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.

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

SIZE
303 units
13-storey building

SITE CHALLENGES

- Difficult access to mechanical room

ANNUAL ENERGY SAVINGS
23%

ANNUAL ENERGY COST

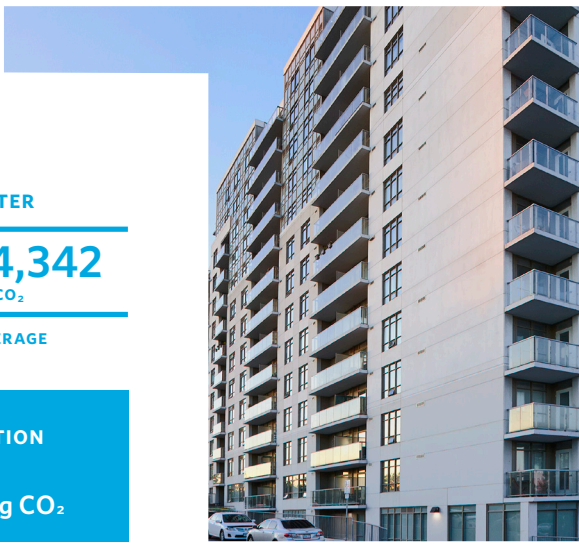
BEFORE	AFTER
$18,215 CAD	$10,308 CAD
AVERAGE	AVERAGE

ANNUAL COST SAVINGS
$1,700 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



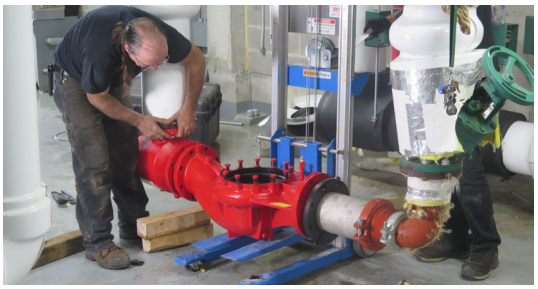
TO GET YOUR ENERGY UPGRADE PROJECT STARTED, CALL:

+1 866 238 1337

KEY OUTCOMES:

- ✓ Improved occupant comfort
- ✓ 25% energy savings while providing 64% more flow
- ✓ Annual cost savings of approximately $1,700
- ✓ Easy access to operating data showing flow, head, power usage and RPM
- ✓ Constant data-logging and performance insights
- ✓ Risk mitigation
- ✓ Minimal upgrade disruption

Equipment included
- 2 × Design Envelope VIL Pumps
- DEPC card upgrade
- Internet router
- Pump Manager subscription



SOLUTION EMPLOYED

DESIGN ENVELOPE

VIL RETROFIT

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, while Armstrong's Pump Manager helps maintain and extend efficiency throughout the pump's operating life.

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