available. The XEM Series is particularly suited to an optional economy bypass system. Forward curve centrifugal fans provide initial cost savings and are available in models up to 1500 L/sec. EC Plug fans provide speed control and add energy savings and are available in all models.

## External Mount ERV with Hot/Chilled Water Coils XEC 500 – 8000



The XEC series combines ERV with inbuilt chilled water and/or hot water coils to condition the air following the heat recovery process. The unit configuration suits external rooftop or plant room applications and is available with forward curved centrifugal fans or energy saving EC Plug Fans and an option of enthalpy or sensible plate heat exchange media.

## PROJECT APPLICATIONS & OPTIONS

### APPLICATIONS INCLUDE

- Commercial Public Activity Venues, Sporting Complexes and Gymnasiums
- Public Utility Buildings, Police, Ambulance Stations
- Nursing Homes, Child Care, Education
- Large Occupancy Buildings and Retail Showrooms
- Professional Suites

### OPTIONS

- Enthalpy or Sensible Media
- Hot and Chilled Water Coils
- Economy Cycle
- Various control options





Top: Energy recovery equipment provides Regis Aged Care, Port Coogee with the best air treatment available in Australia.

# CEILING MOUNTED UNITS

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## Ceiling Mount ERV XCM 80 – 1200



The XCM series is a compact, horizontal low-profile heat recovery unit designed for installation within a roof space. These ERV units utilize the Xchange plate heat exchanger to recover the energy from the exhaust air into the incoming fresh air, resulting in significant energy savings. Both enthalpy and sensible heat exchange media are available. The option of EC Plug Fans makes this our star achiever in energy savings and controllability.

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## Ceiling Mount Fan Coil Unit XCC 300 – 1200



The XCC series is a low-profile energy recovery ventilator with the addition of an add-on-coil. Designed for installation in a roof space, these ERV units utilize the Xchange plate heat exchanger with either enthalpy or sensible media. DX coils are designed to match with standard commercially available condensers. Hot water and chilled water coils can also be used. EC Plug Fans and in-built panel filters are standard making this solution a very flexible way to incorporate heat recovery into a ceiling mounted fan coil.

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## PROJECT APPLICATIONS

Commercial Offices, Child care and Education

Apartment Bathroom Exhaust

Residential Damp and Mould Control

Public Occupancy Buildings

Professional Suites





# INDIRECT EVAPORATIVE COOLING

## INDEC Fresh Air Cooling INDEC 1000 – 6000



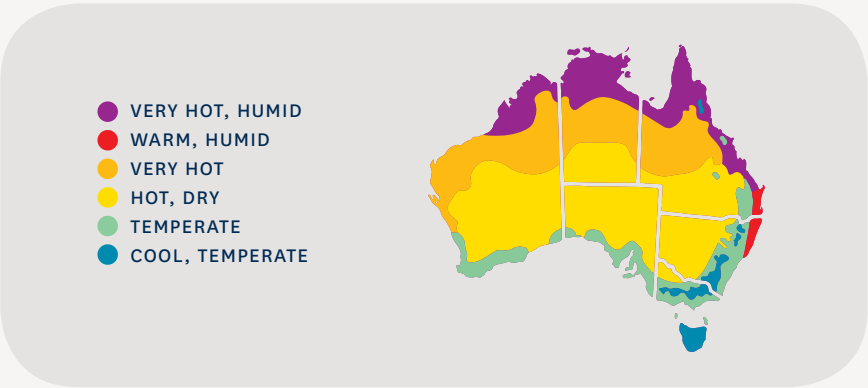
INDEC Indirect Evaporative Cooling unit provides cool and fresh air in the hottest of climates, with radically reduced energy costs.

The new generation INDEC uses a patented indirect polymer heat transfer core that delivers cool, 100% fresh outside air with very low energy consumption. Incoming fresh air passes through the primary heat exchange core which has a series of wet and dry channels allowing natural evaporation to cool the air. Warm moist air is expelled, while cool air, without added moisture is delivered into the building. Through this evaporation process the outlet air temperature becomes lower than the wet bulb temperature of the ambient air.

A secondary direct evaporative pad further reduces the outlet air temperature to as low as 15°C.

