



New hydraulics ensure operational reliability – a necessity for raw wastewater transport

In the western region of Spain, reliable operations in the raw wastewater network are ensured and clogging issues at the pumping station resolved with the new Open S-tube® impeller installed in one of their SL pumps.

In this area of Spain, the regional water authority faced the challenge of ensuring clogging-free operation in their pumping stations. The consequences of not doing so could prove critical for their business. The water authority is part of one of the largest public companies in Spain, and the Equipment Manager for the regional water authority was responsible for ensuring a trouble-free operation in all plants and pumping stations in the assigned area.

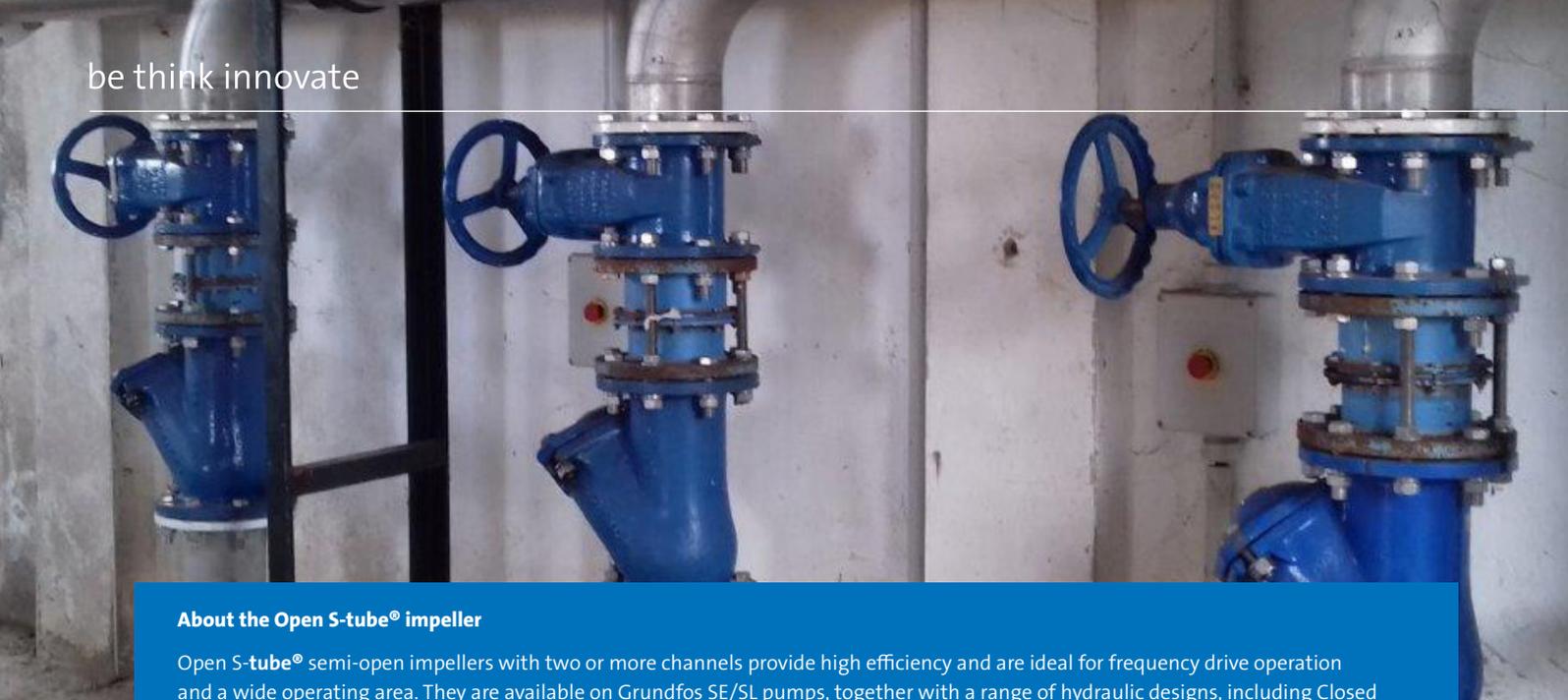
The situation

For the water authority, operational reliability is an absolute necessity. It is a mandatory requirement to ensure safe and predictable transport of wastewater and low operating costs. The pumping station in question receives the wastewater from one of the areas in the city where it is placed.

The main reason for the clogging issues was that the mechanical screen that should act as pre-treatment for removal of larger unsuspended solids was not always in position. For this particular pumping station, this is due to difficulty of access. With the current situation, it is necessary to take out and clean the pumps three to four times per week.



A look inside the pumping station.



About the Open S-tube® impeller

Open S-tube® semi-open impellers with two or more channels provide high efficiency and are ideal for frequency drive operation and a wide operating area. They are available on Grundfos SE/SL pumps, together with a range of hydraulic designs, including Closed S-tube® impellers and SuperVortex free-flow impellers, for reliable and efficient operation with the highest level of performance in all wastewater applications.

The solution

The Equipment Manager requested that Grundfos help to improve the situation and to provide a solution that can handle large solids. The solution had to take into account that there is not a good pre-treatment and a constant incoming flow of wastewater with a high concentration of rags (hygienic wipes, among other items), which greatly complicates operation due to the continuous clogging of the pumps.

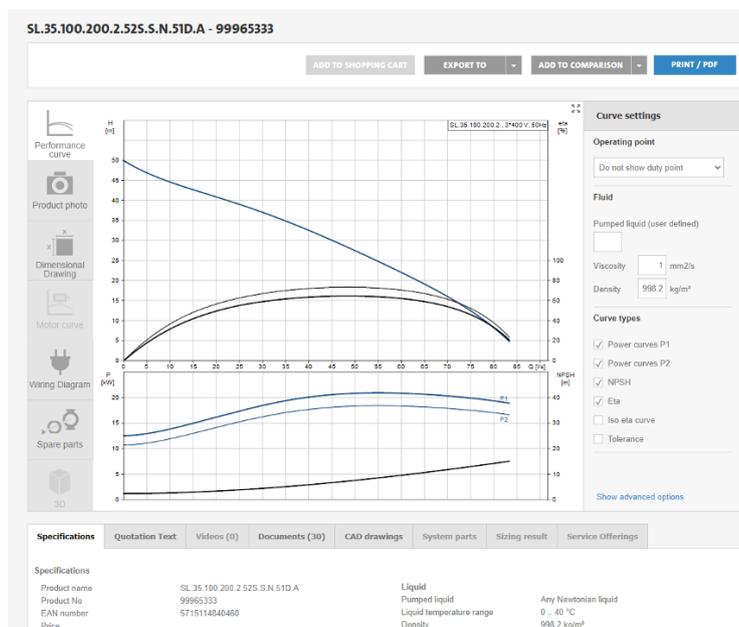
After a study of the situation, consideration of the location, the characteristics of the pumping station and with the quality of water in mind for solving these clogging issues Grundfos delivered a SL pump fitted with an Open S-tube® impeller.

The result

Considering that previously three to four interventions were required per week for getting the pumps out and an estimated two hours used for un-clogging and cleaning each pump, the customer can save six to eight hours per week in labour. This means that, on average, 350 hours per year are saved for use with other important tasks in the pumping station, while the pumps are working as they should.



The pump pits. The pumps are wet installed.



An example of clogging in one of the old pumps.