



MAIN: Five heat wheels leave the factory for the new Aquatic centre redevelopment.
BELOW: Old round frame heat wheels recovered from the demolished aquatic centre.



Heat wheels make a splash at Aqualink

AUSTRALIAN DESIGNED AND MANUFACTURED HEAT EXCHANGERS ARE AT THE CENTRE OF AN AQUATIC CENTRE REDEVELOPMENT IN VICTORIA THAT HAS BEEN LABELLED A SHOWCASE IN ENVIRONMENTAL SUSTAINABILITY.

THE AQUALINK BOX Hill project by Whitehorse City Council was completed last year. It features a gas turbine cogeneration plant to generate electricity and hot water, an evacuated tube solar hot water generation plant and the re-use of two unique Australian rotary heat exchangers. It also features three new heat wheels, which recycle 90 per cent of waste heat from the exhaust contaminated pool hall air to provide fresh dry air to the centre.

These low lifecycle cost wheels from Rotary Heat Exchangers helped the project meet its

greenhouse gas emission targets. It can be used for the full life of the aquatic centre without replacement, needs minimal maintenance and has no deterioration in performance.

The heat wheels are used to recycle air conditioning energy by recovering the energy from the exhaust air conditioned air from a building to condition the fresh air coming into the building.

It does this by combining a mechanical means of transfer to the conventional heat transfer modes of convection and conduction by rotating

a wheel with a porous matrix between the two air streams in counterflow.

The heat wheels often outlive the life of their buildings. For example, two of the wheels being used in the Aqualink redevelopment were recovered from the original aquatic centre build undertaken in 1979.

The old round frame heat wheels were recovered from the demolition with three new wheels added to the Aqualink project.

The refurbishment involved cleaning the rotors with pressurised water jets, repainting the frames and providing new bearings and motor drives.

Indoor pools are a major consumer of heating energy, which is why the use of cogeneration is becoming more common in aquatic centres around Australia.

Rotary Heat Exchangers CEO Bill Ellul estimates the project will achieve annual cost savings of more than \$200,000.

Rotary Heat Exchangers was established in 1968 as a result of research conducted by the CSIRO and Monash University.

The heat wheels are now being used at aquatic centres across the country.

Nuts about solar installation

NUTS, DRIED FRUIT and gift baskets from Charlesworth Nuts have been solar powered this year, thanks to the company's new solar system that was installed on the roof of their factory and office complex at Marion in South Australia.

The 98kW system is one of the largest privately owned solar installs in the state, with the 392 solar panels on the north of the roof spanning 50 x 20 metres. On a sunny day, the solar array provides nearly all of the power needed to run the 4,000 m² factory.

The company's financial director, Mark Charlesworth, said the move to solar power takes some pressure off the electricity grid.

Implemented by local business Adelaide So-

lar Safe, the panels and inverters were provided by OzRoll Industries. The inverters are manufactured by Schneider Electric, which in 2003 acquired Clipsal, Australia's number one brand of electrical products, accessories and solutions. Established in 1934, Charlesworth Nuts began with a small stall in the Adelaide Central Market. As the business grew, they expanded to include other retail outlets as well as their purpose built manufacturing site at Marion in 1977, which also became the head office and processing and distribution centre. The solar system project was partially funded by the AusIndustry Clean Technology Food and Foundries Investment Program.



The installation at Charlesworth Nuts in South Australia.