

Submersible pumps in concrete pump station, pumping effluent

Brisbane Airport Corporation - Concertor Trial

CV services, whom are the service provider for the Brisbane Airport Corporation (BAC) heard about Xylems new range of Flygt Concertor pumps, and believed they may have an application that our new Concertor pumps would be ideally suited to help overcome some of the issues they had been experiencing with blockages and constant ragging at one of BAC's pump stations.

Scope

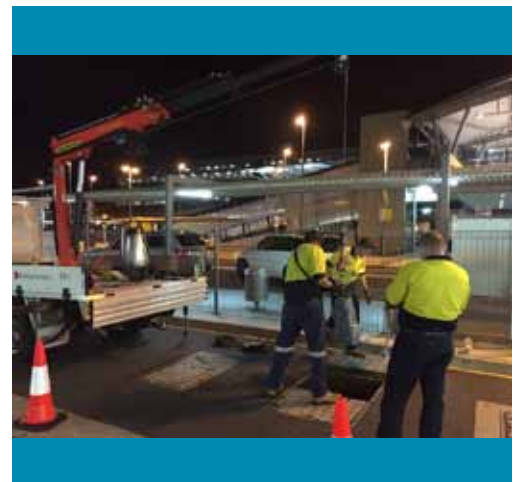
One of the BAC sites was experiencing a high rate of blockages. The current pumps that were installed were quite large (15kW) with Vortex impellers and were blocking at least once or twice a week.

"The new Concertor pump has performed better than expected, and we couldn't be happier with the pumps performance and anti clogging capabilities. "

Due to the pump station entry being located in the middle of the Taxi access road at the airport, retrieving the pumps was only practically possible at night once the airport had closed with no flights arriving.

The client also mentioned that the station was constantly requiring cleaning, as there was a considerable buildup of effluent floating on the surface of the pump station. They believed this was contributing to the blockages of the pumps, not to mention caused odor issues.

The station was fed waste from the toilets, showers and sinks within the airport terminal, and it was noted that the disposable towels that travellers used after showering were believed to be a considerable cause of the existing pumps blocking. These could best be described as a very large biodegradable thick paper towel, that travelers were flushing down toilets, instead of disposing of in the towel bins provided.



END USER: Brisbane Airport Corporation
CLIENT: CV Services
ORDER DATE: 30/09/2016
COMPLETION: 01/02/2017
XYLEM'S ROLE: Introduce new technology, supply, program and assist with installation
XYLEM SCOPE: Design, supply, and assist with installation

Solution

Upon being contacted and a preliminary discussion undertaken with the key stakeholders, it was agreed that Xylem would supply one of the newly released Flygt Concertor pumps for trial. The trial pump would replace one of the existing pumps, to gauge its effectiveness and prove its suitability.

The existing pumps had a 100mm discharge that were utilizing guide rails and a bolt on adaptor plate. The new Concertor pump that was to be installed, had a reduced discharge size of 80mm only. An 80-100mm concentric reducer was fabricated out of 316 stainless steel to allow for the new Concertor pump to be mounted into the station utilizing the existing guide rail configuration.

“The Concertor pump has saved us thousands of dollars in breakdown call out fees, which usually were typically occurring at night.”

The Concertor pump was programmed in Xylem's Brisbane test tank, and the flow/Head verified prior to delivering it to site.

I attended site at midnight with the staff from CV services, and their contract electrician to perform the installation of the new pump.

One of the old pumps was removed and the guide rail bracket was installed onto the new Concertor pump with ease.

The new pump was then lowered down into the wet well, and the electrical connections completed.

Upon starting the new Concertor pump, we overrode the pumps control system, and pumped the station down to “snore” level, to ensure all floating debris was removed from the station.

The pump stop level was lowered also at this time to assist with keeping the station cleaner in future. As the new Concertor pumps can be run as low as the centre line of the volute, I was confident that this would assist in keeping the station cleaner in future.

The Concertor performed perfectly, and cleared all the floating debris from the station over the next few hours, as well as completing 3 pump down cycles

Result

The Concertor pump performed perfectly as expected, and the wet well is the cleanest it has ever been as stated by the client. They are not aware of any blockages occurring at the site since the new pump has been installed.

The client is planning on utilizing Flygt Concertors throughout the airports sewage network where suitable, and retrofitting them into as many of the 63 pump stations that are located within the Airports network.

Since completing the initial trial, the client is awaiting the much anticipated release of the dry mount Concertor pumps, so they can have them installed in some of their other problematic sites.

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New pump in the wet well



Concertor pump with reducer and bracket fitted



Pump being unloaded with old pump on back of the truck

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