



# CASE STUDY

## COMMERCIAL HEAT PUMP

### SOUTHERN OCEAN LODGE – KANGAROO ISLAND



Southern Ocean Lodge is Australia's first true luxury lodge, offering a unique and exclusive travel experience on Kangaroo Island in South Australia. Floating atop a secluded cliff on a rugged stretch of coast, the lodge commands peerless views of the wild Southern Ocean and pristine Kangaroo Island wilderness. Sensitive, intimate and sophisticated, Southern Ocean Lodge is a sanctuary of refined comfort and luxury, Kangaroo Island style.

#### Hot Water Requirements

21 guest suites with a hot water load of 2,400L over a 1 hour peak demand period. The Southern Ocean Lodge is 80% powered by two Cummins M11 diesel Gen Sets and 20% PV solar and an efficient means of hot water generation was required.

#### Solution

- 2 x Rheem Commercial Heat Pumps
- 6 x Rheem 410L Storage Tanks
- 1 x Rheem 613315 Commercial Electric water heater as back up
- 1 x Rheem 621265 Commercial gas water heater on LPG to handle ring main losses.

Due to the potentially cold climate an electric back up was included to supplement the heat pumps to ensure hot water was available on demand.



### FACTS & FIGURES

Estimated Annual Hot Water Consumption:  
400,000 L based on 50% occupancy

#### Tariffs

Diesel Generated Electricity: 42c/kWh

#### Estimated Annual Running Cost

Electric Plant: \$7,000

Heat Pump Plant: \$1,850

Estimated Annual Running Cost Savings: \$5,150

Owner: Baillie Lodges

Engineering Consultant: Factor Engineering

Installed by: Heath Gurney

