

GWS

GLOBAL WASTE SOLUTIONS

The next tier of proven energy and utility savings has arrived.....

Lower your cost of ownership.

SMART VALVE™



M2G
Intelligent Boiler Control

Nallyator™

Be SMART.....Save time and money.

Global Waste Solutions (GWS) is focused on providing state-of-the-art, green energy and utility solutions to industrial, institutional, correctional, commercial and multi-family residential markets throughout the world.

Our broad portfolio of green energy products and services deliver significant energy savings, water conservation, carbon footprint reduction and significant financial return opportunities. Some projects may qualify for performance contracting (little to no out of pocket expense to our clients) and all offer attractive Return on Investment (ROI).



The costs of water have **increased almost 200%** over the last 15 years.
How much are you Spending on Water?



4429 Poplar Level Road, Louisville, KY 40213 (502) 609-1147 www.globalwastesolutions.net



Maximizes true water consumption without compromising comfort, water pressure, or operations! Our Valves control the consumption of water by:

- Compressing the air volume at the water meter.
- Eliminating surge & pressure peaks creating a smooth even flow.
- Controlling municipality's high water pressure issues.
- Creating a minimal flow restriction that saves on water billing.
- Easy Installation.
- 100% made in the U.S.A.
- 10-year manufacturer's quality warranty.



Depending on the facility we typically see the following savings:

| | |
|---|-------------------------------------|
| <i>Condominium/Multi-Family, Student Housing:</i> | <i>15% – 20% and as high as 35%</i> |
| <i>Manufacturing, Industrial, Hospital, Correctional:</i> | <i>10% – 20% and as high as 30%</i> |
| <i>Office buildings, light industrial:</i> | <i>15% – 20% and as high as 25%</i> |
| <i>Commercial/Restaurants:</i> | <i>15% – 20% and as high as 25%</i> |
| <i>Irrigation systems:</i> | <i>20% – 25% and as high as 40%</i> |



SMART VALVE™

THE CURRENT PROBLEM

Water meters do not have the technology to distinguish water from air, which means you're being charged for both water and air.

Water flowing through the meter activates an internal paddle that spins to measure the volume of water consumed. The opening and closing of fixtures and fluctuations in water pressure and flow rates causes variations in pressure and flow. This results in drops and surges to your water flow. Such variations, especially surges, cause your meter to over spin, resulting in inflated readings and overcharges.

Due to the growing demand for water, utility companies are increasing their pressures and exceeding the 65-psi standard. This deviation causes water surges through aging fixtures, triggering leaks through gaskets and seals. In addition to the increased air pressure (which is needed to push the water through the system), air also enters the water supply through multiple sources like tiny cracks along the many miles of water lines, breakages in the lines, and supply interruptions.

The surges and high pressures pushed by utility companies increase the flow to the fixtures, although you won't notice the change. You will end up using water you don't need—and paying for that water.

THE INNOVATIVE SOLUTION

Install our FMD (flow management device) that has the technology to control the flow of water on your side of the main water meter. You'll receive sufficient, comfortable water pressure that provides significant savings in water bills—all starting the moment the FMD is installed. The technology also controls the air that accumulates in the water pipes before it reaches the water meter. This means you won't pay for the air in the water lines.

THE PATENTED TECHNOLOGY

Our FMD valve is a patented, NSF/ANSI 61, and NSF/ANSI 372 precision-engineered water utility saving device for your water system. This seemingly simple yet extremely effective variable flow management device solves several problems inherent in water delivery.

Our engineers identified many dysfunctions in the current water delivery and usage system. Through their research on water control and backflow principles, they created a breakthrough patented technology that overcompensates for these wasteful system deficiencies.

MATERIALS

100% made in the USA with United States-sourced stainless steel and Acetron GP. Acetron GP is the absolute ideal material for this type of application. Acetron® GP is a general purpose copolymer acetal and is the only porosity-free acetal product available today. Investments in process technology now provide the performance and machinability of acetal without center core porosity. The in-line photometric quality procedure assures every sheet and rod is porosity-free as measured by a dye penetrant test making it the preferred acetal for food contact and medical applications. Acetron® GP natural is FDA, USDA, NSF, Canada AG and 3A-Dairy compliant.

OTHER KEY INFORMATION

- Easy installation with licensed and bonded plumbers anywhere in the USA
- Lifetime limited manufacturer's warranty
- 90-day satisfaction guarantee
- Guaranteed cost savings on your monthly water bill (Water bills are reviewed at 60, 90, 120 and 360 days to adjust revenue share); if you aren't seeing at least 10% in savings then we will reset the agreement to actual savings percentages and refund you the difference.
- Agreed contract amount is fixed for term of contract with no increases (water bills increase anywhere from 3% to 12% per annum) your price is fixed for the term with no adjustments.

