



PARLIAMENT HOUSE
GAS BACKED SOLAR HOT WATER CONTRBUTION SYSTEM
INSTALLED OCTOBER 2006



Prepared for
The Honourable Mike Rann
Premier of South Australia

By Sola Edwards Adelaide 1/11/2006 



PARLIAMENT HOUSE NORTH TERRACE ADELAIDE

THE PLAYERS



Edwards commenced manufacturing water heaters in Australia in 1963 and today are an international organization. Edwards has progressed to be a leader in producing hot water systems for both domestic and commercial purposes using solar technology.

Generally, where there's sunshine you'll find an Edwards solar hot water system hard at work - Edwards have offices in all states of Australia and export to Asia, the Pacific, America, Europe, Africa and the Middle East gaining a world wide reputation for quality and the latest in engineering design.



**SOLA EDWARDS
ADELAIDE**

As a major distributor for Edwards Hot Water in South Australia for over 10 years, Sola Edwards Adelaide are now a leading supplier of Warm Water, Hot Water and Solar contribution systems for any requirements. With major systems throughout South Australia including Lyell McKewin, Modbury and Queen Elizabeth Hospitals, Queen Victoria Apartments, Port Adelaide Football Club, the Adelaide Convention Centre, Melrose Park Retirement Village, Strut River Caravan Park along with many more systems throughout metropolitan Adelaide and most of the major country centers such as Ceduna, Whyalla, Pinnaroo and Mount Gambier.

Sola Edwards Adelaide also provides their expertise for the production of any form of Warm & Hot Water, Reclaimed Heat and Solar requirements for primary and manufacturing industries, Aged Care, Health Care, Wine Industry, Caravan Parks etc.

Saving the environment has become a major issue in South Australia and Sola Edwards Adelaide understands the needs of their clients by planning systems that meet both their hot water requirements along with the greatest energy savings possible.

Established in 1975 as a plumbing maintenance company. Mainline Plumbing operates and provides technical directions and service for Edwards Hot Water Systems both domestic and commercial systems.

**Mainline Plumbing
& Electrical Services
Pty Ltd**

Mainline Plumbing also supplies a installation service for Sola Edwards Adelaide and have installed Warm, Hot and Solar Contributions Systems across South Australia.

Solar, Warm & Hot Water Systems have not only been installed in the metropolitan area but also in places like Coober Pedy, Ceduna, Millicent etc.



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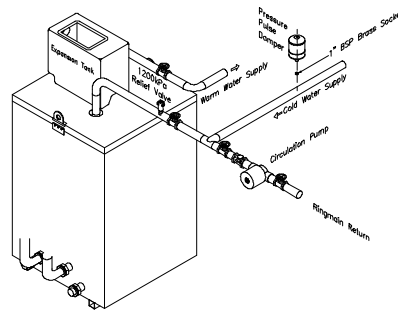
THE SYSTEMS

Hot Water System

2 x Edwards Hot Water GXC 50 / Heatmate 250 Hot Water Systems

Constructed from a special grade of steel the cylinders are designed to withstand high temperatures of up to 99° on a continual basis. No anode or artificial lining is required to prevent corrosion as the GXC cylinders are protected by the addition of "Gendex", the Edwards custom designed corrosion inhibitor. Using the unique copper mains pressure heat exchange coil inside a low pressure, open vented cylinder, Edwards offers a system that is naturally resistant to deterioration in poor quality water. Edwards heat exchange systems have minimal storage and continual water movement so that they help resist legionella and other bacteria proliferation.

The Heatmate 250 is a 250 MJ atmospheric gas hot water heater circulator designed for remote connection to an Edwards GXC Storage Cylinder. The Heatmate is thermostatically controlled by state of art ignition technology. This allows the system to utilize all the solar contribution available from the LEX 14 Panel System.

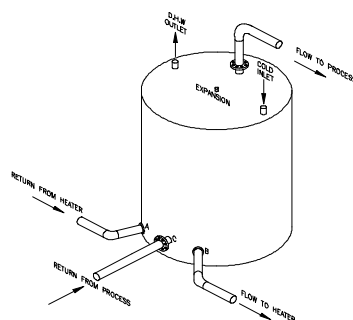


Solar Contribution System

1 x Edwards Hot Water LEX 120 / 14 Panel Solar Contribution System

Edwards has over 40 years experience in hot water applications and have created a true commercial solar system. This system uses a single storage tank and differential controller to harness all the energy available in the solar panels.

Utilizing a specifically designed solar controller and Grundfos circulating pump, the 14 "Australia Series 2" panels are continually scrubbed of their energy over daylight hours. On a yearly average, each solar panel will produce the equivalent of 5.7 kW / day. Or each pair of panels will heat 180L at approximately twice the daily average ambient temperature.





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History

Edwards Hot Water Solar Contribution Systems have been installed across South Australia with remarkable success with projects consisting from 2 to 200 panels. Systems that keep brine shrimp at a constant 22.5°C, systems that wash wine bottles at 96°C @ 180 Litres / Min, systems washing down floors at fast food restaurants at 10 Litres / Minute to washing down 1,200 head/day dairies at 900 Litres over 6 Min at 85°C

Everyone of these projects have shown energy savings from the moment they have brought their projects on line with pay back periods for less than 2 years on some projects.

How it Works

The 1413 Litre LEX 120 cylinder has a primary circuit which is pumped through the 14 (2m x 1m) solar panels, located on the roof section of Parliament House, where the solar can contribute to the heat in the cylinder. The potable cold water passes through a mains pressure copper heat exchanger coil within the cylinder and transfers any available heat into the cold water stored in a the low pressure cylinder before the water enters the GXC 50 / 250 hot water systems.

This preheated water then is boosted by the two GXC 50 Indirect heat exchange systems utilizing the two 250 MJ gas fired hot water heaters remote mounted on the roof to the preset temperature of 65° C should this be needed.

Benefits

The introduction of solar hot water to Parliament house will achieve exceptional energy savings throughout the year.

We would expect a savings in excess of 60% of the Parliament Houses yearly hot water heating costs by the placing into service of the LEX 120 / 14 Panel Solar Hot Water System installed by Mainline Plumbing & Electrical Services.

We would also expect that the Hot Water System at Parliament House would be running on Solar only throughout the summer months with minimal input from the gas fired Heatmate being required. Winter savings will also be experienced as the solar contribution system will input energy to the system regardless of the daily temperature.

This system will not only have a huge impact on the running costs of Parliament House but will also have an enormous impact on the environment with a saving of an estimated 21 Tonnes of Greenhouse gas emissions per year.

KEY CONTACTS

Sola Edwards Adelaide

Malcolm Dohnt
Projects Manager

Kym McFarlane
Manager

Tel: (08) 8186 6000
Fax: (08) 8384 5207

Mainline Plumbing

Garry Rowley
Director

James Heritage
Manager

Tel: (08) 8384 5500

System Solutions Engineering

Brad Maynard
Principal Design Consultant
Tel: (08) 8333 1855

Concept Airconditioning

Justin Hollitt
Tel: (08) 8351 1622