

COOLING SYSTEM UPGRADE

A DISTRICT
ENERGY CASE STUDY

Design Envelope pumps reduce energy use by up to 75% and reduce first costs for procurement and installation. For IDEX La Défense, upgraded equipment also resolved some costly maintenance issues.

“Our plans for 2030 included an overall energy performance index target of 1.13. Reducing pump energy use represented an important step towards meeting that commitment.”

IDEX La Défense

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IDEX La Défense

Armstrong Design Envelope 4300 Vertical In-Line pumps feature iECM motors, integrated, Sensorless controls and connectivity for remote performance tracking and analytics.

Background

La Défense is a prestige, purpose-built business district on the west side of the Paris metropolitan area comprised of 72 large buildings, with a total of 3.5 million square metres (38 million square feet) of office space. The district contains many of the city's high-rise structures as well as a retail mall with over 200 shops and restaurants.

Since 2001, IDEX La Défense has managed a vast district heating and cooling system that serves La Défense. Significantly, 50% of the energy used is green and IDEX La Défense has set specific goals for reductions in energy consumption: 20% by 2030, and 50% by 2050. Armstrong recently supplied Design Envelope 4300 Vertical In-Line pumps for a retrofit project to improve the efficiency of the district heating and cooling system. With intelligent variable speed capabilities and Sensorless pump control, Design Envelope technology provides substantial savings in pump energy use. As an added value, the Vertical In-Line design uses 60% less floor space in a mechanical room.

The improved energy efficiency was an important outcome for the project. The energy savings helped IDEX La Défense to meet their objectives for GHG reduction. The retrofit project also permitted IDEX La Défense to implement changes in system duty points, so that an installed heat exchanger is now operating closer to the levels expected in IDEX La Défense original design process. Managers from IDEX La Défense are very pleased with the results and will use this project as a model for future energy upgrade initiatives.

Tech-info

- Design Envelope Series 4300 300-430 315 kW
- Design Envelope Series 4300 350-380 132 kW
- Suction Guide SG 1412
- Suction Guide SG 1614
- Flo-Trex Valve FTV 12 PN25
- Flo-Trex Valve FTV 14 PN16

