
Clearing the air with Grundfos

VICTORIA, AUSTRALIA: Gippsland Water is the second largest regional urban water authority in the Australian state of Victoria, providing water and wastewater services to 41 towns in the Central Gippsland region. When the company decided to further improve the system it uses to oxygenate wastewater at one of its plants, it replaced an old dissolver with a new, more efficient BOC Turbolox system.

TOPIC:
Avoiding H₂S

LOCATION:
Rosedale, Victoria, Australia

COMPANY:
Gippsland Water

THE SITUATION

Hydrogen sulphide gases cause unpleasant odours and are harmful to health at levels of 10 parts per million. They can also cause corrosion in sewers and at inlet points of treatment plants. To solve these problems, Gippsland Water wanted to use the very best. They turned to BOC Gases for a new solution to replace their old inline cascade dissolver. And Grundfos is part of the system they provided.

THE GRUNDFOS SOLUTION

BOC supplied a Turbolox oxygen injection system incorporating a Grundfos wastewater pump for maximum reliability. The patented Turbolox technology represents the most efficient way to completely dissolve oxygen and treat sewage for hydrogen sulphide odours. Oxygenating reduces odours from pumping stations and prevents wastewater from becoming septic.

The Turbolox system treats 10 percent of the main line flow in a concentration that achieves the desired result of the entire flow. The 10 percent of treated wastewater is pressurised by a dry mounted, water jacketed Grundfos sewage pump. Once pressurised by the pump, the sewage is treated by oxygen using new side stream, high shear dissolution dissolving technology developed at BOC Gases.

This is all made possible by combining the pressure the Grundfos pumps supplies with a venturi, high shear gas phase operation and recycling of the undissolved gas.

The Turbolox system needs a very reliable pump solution. Energy efficiency is also a major priority. Merv Ogston, who invented the Turbolox system along with Jim McAndrew, states that these concerns made BOC choose to use Grundfos pumps in all its systems.

THE OUTCOME

The Turbolox system has brought with it many advantages. Helped by the Grundfos wastewater pump, it dissolves oxygen to completion. There is minimal carry-over of undissolved gas, meaning that there is little risk of cavitation and the waste and safety issues this can cause. The Grundfos pumps have performed with all the reliability and efficiency necessary to be the backbone of a demanding processing system.

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