

SENTRY™

# INLET STABILIZERS

WITH UNIQUE J MODEL AIR CONTROL

Stabilize pressure and fluid flow on the inlet side of any pump to extend service life of pump diaphragms and inlet system components.



## Benefits

- Minimizes pressure fluctuations and prevents water hammer pressure spikes.
- Eliminates acceleration head loss and cavitation.
- Extends pump diaphragm life and protects system components from excess stress, vibration and fatigue.
- Smooths inlet fluid flow and ensures complete pump chamber fill.
- Improves accuracy of inlet side gauges.

## Features

- Exclusively from Blacoh, the J Model air control can be adjusted for positive inlet pressure or negative inlet pressure (suction lift).
- Offered in a variety of metal and plastic materials in sizes from 10 cu in (.16L) up to 10 gallon (37.85L).
- ATEX and CRN certification on metal models. NSF/ANSI certification on select plastic models. Additional certifications and testing on request.

## How It Works

The inlet valve on positive displacement pumps alternately opens and closes creating acceleration and deceleration of fluid flow to the pump, causing alternating drops in pressure and pressure spikes in the inlet piping.

Installed at the pump's inlet, the Inlet Stabilizer acts as an accumulator to store fluid and release it back into the line as needed. Virtually all acceleration head loss is eliminated because the pump draws fluid from the dampener and not the pipeline, avoiding the risk of cavitation and ensuring complete chamber fill on each inlet stroke of the pump.



Stabilize pressure and fluid flow on the pump inlet side, preventing water hammer and eliminating acceleration head loss to extend the service life of pump diaphragms and inlet system components.



Available in a full range of chemically resistant materials for even the most corrosive applications.

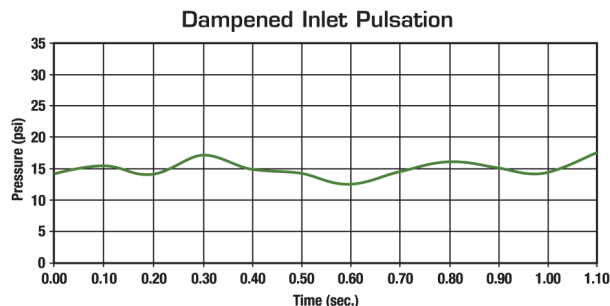
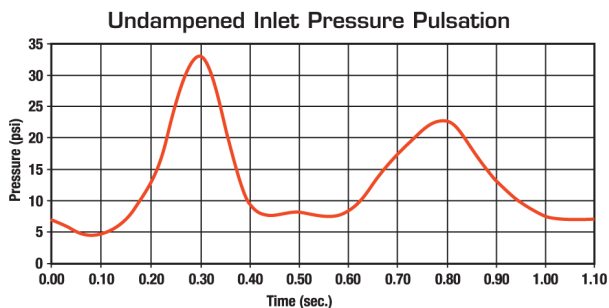


All SENTRY Inlet Stabilizers use pressure bodies made in the USA to ensure quality. Prior to shipment, each and every dampener is factory pressure tested to assure proper function and leak-free operation.

**BLACOH**™  
INDUSTRIES

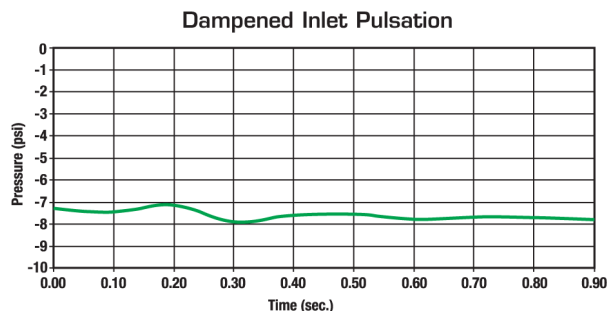
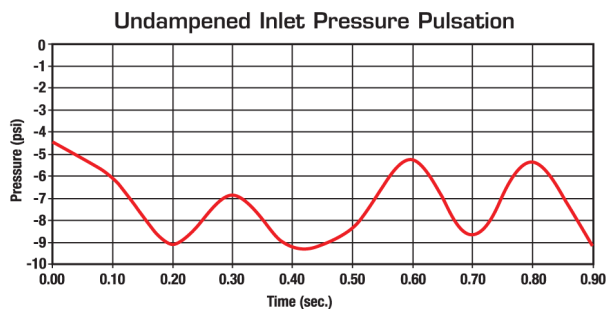
## High Inlet Pressure (Positive Inlet)

Under high inlet pressure, fluid flow is abruptly stopped as the inlet valve closes. This rapid deceleration creates a pressure spike or “water hammer”. With higher differential pressures in which inlet valves close even faster, these pressure spikes are further increased. Constant repetition puts significant strain on the system and may result in system fatigue or failure. Air operated double diaphragm pumps are particularly susceptible to this phenomenon. As one inlet valve closes on an AODD pump, the inlet valve in the opposite chamber opens. The resultant pressure spike travels into the liquid chamber and slams against the diaphragm, stretching and weakening this crucial component. The SENTRY Inlet Stabilizer effectively cushions and absorbs these pressure spikes, increasing overall system life and productivity.



## Low Inlet Pressure (Suction Lift)

Under low inlet pressure, process fluid separates at the pump’s inlet as the inlet valve closes. Depending on system design, low inlet pressure (NPSH available) may not be enough to meet required inlet pressure (NPSH required). For example, undersized pipes or pipes too lengthy for the viscosity or vapor pressure of the fluid can result in product starvation or “cavitation”. Cavitation occurs when pressure in the pump’s inlet drops below the vapor pressure of the fluid being pumped. This causes severe damage to the pump’s suction-end components, severe pitting on pistons and plungers, and drastically reduces diaphragm life. Multiple head pumps are particularly predisposed to fluid starvation as each fluid chamber pulls product through inlet runners of unequal lengths. The SENTRY Inlet Stabilizer effectively reduces fluid starvation (cavitation) by acting as a storage accumulator. As such, when the inlet valve opens on the discharge stroke, the Inlet Stabilizer puts fluid back into the line to maintain inlet pressure and constant flow.



## Inlet Stabilizer J Model Air Control



The J Model air control consists of a compound pressure gauge, a vacuum tight ball valve and a Venturi valve. Compressed air passing through the Venturi valve at high speeds creates a low pressure area. This evacuates air from the stabilizer to create an internal vacuum. Conversely, when the flow of air through the Venturi valve is diverted into the stabilizer, a pressure charge results in optimized pump efficiency and productivity.

MADE IN THE USA