

Air Change Heat Recovery Ventilation Brings Energy Saving at Victorian Nursing Home and Hospital

David Goodwin

CKyabram and District Health Services is a modern healthcare facility in Victoria, with a general hospital and a nursing home offering care for the aged and disabled. After redevelopment in 2005, the nursing home facility had 42 beds. The 23 single rooms include ensuites with additional sitting rooms with surroundings more in keeping with the expectations of today's residents and families.

Wall mounted air conditioners had already been installed and were providing the level of heating and cooling required.

Projects Manager for Bendigo Refrigeration, Mr Ray Beggs, told *Celsius* a ventilation system with heat recovery would be an ideal way to reclaim energy from the already conditioned return air before it was expelled into the atmosphere. Bendigo Refrigeration does a full range of mechanical services: "We have 27 staff with a service and commercial division for our contracts".



Kyabram & District Health Services

A new extension to be completed in this year will have five new single bedrooms and one double bedroom, all with private ensuites. New lounge and dining facilities along with a large social activities area and adjacent outdoor area, designed for the residents to enjoy, are included in the extension.

The mechanical services contractor for the project was Bendigo Refrigeration, which installed air conditioning solutions for the dementia area of the Nursing Home. This area needed high levels of outside ventilation for the health and well-being of its patients.

"The hospital's Engineer, Mr Peter Jayaweera, called me in for a quotation saying he needed to ventilate 50 L/s of outside air to each of the nine rooms as make up to the exhaust grilles in each adjoining ensuite. Room temperatures were 21°C in winter and 24°C in summer".

Ray Beggs recommended using an Air Change, In Ceiling Energy Recovery Ventilator of 450 L/s capacity with an Enthalpy heat exchanger.

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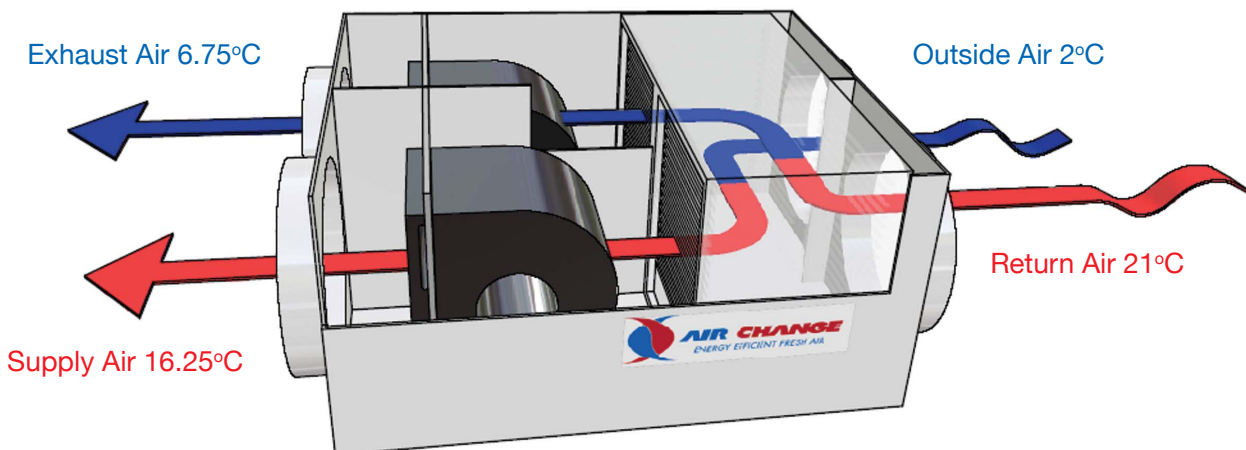


Diagram Air Change In Ceiling ERV

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“With limited height in the ceiling space, the 450 mm high ventilator could be installed into the existing en suite exhaust system. Energy is reclaimed from conditioned air that would have been exhausted to atmosphere,” he said..

“Because of the energy reclaim, the fresh air load is handled without any increase in capacity of the already installed air conditioning. Energy savings of around 50% over a conventional system with no energy recovery is achieved.

Table of Energy Savings

ERV-IC running at 450 l/s	Fresh Air Load	Heat Exchanger Capacity	Energy Saving
Cooling	7.31 kW	5.48 kW	75%
Heating	10.7 kW	8.05 kW	75%

Air Change’s National Sales Manager, Mr David Gartrell, said that Bendigo Refrigeration was forward thinking and had switched on to energy saving.

“They have supplied Kyabram Hospital with a sustainable solution. For too long, too much energy has been wasted when conditioning outdoor air. The equipment is running very well and has measured up to expectations.”

Jayaweera said that if they had brought in untreated fresh air from outside during winter time it would have been colder and

the internal unit would have had to take up that air and heat it up again.

“Whereas exhaust air is used to heat up the supply air.”

With all parties extremely satisfied with the system, Air Change and Bendigo Refrigeration would be installing more of these systems into other healthcare buildings. Their next project would be at Rochester Hospital.

“There are good cost savings for the hospital and no need for larger air conditioning and heating capacity. We are going to install a second unit at the hospital in the near future,” Jayaweera said.

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Product Profile

In Ceiling Energy Recovery Ventilator 100-600 l/s

A low cost solution reducing the energy required to condition outdoor air.

The in ceiling ERV has inbuilt energy recovery, a requirement for Section J when outside air is above minimum standards. Variable outdoor air is achieved with 3 speed control (standard) or variable speed drive (optional). At only 450mm height, the unit is perfect for many applications.

Member

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energy efficiency!

If we all saved energy today the world would know about it.



- ★ Heat/Energy Recovery
- ★ Variable outdoor air
- ★ Low cost solution for Section J
- ★ Improve Indoor air quality
- ★ Low profile for tight spaces



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