



Depend on Davey

DAVEY

MONSOON IQ Monitoring the Green

Main Use	Pasture irrigation using a lateral irrigator
Davey Product	Monsoon IQ intelligent pump system with 7.5kW ISO CM 80x65-160 pump
Customer	Rex Tout, Farm Owner RM Tout Dairy
Location	Loomberah, NSW



The Monsoon IQ has been an efficiency game changer for Rex Tout, a fifth-generation dairy farmer on the outskirts of Tamworth, NSW. It has made his irrigation system more efficient, easier to use and has not only provided this solo farmer the flexibility of remote monitoring and secure data collection, but the peace of mind that Davey can access the system's performance and make adjustments through the cloud.

Rex has a herd of 150 milking cows, and around 100 heifers.

The Tamworth region is prime agricultural land, with an average annual rainfall of 600-700ml. It can experience extreme temperatures in winter and summer, however over the past few years conditions have been very favourable.

Rex has a license to draw water from two sources – a well on the property and the Peel River which the farm backs onto.

"Irrigation is absolutely critical to this farm, without it I certainly wouldn't be running a dairy farm, that's for sure," he says.

Rex's farm is one of five optimised irrigation dairy farms across Australia established as part of the Smarter Irrigation for Profit Project, a project funded by Dairy Australia and the Australian Government Department of Agriculture and Water Resource's Rural R&D for Profit programme, to demonstrate best practice management and technology use to the irrigators of the dairy industry.

Marguerite White, Consultant, ICD Product Services, says the aim of the project is for irrigators to become more profitable by more efficient energy, water and labour use. "The way we're doing that is looking at a lot of the base line work the farmers are currently undertaking, and then doing field investigations as to how we can become more efficient especially around water and power use. We want to see energy going into producing milk and increased tons of dry matter, rather than being lost. Ultimately the idea is to reduce overall costs," she says.

Rex says there has been a lot of data collection which has produced several efficiencies in the system. "I certainly knew there were aspects of the irrigation system that weren't up to scratch and I thought being involved in the project might be able to highlight some of them for me, and give me ideas of ways to improve, and that's certainly been the case.

SOLUTION >>>

At Davey, we understand no two jobs are the same. That's why we have a team of sales engineers and a specialised production department to tailor the pumpset for your needs.

The system was less efficient than I thought initially, so I did get quite a surprise when some of the discoveries were made," he says.

Rex's existing pump (used at the well) was oversized and inefficient. It had been sized to run both the pivot and lateral at the same time, however it was established that Rex only ever operated the lateral from the well. He was riding the motorbike down to the pump to start it for irrigation each day.

Once Rex had signed up for the project a farm open day was advertised in The Land newspaper, and Paul Walker, National Sales Manager for Davey got wind of it. He contacted Rex to get some more information and was put in touch with Marguerite White, Consultant.

"Between the three of us we decided there could be some scope for Davey to become involved with the replacement pump at the well because the pump that was there at the time needed replacing, it was a horrible, inefficient old thing, and was one of the main sources of trouble I had with the old irrigation system. Davey volunteered to be involved in the project and I'm eternally grateful to them for doing that," he says.

THE DAVEY SOLUTION

Davey significantly reduced the pump size at the well, which is used to irrigate approximately 20ha, to a 7.5kW ISO CM 80x65-160 with a variable speed drive (VSD) to ensure it would reduce the speed of the pump to match the required pressure Rex needs at the lateral irrigator.

Davey then installed its Monsoon IQ intelligent pump controller to the system, which allows remote monitoring and control of the pump and drive. Joel Gresham, General Manager Innovation at Davey says the installation of the Monsoon IQ with the Monsoon IQ cloud connection, has allowed a deeper insight and understanding into the pump and more importantly the system behaviour.

"The pump is the workhorse in any irrigation system. It generates the required pressures necessary to move the water to where it's needed. It's this conversion of the electrical energy into water movement that is so important to get right. Understanding the performance of the total system is a must if decisions are going to be made to help reduce energy, increase machinery life, and decrease downtime," he says.

The controller uses a 3G modem connection to communicate to the cloud. Data is stored on the cloud that can be accessed by any device by logging into Davey's customer portal my.daveywater.com

"I can now access that pump from anywhere in the world which has internet connection. I can start and stop that pump at any time, and most importantly monitor exactly what it's doing at any point throughout the day. If the pump is running over night and I'm at a party or something I can have a quick check on my phone and make sure it's doing what it's meant to be doing. If there are any issues I can see if I need to stop the pump or attend to it when I get home. It's a great bonus," says Rex.

DAVEY MonsoonIQ



Photo: The Monsoon IQ Cloud allows you to remotely control, optimise and monitor your system easily from any connected device.



Photo: The Davey well pump – 7.5kW ISO CM 80x65-160 with a variable speed drive (VSD) was the ideal efficiency match for Rex's lateral irrigator.

DAVEY

MonsoonIQ

KEY ADVANTAGES IN THIS SYSTEM

- > Turn pumps on and off via phone, tablet or laptop from anywhere with internet connection.
- > Chart water and energy usage along with pump pressure, flow, power, voltage etc. and access these charts on the pump, in the office or at home.
- > Configurable SMS alerts if faults occur, i.e. pipe breaks, pump loses prime, unit overheats, sensor failure.
- > Easily turn the pump on/off manually at local touchscreen interface.
- > Easily update settings and parameters at the touchscreen interface.
- > Settings, historical data and parameters can be viewed and updated from Davey HQ, reducing service time.

"This Davey system is exceptional value. For the pump I'm using, which runs a decent sized irrigator, it's a small capital outlay given that the irrigator itself is around \$150K. Getting all the information correct – the right sized pump and the correct amount of electricity going into it, the potential to save money is quite large and the payback period on the capital outlay would be quite minimal," Rex says.

"At Rex's farm we were able to talk to him about his current uses, his experiences and what his pain points were with his old system. This meant we could develop a customised solution; tailored to deliver an optimal outcome that was unique to Rex's circumstances. Rex felt comfortable with approach because of our consultation with him. There were detailed discussions about the proposed solution and we made sure he understood how it was going to benefit and fit him," says Andrew Rathjen, Business Development Manager - Commercial Solutions, Davey.

"It's quite experimental sort of stuff. Davey have been right on the ball with it, I've had plenty of emails and phone calls, keeping me up to date and they've been able to access the system remotely and make little changes, or they can ring me and I can go to the pump if there's something that manually needs adjusting, and they can instruct me what to do over the phone – it's brilliant," says Rex.

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"Smarter Irrigation for Profit is funded by Dairy Australia and the Australian Government Department of Agriculture and Water Resources as part of its Rural R&D for Profit programme."



Photo: Joel Gresham, General Manager – Innovation, Davey, presenting Davey's irrigation solution at a Dairy Australia open day at Rex's farm.



Photo: Rex with the Davey Monsoon IQ system that provides "...exceptional value" with a small capital outlay for the running of his dairy farm.