Energy Performance Upgrade

Case study

ARMSTRONG

CASE STUDY | Upside Down Condos II



This condo tower (324 units on 13 floors) had completed a previous retrofit that unfortunately left the variable speed pumps operating in a fixed mode at low speed, so the HVAC system couldn't cool the west-facing units in the summer.

23% ENERGY SAVINGS

Armstrong installed new Design Envelope pumps and used the Sensorless variable speed and auto-balancing capabilities to determine optimal flow rates. Operating in variable speed, demand-based mode, the pumps now provide 64% more flow but use 25% less power.

FACILITY TYPE
Condominium
High Rise

LOCATION
Toronto,
Ontario,
Canada

SIZE
303 units
13 Story
building

SITE CHALLENGES

- Difficult access to mechanical room

ANNUAL ENERGY COST

BEFORE	AFTER
$18,215 CAD	$10,308 CAD
AVERAGE	AVERAGE

ANNUAL COST SAVINGS
$7,907 CAD

CO_2 EMISSIONS

BEFORE	AFTER
52,677 kg CO_2	34,342 kg CO_2
AVERAGE	AVERAGE

ANNUAL CO_2 EMISSION REDUCTION
18,335 kg CO_2



TO GET YOUR ENERGY UPGRADE PROJECT STARTED, CALL:

+1 888 240 7379

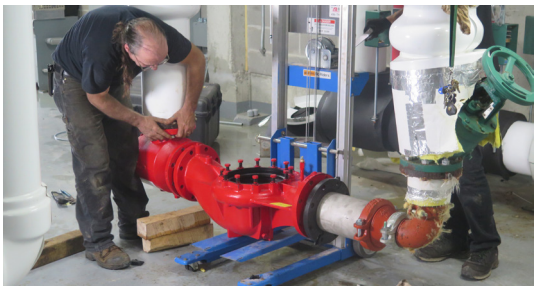
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KEY OUTCOMES:

- ✓ Improved occupant comfort
- ✓ 25% energy savings while providing 64% more flow
- ✓ Annual cost savings – approximately $1,700
- ✓ Easy access to operating data showing flow, head, power usage and rpm
- ✓ Constant data-logging and performance monitoring

Equipment included
- 2 × Design Envelope VIL Pumps
- DEPC Card upgrade
- Internet router
- Cloud Analytics platform subscription





ANNUAL ENERGY SAVINGS

23%



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.

SOLUTION EMPLOYED

DESIGN ENVELOPE

VIL RETROFIT

FILE NO.: 9.572
DATE: JUNE 2019
SUPERSEDES: NEW
DATE: NEW