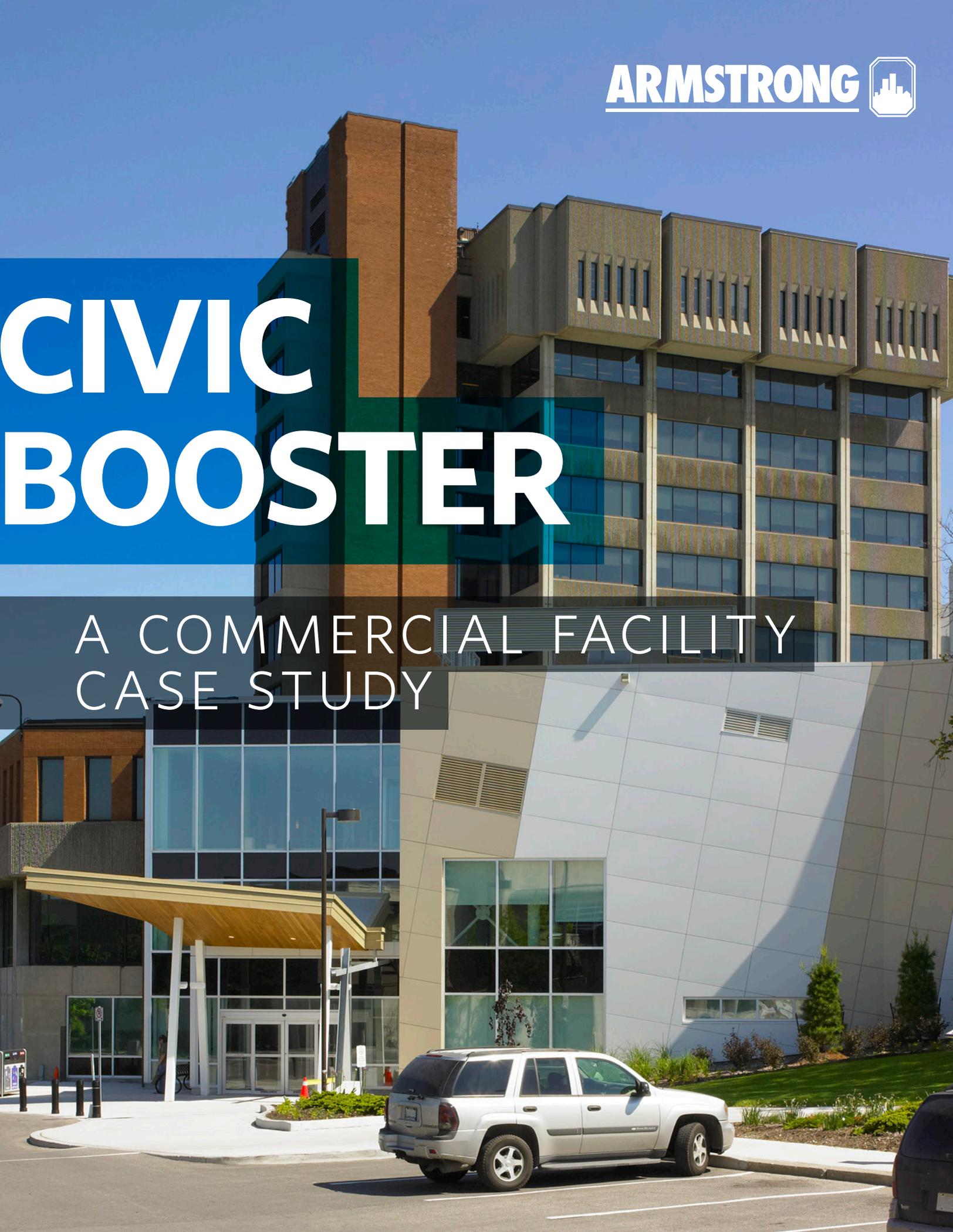


CIVIC BOOSTER

A COMMERCIAL FACILITY
CASE STUDY



Oshawa City

The City installed a retrofit variable speed booster system that delivers excellent performance and saves energy.

“The new booster is working great. We’ve dropped our system pressure from 140 psi to 85 psi with no complaints and the pumps run at less than 50% speed, so our electrical savings will be noticeable.”

Charlie Drake
Manager, Operations
and Maintenance

Armstrong Design Envelope IVS booster systems regulate water pressure in response to demand. Armstrong combines Design Envelope IVS technology with advanced control features to provide this industry-leading solution.

Background

Oshawa is a city of 149,000 on the shores of Lake Ontario. One of several communities that make up the Greater Toronto area, Oshawa has a labor force of more than 83,000 that supports over 4600 businesses. The administrative offices of the City of Oshawa are located in a nine-story commercial building in the downtown area.

When managers for the city first began investigating opportunities for energy savings, the domestic water booster in the city offices seemed like a good starting point. The booster was an old constant speed system that produced 140 psi of pressure regardless of the demand for water in the building. The system also included pressure reducing valves which throttled flow and wasted much of the pressure that the booster produced. When the system overheated from low flow or excess pressure, a valve would open to release the water to a drain.

The consulting engineer, Crossey Engineering, contacted Armstrong about replacing the constant speed system with a variable speed Design Envelope booster.

Benefits

The Armstrong Design Envelope booster operates using a demand-based control methodology. The integrated controller monitors pressure and operates the pump only as needed to maintain system pressure. In low flow situations, the pressure setback feature reduces system pressure, to save even more energy. The demand-based, variable speed approach also eliminates the need for pressure reducing valves. When no flow is required, the unit switches into ‘SLEEP MODE’ instead of wasting water through a valve.

The combination of low-speed operation, no-flow shutdown and softfill startup features also reduce wear, which in turn leads to reduced maintenance and extended component life.

Managers for the City of Oshawa are pleased with the energy savings and anticipate maintenance savings in the future.

Tech-Facts

Previously installed constant speed booster system:

Capacity: 120 USgpm

Head: 70 psi

Motor: 10 hp, 3500 rpm

This system operated at 140 psi, with a solenoid valve to dump water when the pump discharge heated to 100°F.

Replacement variable speed booster system:

6824 envelope no.: 24040

Total capacity: 130.0 USgpm

System pressure: 100 psi

Suction pressure: 30.0 psi

Booster pressure: 70.0 psi

Lead/lag pumps (2):

4700 capacity (each pump): 65 USgpm

Size: VMS-18:04

Head: 70 psi

This booster system was sold to the City of Oshawa through EMCO.

TORONTO
+1 416 755 2291

BUFFALO
+1 716 693 8813

BIRMINGHAM
+44 (0) 8444 145 145

MANCHESTER
+44 (0) 8444 145 145

BANGALORE
+91 (0) 80 4906 3555

SHANGHAI
+86 21 3756 6696