### Where should Indirect Evaporative Cooling be installed?

Indirect Evaporative Cooling can be used in most Australian conditions. Typically the performance of INDEC unit excels in hot, dry ambient conditions ideally where the relative humidity is less than 50%.

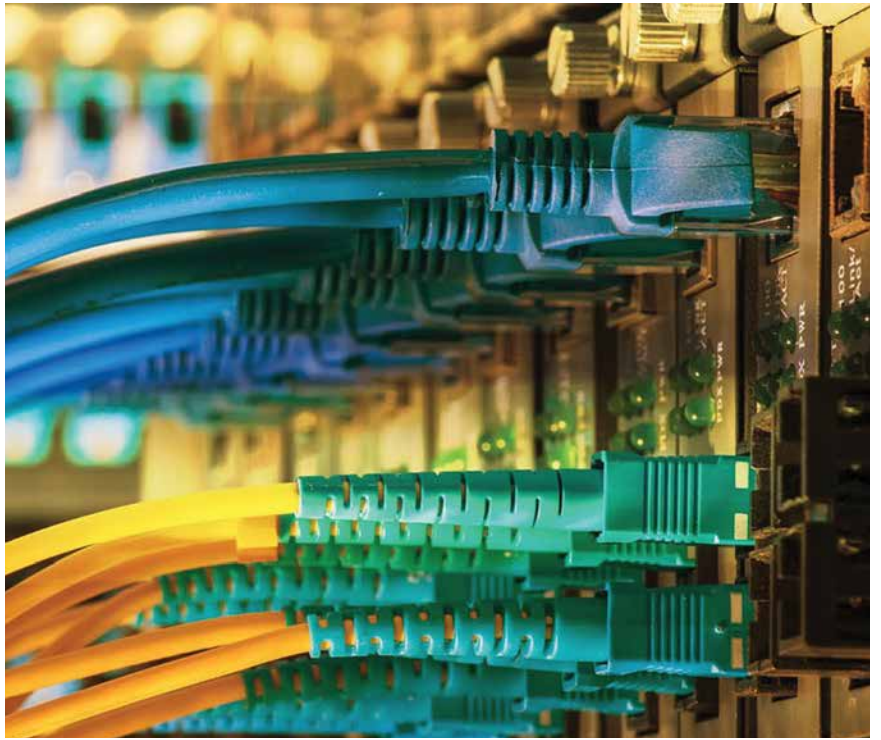


## PROJECT APPLICATIONS

- Data Centres
- Fast Food and Kitchen Exhaust
- Factory Areas and Generator Rooms
- Commercial Venues, Sporting Complexes and Gymnasiums

- Mining
- Public Utility Buildings, Police, Ambulance and Nursing Homes
- Education Facilities

Right: Next DC  
Data Centre.





# DEHUMIDIFICATION

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## Dehumidification Package Unit DHP 500 – 6000



The DHP series are packaged dehumidification units designed to provide an economical and practical solution for humidity control. Reduction in moisture content is achieved by a combination of a plate heat exchanger and a packaged air conditioning system. The solution is achieved through a 3-stage process where the air is cooled and dehumidified through the sensible heat exchanger; further cooled and dehumidified through the cooling coil; then passing back through the opposite air flow path of the sensible heat exchange media to be reheated to the required supply air set point temperature. The standard equipment configuration includes EC plug fans, sensible heat exchange media, stainless steel drain tray and associated controls.

The Armcor design engineering team can assist with a solution from our range of capacities of 500 – 6000 L/sec with up to 200kw cooling capacity.

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## PROJECT APPLICATIONS

Hot and Humid Locations

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Libraries, Archive Storage, Public Buildings,  
Surgery and Laboratories

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Apartment Lobby Ventilation

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Right: The air-conditioning design for the Paediatrics and Pathology building at the Nauru Processing Centre called for Dehumidification equipment capable of cooling the buildings with consideration to the specific climatic conditions of the Nauru Island. Below: Royal Hobart Hospital.





