

Complete water resource management – simple, smarter, reliable

The Smarta pump management system comes to the rescue by making your water resource management simply smarter and more reliable and records all information to keep your results on record.

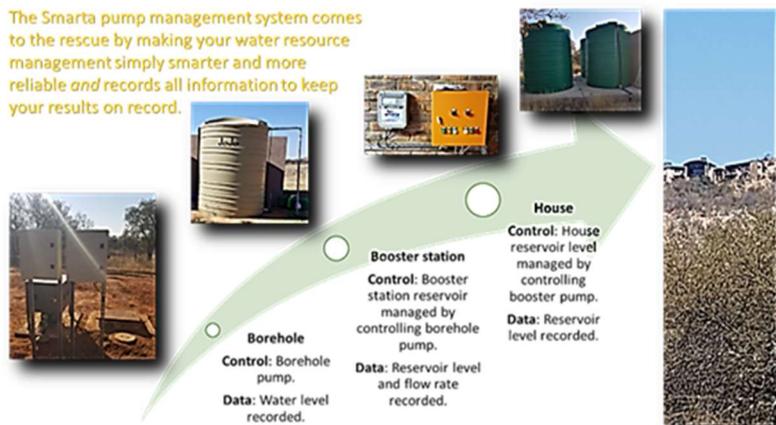


Figure 1 Long distances and high lifting heads turns reliable water supply into a challenge

It is a daunting task when faced with managing water and water supply in remote locations where you are dependent on your own resources and need to cover vast distances and unknown water resource conditions. Consider the situation where you require reliable water supply over a large distance. Include elevations that make simple pumping into a central reservoir unreliable and complex. Additionally you need to pump to a booster station to reach the final storage tank position. The use of manual methods and means to manage water resources cause significant infrastructure complications such as laying signal cables which are also surge damage prone. Using cell phone means offer limited information and no flexibility. With the Smarta pump management system coupled to a borehole and/or reservoir pump you can programme the pump to operate at specific times and/or water levels. If you choose the flow meter option, you can also select the amount of water you want to pump or see the amount of water that you pumped.

The flow meters used by Smarta pump management systems are resistant to debris and small stones and will not clog up. Each system is selected and designed to suite the customer's specific needs. It is now possible to control your water pumping resource/s and water needs without wondering or hoping that all is well. In Figure 1 above, the borehole is situated in the middle of a game camp and is not very accessible, as well as far from the house where the water is required. The application requires the water to be pumped to a booster station from the borehole. The owner also wants to know what the water level in the borehole is to ensure reliable water supply and know that the borehole extraction rate will not damage the aquifer. The booster station needs to be integrated with the house demand so that the house reservoir can be kept full by pumping from the booster station on demand. All of this must be automatic as well as record the water flow pumped from the booster station.

A typical snapshot of the complete system operation is shown in Figure 3. This information was downloaded from the site's customised website where all data can be seen, logged and accessed. The complete automation process is set up on the site as well. The complete automated logic can be monitored, confirmed correct and managed, resulting in tanks full of water and peace of mind:

1. The booster station pump is switched on when the house tank level drops below 1.5m and switched off once the house tank level reaches a level of 2.4m.
2. The borehole pump is switched on when the booster station reservoir drops to 1.5m and is switched off when the level reaches 2.4m.
3. The accumulative water volume and the borehole water level are recorded. All reservoir levels are also recorded. This makes it possible to control water consumption and to avoid over pumping the aquifer, causing damage to the borehole.

All the controls, information and management are centralised on the customised website, making it simple and easy to use.

Each pump site data and status are shown summarised, also indicating electricity consumption and cost – see Figure 2.

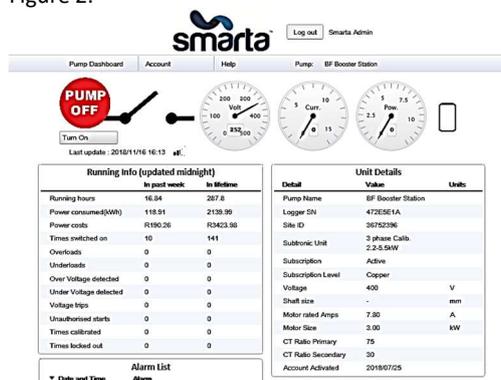


Figure 2 Complete summary information available

With Smarta in control, all parameters, conditions and alarms are monitored 24 hours of the day, as well as recorded. Even complex water management systems are now easy to manage without the cumbersome need to attend to it daily, only to become aware of problems such as empty reservoirs after running empty.

As in this case study, water is transferred over large distances, via two stations from a remote borehole to ensure continuous and reliable water supply without the aggravation, cost and inefficiency of manual operation and intervention. To top it all, equipment are protected against faulty power supply conditions, rapid pump starting and stopping, borehole over-pumping and dry-run damage. Know what is going on with your water resource – be Smarta smart – simple, smarter, reliable. Anybody can access the Smarta demonstration site and experience it for yourself. Log on to www.smartaonline.com to view the demonstration site.

For more information concerning your perfect water management system solution, call Pedri de Villiers on cell number 076-432-3013 or contact him by email on pedri@smarta.co.za

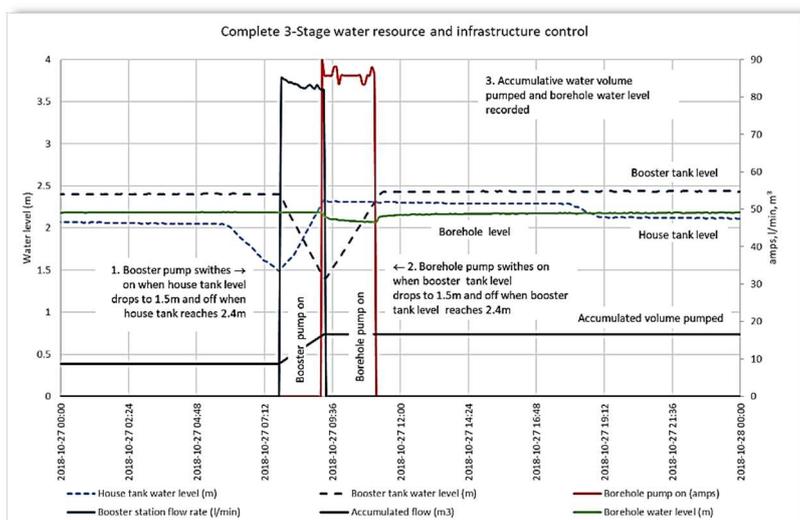


Figure 3 All aspects of the water management system are taken into consideration