



Complex irrigation project - Grundfos recognized for its expertise

When the CUMA from Batzendorf in North-Eastern France was looking for an optimal solution to irrigate its 50 cornfields, it chose our vertical multicellular CR pumps.

This project required a flexible and long-lasting solution appropriate to the technical constraints of the site. The main challenges were handling a considerable variation in the flow rate (between 30 & 630 m³/h) and pressure between 12 & 15 bar, applied across a simultaneous irrigation project that will include up to 50 fields with a network of 150 km of pipes.

The installer requested a quote for the delivery of a customized solution answering these specific needs. A specialised irrigation team took over to gather all the necessary information and conduct a very detailed study of the flow regulation as well as the on-demand flow area.

According to Thomas SCHLOTZER, sectorial chief for Electro Alsace with East SOGEA, "a good installation was critical for ensuring a reliable flow. We know Grundfos quite well for their groundwater applications in raw water transport." [...]

"Price is of course an important factor, but we put the accent on the technical aspect."

Thomas Schlotzer

Sectorial chief for Electro Alsace with East SOGEA



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"Grundfos is recognized for its expertise in this area. It is one of only four or five companies able to deal with this type of challenge. Price is of course important but the technical aspect is a bigger priority for us." In addition, a successful installation needs to include a high quality after-sales service. Thomas explains: "In a project like this one, we need to be able to count on responsive professionals in case we have some trouble post-installation. We need experts who can respond quickly within the given timeframe."

Solution

Geneviève Varambon, Project Specialist at Grundfos explains the technical choices that were made: "We chose the stainless steel CR pumps, which are more compact and take a lot less space on the ground (-50%) as it is a multistage pump. The pump's design with its hydraulic redesign also makes it an excellent choice because of its high efficiency. The quality of the material and its resistance to corrosion lengthen the life expectancy of the pumps. Their maintenance is simplified thanks to the cartridge shaft seal which is of easy access. Due to the design of the pump, the maintenance is extremely easy to do, same with the commissioning.

In conclusion, we chose 3 CR-XL pumps type CR185-5 (flow of 200m³/h - P=155kW) and also a CR32-6 pump (flow of 30m³/h - P=22kW) for lower pressure. Another jockey pump CR95-6 (flow of 80m³/h - P=55kW) is here to keep the right pressure in the system due to possible water loss or leakage while avoiding using the main pump. To optimize the energy consumption, we have chosen to add some frequency converters (4 variateurs CUE, pressure tank). The regulation is done according to our needs."

Conclusion

Grundfos offered a solution that could meet all of the CUMA's needs. It was very important for our customer to have a solution that was not only eco-friendly, but also efficient, unlike traditional high-consumption solutions.

The choice made by our specialist was focused on the combination of the CR-XL with variable speed drives allowing an optimised energy-efficient solution to be reached.

The customer was also eligible for some state-funded energy-saving subsidies through the CEE programme.

The choice of vertical CR-XL pumps instead of generic horizontal pumps allowed a 50 % saving in floor space, leading to savings in both land and construction costs for the final customer.

Our CR-XL pumps also provide a 15% saving in future maintenance costs compared to a standard solution.

A hydraulic study was conducted on the 150 km network regarding the water hammer effect. The choice focused on a solution with pumps with different power including a jockey pump, allowing the flow to increase progressively and smoothly. This configuration can also handle the substantial difference in flow rates (from 30 to 630m³/h).

In conclusion, the Grundfos solution has made it possible to reduce energy consumption, benefit from government CEE subsidies, reduce civil engineering issues, cut maintenance costs and extend the lifecycle of the existing network.

It is a smart, eco-friendly investment based on Grundfos' advanced CR-XL technology.



Guillaume Gerard - Key Account Manager & Sales Engineer for the Eastern region - concludes: "The support provided throughout the project by the Grundfos teams is a sure sign of continuity of service, longevity and success for the CUMA. In fact, our project team accompanied the CUMA, and our technicians were on hand for the operational commissioning and later for the maintenance of the installation".

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