# ROTARY HEAT WHEELS

## Rotary Wheel ERV REM 500 – 8000



The REM series is the ultimate in High Efficiency Heat Recovery utilizing a rotary heat exchanger to recover the energy from the exhaust air and transfer it to the incoming fresh air. With efficiencies up to 87%, this unit configuration suits external rooftop or plant room applications and includes energy saving EC Plug Fans, in-built bag filters and an option of enthalpy or sensible rotary heat wheels. With the low resistance through the media, economy bypass is affected through stopping the rotary heat wheel.



## PROJECT APPLICATIONS & OPTIONS

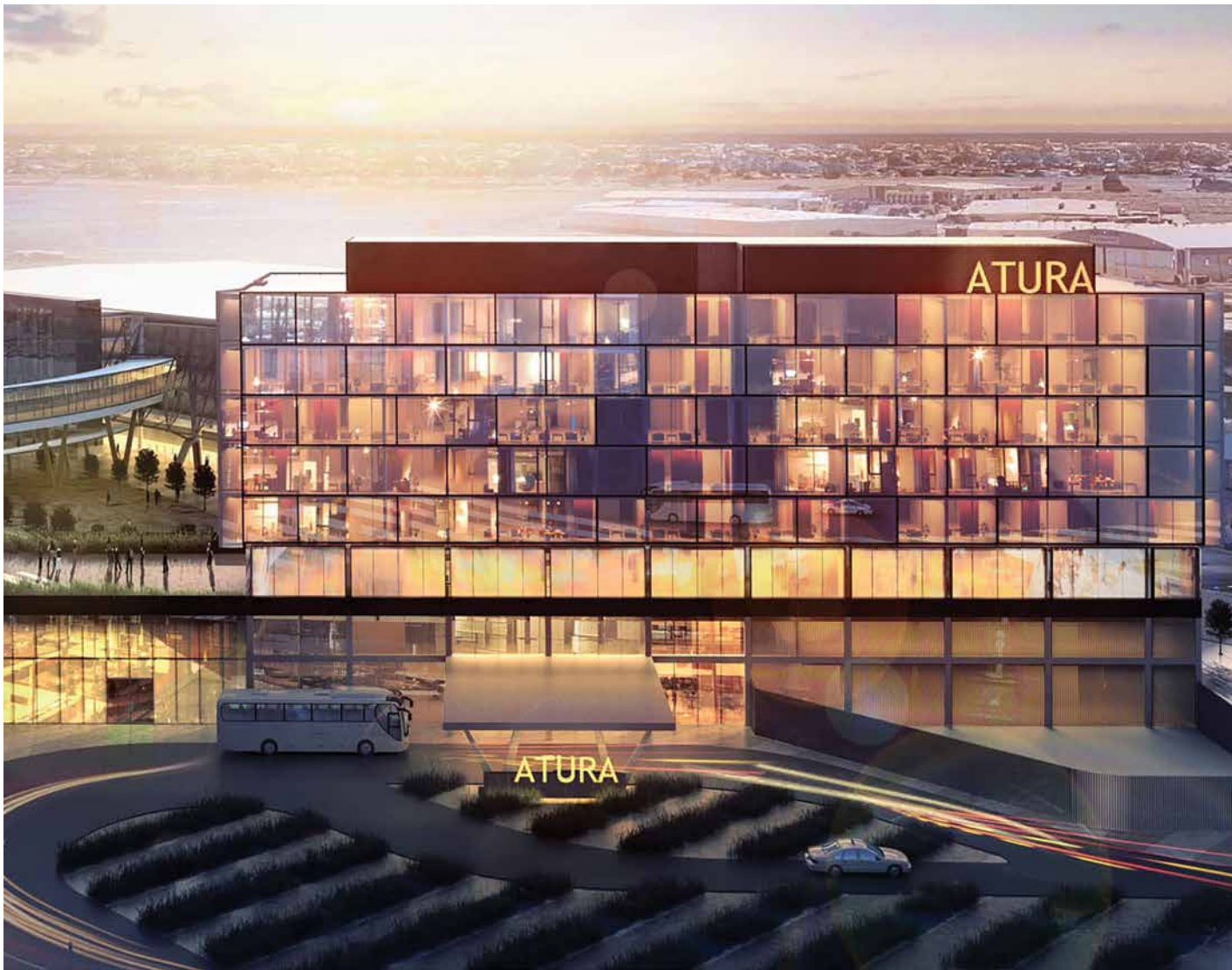
### APPLICATIONS INCLUDE

- Commercial Venues, Sporting Complexes and Gymnasiums
- Public Utility Buildings, Police, Ambulance, Nursing Homes
- Education Facilities

### OPTIONS

- Enthalpy or Sensible Media
- Economy Cycle
- Various control options





Above: Event Hospitality used Armcor Packaged EVR Unit for the Altura Airport Hotel, Adelaide.  
Right: Rotary heat recovery provides Ballarat Base Hospital with efficiency in operation.



