Energy Upgrade Series Case study: **Crown Realty Partner: Pearson Corporate Center**

ARMSTRONG

CASE STUDY | Crown Realty Partner: Pearson Corporate Center



Crown Realty Partners: Pearson Corporate Center is a 300,000 square foot complex in Toronto consisting of two eight-storey office towers joined together by a central atrium. In 2018 the building owners asked Armstrong to upgrade the original pumps to new Design Envelope pumps.

Armstrong replaced 6 constant speed pumps with new Design Envelope variable-speed pumps. Based on modelling calculations, the new system was expected to produce energy savings of 64%. Actual energy savings are over 80%.

FACILITY TYPE
Large Office Complex

LOCATION
Toronto, Canada

SIZE
300,000 ft^2

SITE CHALLENGES

- Mechanical Room space – pumps located on Mezzanine floor with narrow access

ANNUAL ENERGY SAVINGS
87%

ANNUAL ENERGY COST

BEFORE	AFTER
$140,072 CAD	$18,380 CAD
AVERAGE	AVERAGE

ANNUAL COST SAVINGS
$121,692 CAD

CO_2 EMISSIONS

BEFORE	AFTER
150,847 kg CO_2	19,794 kg CO_2
AVERAGE	AVERAGE

ANNUAL CO_2 EMISSION REDUCTION
131,053 kg CO_2



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ANNUAL ENERGY SAVINGS

ANNUAL kWh	TOTAL kWh BEFORE	TOTAL kWh AFTER
6 chilled water pumps	1,077,480	141,386

KEY OUTCOMES:

- ✓ Energy savings of over 80% compared to the original constant speed pumps
- ✓ Improved occupant comfort
- ✓ Cloud Analytics platform notification identified deadhead condition
- ✓ Easy access to pump operating data showing flow, head, power usage and rpm
- ✓ Constant data-logging and performance monitoring

Equipment included

- 3 × Design Envelope 4300 pumps, 15hp
- 3 × Design Envelope 4300 pumps, 30hp
- Cloud Analytics platform subscription

Site specification

300,000 ft² office complex







Armstrong maps each individual pump's hydraulic, motor and inverter variations at the factory, to achieve exceptional accuracy throughout the flow range. With this calibration, Armstrong Design Envelope pumps also serve as flow meters, providing reliable system flow data (+/- 5%). The testing ensures optimal performance efficiency at start-up, and Armstrong's Cloud Analytics platform helps maintain and extend efficiency throughout the pump's operating life.

DESIGN ENVELOPE

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