



Unique Solar Pump Float

Customer: Lance and Colleen Sypher

Location: Alpha, QLD

Case Study ID: [CS-05](#)

Date: August, 2017

Overview

Dowdens Pumping & Water Treatment's Rockhampton branch was engaged by local beef cattle graziers Lance and Colleen Sypher (located in Alpha, QLD) to deliver a unique surface-mounted Solar Array and Pump Float to supply onsite dam water to both their residence and the property's many cattle watering troughs. The Rockhampton branch specialises in designing, manufacturing, and installing innovative, customised Solar Pumping systems for the commercial, agriculture and mining sectors of Central Queensland and the greater Capricorn Coast regions.

The Problem

Lance and Colleen Sypher approached Dowdens Rockhampton seeking a design for a solar pumping system with the ability to float on their dam, eliminating the need for any power cables or pump modules

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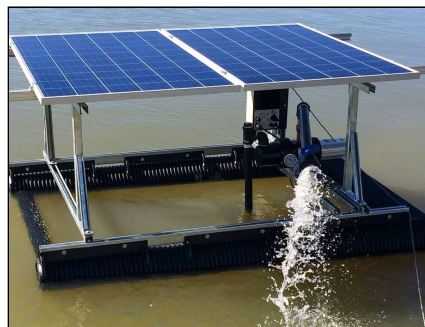
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to be placed on the bank as is the case with traditional dam solar pumping systems. Having the unit completely isolated (floating) on the dam's surface would remove the potential for the pumping unit sustaining damage from cattle walking along the edge of the dam. Cattle are known to cause damage to solar pump modules (in particular the associated power cables) that are situated on the edge of dams.

The innovative solar pumping unit design that Dowdens developed needed to meet a required flow rate (during the summer months, on average, the pump's required duty is 25,000 L/day @ 10m total head). Part of this new design incorporated the solar arrays being installed level with the dam's surface; the main advantage of this design feature means the pumps power supply is not affected if the floating pontoon swings or floats across the dam. The level pump would not have any traditional problems, such as needing to be anchored or flipping over with high winds.



Our Solution

The final design incorporated a Mono Pumps 600 Watt Solar Pump due to its highly efficient, self-priming helical rotor pump. The pontoon has been designed to accommodate a wide range of solar pumping units, making it customisable for whatever site requirements are presented. Dowdens believe this is the first time any pump shop has mounted both the solar arrays and pump unit on a float for this application. Having the solar pump operating independently saves the customer spending time and money travelling to and from the dam each day to switch on the pump.

Key Components

- Mono Pumps 600 Solar Pump
- 2 x solar arrays horizontally mounted to customised pump float
- Dowdens Project Engineering Department undertook the custom in-house design
- Custom in-house fabrication undertaken by Dowdens Pumping Industrial Workshops

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Project Design Philosophy

The entire solar pump float system was designed, manufactured, installed and commissioned on time and within budget. Dowdens Pumping & Water Treatment's Rockhampton branches design philosophy for this project was: Cost-Effectiveness - Innovation - Ease of Installation - Simple & Effective Pump Operation - System Reliability & Reduced Ongoing Maintenance.

Brands used in this project



MONO¹

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