# AIR HANDLING UNITS

## AHU 500 – 25,000



Air handling units (AHU) are used to condition and circulate air as part of a heating, ventilating and air-conditioning (HVAC) system. The air entering an AHU passes through air filters and across the heating/cooling coil. Then the supply air fan, provides the correct volume and pressure of conditioned air to the ductwork system.

AHUs can incorporate a hot water coil, a chilled water coil, a DX coil refrigerant coil or a combination of these. Condensate drains are provided with the AHUs to capture the condensation formed through the cooling process. Specific controls are needed for AHUs and these are often integrated with Building Management Systems (BMS).

The Armcor AHU design suits rooftop or plant room applications and are fully factory assembled and internally wired, and fitted with large access doors allowing for service, cleaning and maintenance.

### OPTIONS INCLUDE

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Hot water, Chilled water or DX coils

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Air filters

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Economy cycle dampers

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Top: High indoor air quality was required for the Plaza Premium Lounge at Melbourne Airport.  
Left: Australia 108.





# CUSTOMISED OPTIONS

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## Electrical Controls

Armcor can tailor controls to suit specific projects requirements. The standard low-level control system provides easy connection to a BMS or stand-alone controller.

24-volt relays with LED lights are provided for fans and compressors. Features including fan fault output, fan status, compressor fault, motor circuit breakers, fire shown down, adjustable time delays and phase failure can all be incorporated into the electrical controls.



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## Economy Cycles

Economy cycle operation is designed to take advantage of favorable ambient air conditions to enhance equipment performance and provide additional efficiencies. Economy cycle operation is sometimes referred to as “free cooling”.

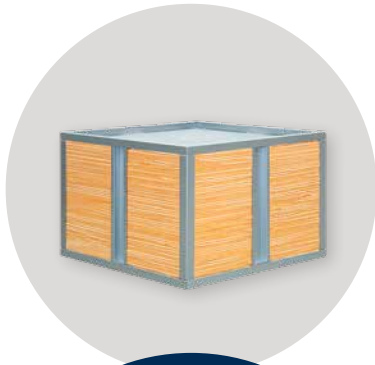
Armcor economy cycle systems use 4 opposed blade dampers controlled by modulating motors which open/close upon demand from ambient temperature sensor.

In a typical summer operation, if the ambient temperature is less than the indoor set point, dampers will open to allow fresh air to bypass and enter directly into the supply air ductwork.

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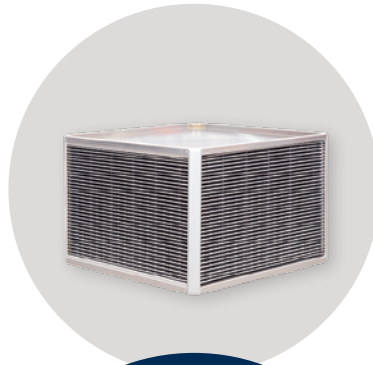
## Heat Recovery Media

Armcor has a variety of media for every situation allowing the customer to get the right product for the right application.



### ENTHALPY MEDIA

Transfers both latent and sensible heat for the optimum energy recovery performance.



### SENSIBLE MEDIA

Partially for use when toilet exhaust air extraction or when air stream must be totally isolated.



### POLYPROPYLENE MEDIA

For use in corrosive atmosphere and swimming pool applications.



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## Custom Sizing

Armcor can modify standard designs to suit specific plantroom configurations to match/replace existing equipment. Modifications such as top, bottom or side inlet and outlet openings; additional capacities or specified refrigeration are all part of the Armcor Solution capacity.

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# THE LEADERS IN AIR TO AIR HEAT RECOVERY.

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