

# Case Study

# CFW11 Variable Speed Drive



## INDUSTRY

Agriculture

## APPLICATION

Pump

## PROBLEM

A large farm required to improve their water conservation measures and also reduce their energy consumption on two irrigation pumps. The existing pump motors were at the end of their serviceable life and the farm manager had the option to replace the pumping system “like for like” or to improve the performance in terms of energy and irrigation. Existing flow control on the pumps was done by throttling valves – a wasteful approach.

## SOLUTION

BSC proposed a solution of two 37kW WEG CFW11 Variable Speed Drives (VSD) controlling two 37kW WEG W22 high efficiency motors.

## BENEFIT

The WEG CFW11 VSD regulates motor speed based on pressure feedback from the pipe. As irrigator heads are turned on, decreasing pressure in the pipe, the CFW11 VSD automatically increases motor speed to increase pipe pressure and vice versa. Energy savings compared to the old throttling method of flow control are estimated at over \$10300, 87MWh and 105Tonnes CO2 per annum combined for the two pumps. The payback period is estimated at less than 10 months – a very good proposal given operation is not all year around.

The W22 motor provides additional efficiency savings estimated at \$1294 per annum and a reduction of 13.2Tonnes of CO2, along with improved product life with IP66 rating, class H insulation and 1.15 service factor.

