

EVERY PROJECT IS UNIQUE...



Hydropneumatic *Surge & Pressure* Control Systems

**AIR-OVER-WATER OR BLADDER SYSTEMS?**

PULSCO helps you decide.

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 **PULSCO**

ENGINEERED SOLUTIONS FOR FLUID PULSATION, NOISE AND SURGE CONTROL

7XO-1506

## AIR-OVER-WATER OR BLADDER SYSTEMS

PULSCO takes into consideration the specific project needs before recommending one system over the other. In direct contrast, some manufacturers recommend only bladder systems or only air-over-water systems, often citing misinformation as fact, and usually promoting a narrow view.

### Design

Bladder systems are recommended for smaller tank volumes or at sites that have limited access to power or onsite maintenance personnel. A flexible bladder membrane maintains the separation of gas and fluid, preventing gas from being absorbed into the fluid. PULSCO selects bladder materials to meet chemical and environmental requirements for conveyance of fluids including potable water, raw water, fuels, oil, liquid propane, and ammonia.



Air-over-Water systems can be designed for any volume, where the tank size is limited only by shipping restrictions and site limitations. The air compressor provides a local source of compressed air to recharge the tank when needed. The system is controlled automatically using a control panel and other system components.

### Operation and Maintenance

Bladder systems have fewer components to install and maintain. Once the system has been confirmed to be running properly, minimal human interaction is required for operation. While not necessarily required, it is recommended that monitoring instrumentation be installed to improve maintenance and assist in troubleshooting. Service of the bladder demands isolation of the tank.



Air-over-Water systems appurtenances and controls automatically adjust the level to keep it in the intended range, making the system more resistant to the effect of small leaks in valves, or joint connections. Typical maintenance on the Air-over-Water equipment can be performed without isolating the tank. The air compressor and instrumentation needs to be maintained in good condition, and the solenoid valves should be activated periodically.

### Cost of Ownership

The cost of a system is dictated by the size and pressure rating of the tank, by the operating pressure of the system, and by the instrumentation and controls chosen. Generally speaking and assuming proper skill set of operators and maintenance personnel, cost of ownership may favor Bladder systems for volumes up to 2000 gallons, and favor Air-over-Water systems for volumes over 6000 gallons.

