

July 26, 2013

**Location:** Toronto, Ontario, Canada

**Facility Type:** Twin Towers Multi-Residential Buildings - 423 Units

## Overview

This case study details the findings on the installation of the H2minusO Flow Management Device (FMD) water saving technology at a Multi-residential site located in Toronto, Ontario. These results demonstrate the value-add our device can provide your organisation and business. Virtually any facility that consumes water can benefit from our water saving technology.

## Background

Water meters have changed little since their beginning and have a major fault in their design: air in your water lines is read as water by your meter. So for ALL end users there is a very high probability your meter is billing you for water use, but not your actual consumption.

In a variety of ways, air can enter the water supplied by your water utility. Our H2minusO Flow Management Device (FMD) valve acts to minimize the air that would otherwise travel through your water meter and inflate the volume of water you ultimately pay for. All water pipes intermittently carry air along with water. As water travels from the water company to a home or business, air builds up in the water pipelines via internal and external processes. Since all water meters measure total volume, including both air and water, the blades in the meter turn faster than they would with just water alone. As a result, if you don't have our H2minusO valve, you pay more than necessary for your water. Average customers have received over 19% savings on their billed water usage. Buildings with low water pressure will average about 8-10% savings.

What are the benefits for your business/organization/facility?

- Lower water bills
- Rapid return on investment
- Increased net operating income

## The Technology: H2minusO - Water Flow Management Device



## The Installation

The installation at this facility was for a 4" Valve that took approximately 4 hours. A typical install will usually take between 2-4 hours and in most cases, if there is a by-pass, water services will still be available to the facility. Once the installation is complete the water savings will start immediately.

## The Project Analysis: *Pre and Post Water Consumption Analysis*

The two buildings share a common water meter located in the mechanical room of building 1. The Measurement & Verification process was straight forward for this property because no water saving retrofits had been completed in the 24 month period prior to the install. Nevertheless, our analysis still had to factor in many of the unforeseen events that can skew the consumption data. We used 24 months of consumption data so that we could complete a comprehensive pre-installation analysis. This analysis explored such things as consumption patterns, abnormal or suspicious periods of consumption, comparison of same period consumption year to year and consumption trending. Some of the key factors considered during our analysis included:

1. Occupancy levels
2. Events such as a leak
3. Type of facility e.g. seniors residential; manufacturing; office high-rise; Hotel
4. The incoming water pressure from the municipal water source

Table 1: Period Analysis

Measurement Type	Measurement Period - Start	Measurement Period - End	Average Daily Consumption (m3)	Average Daily Consumption Per Unit (m3)	Reduction in Water Consumption Billing
Consumption for same month prior year	Jun-12	Jun-12	279.00	0.660	0.00%
Consumption for same month current year	Jun-13	Jun-13	294.70	0.697	-5.63%
Consumption for month after install	Jul-13	Jul-13	250.00	0.591	15.17%

Chart 1:

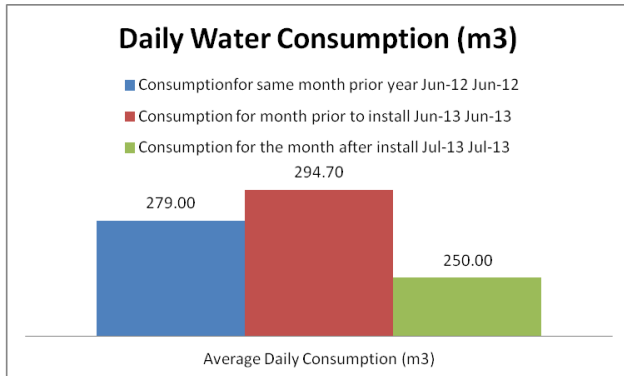


Chart 1 shows the daily water consumption recorded period over period based on water bills.

Chart 2:

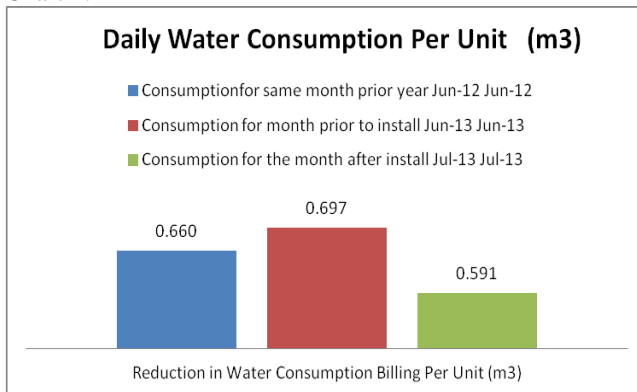


Chart 2 shows the daily water consumption on a per unit basis recorded period over period based on water bills.

Chart 3:

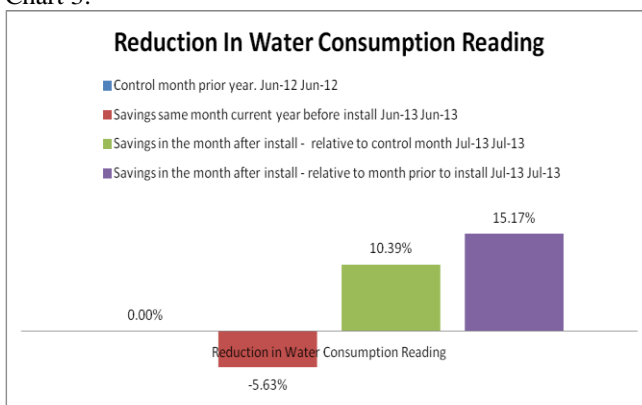


Chart 3 shows the actual percentage savings recorded period over period based on water bills. The percentage savings can be applied directly to overall water cost to determine reduction in water bills.



### **The Project Analysis:** *Estimated vs Measured Water Consumption and ROI Analysis*

Based on the initial analysis of 24 months of water bills and an audit of facility, we determined that this building qualified for our minimum 10% savings guarantee. Factoring in the 2013 water rates and projected reduction in consumption billing this building can expect to get a payback within 15 months.

Table 2:

	Estimated	Measured	Difference
Percentage Savings	10.00%	15.71%	5.71%
Daily Reduction in Water Billing (m3)	29.47	44.47	15.00

### **Summary**

The installation of the 4" H2minusO FMD will generated significant reduction in water consumption usage based on the current existing conditions. Because the device treats the entire volume of water entering the facility, regardless of changes in the buildings consumption patterns and history this facility will continue to experience savings of 15.17% on their water consumption. Furthermore, given that the financial metrics and ROI are based on 2013 water rates, actual dollar savings on future consumption will increase provided water rates continue to increase year over year.