# SMART VALVE™ FAQs

## HOW DOES WATER PRESSURE AFFECT MY CONSUMPTION?

The higher the pressure is in a system the more water that will be ‘pushed’ through the system. We are seeing higher and higher city pressure readings as municipalities grow and must deliver more and more water through their existing pipes. The only ways to deliver more water is to replace the water system with larger pipes, which in most cases is not a feasible option, or to ‘crank up’ the pressure.

This is a problem everywhere due to the fact that water fixtures are designed for pressure no higher than 65 PSI, but even more so in older facilities where there is no pressure regulator or water fixtures were not designed for water conservation.

## IS THERE REALLY AIR IN MY WATER?

There is no debate that air flows through your water line along with the water. Water systems are designed with this fact in mind to try to prevent potentially serious problems such as air blocks and hammering. The only real question is how much air? The amount is not constant and is affected by things such as pressure, temperature, and by the design and condition of the water supply system. It can vary from a little to a lot at any given time.

## HOW DOES AIR GET INTO THE WATER LINE?

As well as being released from entrainment in water, air can be physically introduced to water distribution systems. Water providers work to prevent outside air infusion, however, air is inevitably drawn into the line through:

- Tiny cracks
- Poor or damaged joint seals and leaking flange connections
- Temperature, flow velocity and pressure changes generate a surprising amount of air volume. As water travels through a pipeline, it flows in eddies and swirling currents. This occurs especially in aging cast iron pipes that provide turbulent routes for water flow

- Pumps that are positioned throughout the distribution system which create pockets of air in the pipeline as a result of the vortex action of pumps

Surprisingly common main line breakages which can introduce huge amounts of air into the water system. The City of San Diego reported at least NINETY WATER MAIN BREAKS in 2013 alone!

## HOW AM I PAYING FOR THE AIR?

The most common water meters use a method known as Positive Displacement to measure water consumption. These meters measure the volume of fluid moving through the line. This volume measurement, however, is not limited to just water and instead measures the total volume of both water and air.

## HOW DOES THE SMART VALVE™ SAVE ME MONEY?

In a number of ways:

- It stops you from being charged for any volume of air present in your water supply by compressing the air before it reaches your meter.
- It keeps your water meter operating within its designed flow range.
- It eliminates over-supply caused by higher-than-desired city pressure.

## HOW MUCH MONEY WILL I SAVE?

The amount of money you will save is determined by a number of factors including:

- City pressure (PSI)
- Flow rate and flow capacity (GPM)
- The amount of air in the line at any given time

The actual savings you will experience is impossible to accurately predict and will vary with the conditions above. As an average our customers see +/- 12% savings, but we have seen users have savings as high as 30% and as low as 8% in any given month. What's important is that once you install the SMART VALVE™ it begins working 24/7/365, and you will realize the full amount

of savings available within your water supply without having to ever think about it again, and it will keep saving you money for as long as it is installed your water line.

## DOES AIR STILL GO THROUGH THE WATER METER?

The SMART VALVE™ does NOT remove the air. It simply compresses the air before it reaches your meter. Once compressed, the air flows through the meter undetected. After the air passes through the water meter and the valve it soon returns to its original state.

## WILL THE SMART VALVE™ AFFECT MY WATER PRESSURE?

On systems at or below 65 PSI the SMART VALVE™ has a minimal effect on the water pressure (1% to 7% depending on local conditions) and is not noticeable to the average user. On systems above the recommended 60 psi and where you do not have a working pressure reducer you may notice the pressure reduction because your pressure was too high prior to installing the SMART VALVE. This confirms your savings.

## IS THE SMART VALVE™ SAFE AND LEGAL TO INSTALL?

The SMART VALVE™ is legal to install on the user side of the water meter. Installation must be done in conjunction with all applicable laws, codes and standard plumbing practice in your area. The SMART VALVE™ is constructed of extremely strong and durable Acetron GP and stainless steel, is in compliance with NSF / ANSI 61 and low-lead standards as safe for contact with potable water.

## HOW RELIABLE IS THE SMART VALVE™?

The SMART VALVE's only movement function is the compression of a spring and the associated opening and closing of a gasket-less plunger and housing. The valve is made of Acetron GP and stainless steel. Acetron GP is self-lubricating and has strength characteristics close to those of steel. The SMART VALVE comes with a 10-Year Manufacturer's Warranty, however the valve should continue to work reliably for much longer.

## WOULDN'T AN ALL METAL SMART VALVE™ BE BETTER?

No, it would be much more expensive, need maintenance and be likely to fail prematurely. Metals can corrode, will accumulate particulates such as dirt or scale, and require gaskets/seals

which will fail over time. The Smart Valve is made primarily from Acetron GP, the absolutely ideal material for this type of application.

## SHOULD THE SMART VALVE™BE INSTALLED ON EVERY WATER METER?

Most water meters are candidates. There are some rare instances where the water meter is not a candidate for the SMART VALVE™. These include where the water usage is too low for a reasonable return on investment, or where consumption is near maximum capacity and the consumption is to a critical process (such as to a cooling tower or manufacturing operation).

This is why we require a detailed Site Survey. Rest assured, if you shouldn't install a SMART VALVE™ we will be the first to let you know. The SMART VALVE™ should NEVER be installed on a water system supplying firefighting water.

## WHY IS THE SMART VALVE™ CUSTOM-MADE?

Conditions can vary widely by location and each water system is unique. We custom build each valve to be calibrated for optimum performance in your local conditions, and in a configuration for the easiest possible installation within your specific water system.

## HOW DIFFICULT/EXPENSIVE IS IT TO INSTALL THE SMART VALVE™?

The SMART VALVE™ sales representative can arrange installation for you by a qualified local plumber based on a coordinated schedule with facility management.

## DOES THE SMART VALVE™ REALLY WORK?

Yes, it really does work. We guarantee it will save you money!

## WHAT IS THE GUARANTEE ON THE SMART VALVE™?

Every SMART VALVE™ comes with a 90-Day No Questions Asked Satisfaction Guarantee.

## WHAT IS THE WARRANTY ON SMART VALVE™?

Every SMART VALVE™ comes with a 10-Year Manufacturer's Limited Warranty.