FINANCIAL TERMS

1. Free installation available with Performance Contracting
2. Security Deposit equal to First and Last month's lease payment on Performance Contracting
3. Typically see 10%-25% savings split 50/50 with GWS, LLC

It is time to stop paying your water company for air. Maximize your company's water consumption without compromising production or water pressure. You can significantly impact your company's bottom line.

SMART VALVE™

What it does and how it works...

The **SMART VALVE™** takes long established principals of fluid dynamics and applies them in a new and financially rewarding application.

How It Works



Bubble Test



The problems with water...

There are a number of potential problems inherent in water delivery and usage that can impact your water consumption and water costs. The majority of these concerns revolve around water system pressure (PSI) and flow rate (GPM).

- Water fixtures in your building are typically designed for water pressure of no more than 65 PSI. The water delivered by your municipality (city) often has much higher pressure. This results in more water being pushed through your fixtures, leaking through seals & gaskets that are designed for 65 PSI and increased maintenance costs.
- Along with the volume of water passing through your water meter is a volume of air. The lower the water pressure the more volume the air will have. The problem is that 99% of water meters measure only volume, regardless if that volume is liquid or gas.
- Water meters are designed to be accurate within a specific flow range (GPM). If the flow exceeds this range it can cause the meter to over-spin.
- City water pressure can fluctuate significantly causing surges and pressure drops. This will cause the meter to over-spin and damage water systems & equipment. Surges also occur anytime you go from no flow (static) to flow (dynamic), such as when you turn on and off a hose.

How the SMART VALVE™ works...

Air Compression

The **SMART VALVE™** air compression benefit works on all single jet, multi jet, and turbine category positive displacement meters. These make up over 99% of all water meters in use. The science is based upon Boyle's Law regarding gas pressure and volume and Le Chatelier's Principal of volumetric dynamics. The **SMART VALVE™** is installed in your water line on your side of the meter as close to the meter as possible. The variable spring-loaded plunger maintains a constant pressure on the oncoming water supply. This 'backpressure' manifests itself into a high pressure point on the other side of the water meter. When air reaches this pressure point, the air becomes compressed and no longer maintains its volume. It passes by the water meter in this compressed state until after it passes through the **SMART VALVE™** and soon returns to its original uncompressed state. The **SMART VALVE™** does NOT remove the air, it just compresses it so the water meter can't measure it.

A common example of entrained gasses is shaking up a soda bottle. The **SMART VALVE™** is like the bottle cap keeping the system pressurized. The gasses are in there but you can't see them until you remove the cap, and neither can your water meter. You won't notice any difference in the water coming into your facility, but you will notice that your water meter is now spinning less.

Pressure and flow stabilization

Other ways in which water meters can be inaccurate are during very high, low flow or pressure surges. Water meters are designed to be accurate within a specific flow range. If the flow exceeds this range it can 'over-spin' causing your readings to be inflated. An example is when your water is off then something is opened, this creates an initial surge then a pressure drop. These surges and drops can also be caused by variability in the municipal water supply.

The **SMART VALVE'S™** proprietary spring-loaded technology acts as a 'shock absorber', eliminating these peaks and valleys and creating a smooth, even flow that keeps your meter readings accurate and protects against damage that can occur from a surge.

Reduced Consumption

Any time you insert anything into a water line it will act as a flow restrictor to some extent. The **SMART VALVE™** creates a minimal amount of flow restriction that will save the user additional money in non-volumetric water uses such as showers, sinks, hoses and the like. This can also be used to convert an entire facility to a water conservation low-flow profile without the need to install individual flow regulators or replace older fixtures.

Furthermore, almost all water devices are designed for approximately 65 psi water supply. A higher psi can cause excessive water use and leakage at seals and gaskets that often goes undetected. In these cases, a pressure reducer is typically used to maintain a 60-65 psi to the facility. Unfortunately, these devices require maintenance and often fail. The **SMART VALVE™** acts as a pressure reducer in high-PSI water systems, eliminating the problems caused by excessive water pressure.

Other Benefits

By virtue of its' design, the **SMART VALVE™** acts as a secondary back flow preventer to protect the municipal water supply. This is becoming more and more important as municipalities seek to better protect our water reserves from contamination.

****Now Available****

Next Generation SMART VALVE™

Expected savings with the next generation SMART VALVE™ are maximized because the valve can be 'custom-calibrated' for PSI in the field rather than factory pre-set based on site survey data, resulting in maximum performance efficiency relative to PSI and flow rate (GPM).



2"/3"/4" Valves shown with tool that rotates valve housing

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Other GWS Products and Solutions:

Waste Line Protection (for Correctional/Behavioral Health/Hospitality)

Tamper-Proof Demand Conservation Products (Multi-Family/Hospitality)

Hot Water Recirculation Systems

Scale and Corrosion Protection

Intelligent Boiler Controls

Power Factor Controllers

HVAC Optimization

Refrigeration Optimization

LED Lighting (New Generation)

Smart water sub meters (for Multi-Family)

Smart Thermostats

Peak Shaving

Rate Negotiation

Performance Contracting/Financing



Disruptive
Solid State Lighting

