

CASE STUDY | Crown Realty Partner: Pearson Corporate Center



**C**rown 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<sup>2</sup>

**SITE CHALLENGES**

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



**ANNUAL ENERGY SAVINGS**

**87%**



**ANNUAL ENERGY COST**

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

**ANNUAL COST SAVINGS**  
**\$121,692**  
CAD



**CO<sub>2</sub> EMISSIONS**

BEFORE	AFTER
150,847	19,794
kg CO <sub>2</sub>	kg CO <sub>2</sub>
AVERAGE	AVERAGE

**ANNUAL CO<sub>2</sub> EMISSION REDUCTION**  
**131,053**  
kg CO<sub>2</sub>



TO GET YOUR ENERGY UPGRADE PROJECT STARTED, CALL:

**ANNUAL  
ENERGY  
SAVINGS**

<b>ANNUAL kWh</b>	<b>TOTAL kWh BEFORE</b>	<b>TOTAL kWh AFTER</b>
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
- ✓ Pump Manager 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
  - Pump Management Subscription
- Site specification** 300,000 ft<sup>2</sup> 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 Pump Manager helps maintain and extend efficiency throughout the pump's operating life.

## DESIGN ENVELOPE