

THE LEADER IN FLUID CONTROL SOLUTIONS

The **Blacoh** Family



**DON'T
PUMP
WITHOUT
US**



A HISTORY OF MEETING INDUSTRY NEEDS

Blaco Fluid Control was formed in 1976 by three partners, Robert Blair, Gary Cornell, and Floyd Haynes – hence, the name Blacoh. While working for a major AOD® pump manufacturer, Blacoh's principals became acutely aware of the flow system problems inherent with the start-stop or pulsing flow found in positive displacement pumps. As no product was available to solve this common problem, Blacoh was formed. Fueled by the primary goal to be the market leader in pulsation dampening and surge control, Blacoh soon engineered the product that would become our signature series - SENTRY® pulsation dampeners. Since those early days, Blacoh customers have continued to direct our progress and innovations by their requests for assistance with a variety of fluid system problems.

Blacoh's Spill-STOP® spill prevention/ leak containment systems answered a primary need for a system to prevent hazardous and costly spills due to pump diaphragm failure.

The development of Blacoh's Sentinel® diaphragm seals allowed for the isolation and protection of process flow instrumentation from contamination and corrosion.

Today, with over 60 years of combined experience in fluid control, Blacoh

stands alone as the industries' foremost expert and industry leader in the manufacture of fluid control products for practically every industry from the harshest chemicals to the most delicate cosmetics.

Blacoh markets its products through an elite network of highly trained and dedicated authorized distributors. Blacoh distributors are among the very best in their field and offer a lifetime of application experience. Furthermore, to insure the highest level of service and industry knowledge, Blacoh requires that all authorized distributors continue an ongoing program of rigorous education and application assessment.

Blacoh has also worked hard to create a number of original equipment manufacturer (OEM) alliances with many of the world's leading pump manufacturers. Blacoh's original equipment manufacturers are market leaders who know the value of incorporating Blacoh products to enhance their pumping systems.

In the future, Blacoh will continue to develop products that meet our customer's needs of efficiency, simplicity, & reliability. Blacoh promises to process and deliver products "hassle free" and guarantee that any call to Blacoh will always be met by a positive and helpful Customer Focus Team Member.

UNCOMMON SOLUTIONS TO COMMON PROBLEMS

INCREASE productivity, safety, reliability, efficiency, and life-cycle costing

DECREASE maintenance and operating costs

PROCESSES

- TRANSFER
- METERING
- FILTERING
- SPRAYING
- PRINTING
- COATING
- DOSING
- INJECTING
- FILLING
- MIXING

INDUSTRIES



BLACOH PRODUCTS:

PREVENT

- Ruptured or damaged pipes and fittings due to thermal expansion and hydraulic shock
- Cavitation and the resulting premature failure of the pump, diaphragms, valves, seals, plungers, and packing material
- Foaming, splashing, and degradation of product
- Contamination due to the premature release of pressure relief valves and disks
- Failure of plastic pipe and fittings due to vibration
- Hazardous and costly spills due to pump diaphragm failure

ENSURE

- Steady pressure and flow to filters
- Meter accuracy, longevity, and repeatability
- Uniform application of material in spraying and coating

- Steady and continuous flow when dosing, blending, or proportioning process additives
- Reduced material waste and rejected parts
- Complete suction stroke filling of pump-cylinders and diaphragm chambers
- Performance of in-line mixers with a continuous flow of product
- The elimination of surge holes in filter bags

PROTECT

- Pipes & fittings from pulsation and vibration
- Valuable meters and in-line instrumentation from destructive pulsations, surges, contamination, and corrosion
- Filter media from breakdown due to pulsating flow
- Valves from hydraulic shock and pressure surges

THE BLACOH FAMILY OF PRODUCTS



SENTRY® Pulsation Dampeners Remove up to 99% of System Shock

Positive Displacement (PD) pumps create pulsation and hydraulic shock due to the reciprocating nature of their stroking action, potentially damaging the entire pumping system. Blacoh's SENTRY® Pulsation Dampeners and Surge Suppressors remove virtually all hydraulic shock, enhancing all-around performance and reliability of fluid flow in industrial and chemical transfer applications.

SENTRY BENEFITS:

- Whether a piston, plunger, air diaphragm, peristaltic, gear, or diaphragm metering pump, a SENTRY Pulsation Dampener placed at the pump's discharge will produce a near steady fluid flow up to 99% pulsation and vibration free
- Protects pipes, valves, fittings, meters, and in-line instrumentation from destructive pulsations, surges, cavitation, thermal expansion, and "water hammer"
- Creates steady and continuous flow when dosing, blending or proportioning additives

- Insures accuracy, longevity, and repeatability of in-line meters
- Enables uniform application of material in spraying and coating systems
- Reduces product agitation, foaming, splashing and degradation of product
- Provides liquid energy storage for emergency valve closure and other equipment shutdown
- Reduces overall energy cost with continuous flow, rather than start/stop flow
- Operates as a reservoir for make-up fluid

SENTRY FEATURES:

- Sizes available for all positive displacement pumps with discharge sizes from 1/8" to 6"
- Simple, reliable design and quick installation
- Easy in-line maintenance
- Pressure ranges up to 4000 PSI
- Temperature ranges from -60°F to +500°F
- Standard models available from stock
- Custom models available
- Bodies available in a full range of chemically resistant materials
- Bladders available for even the most corrosive applications



Spill-STOP® Leak Containment System Stops Leaks Before They Start

Diaphragm failure of your Air Operated Diaphragm Pump allows process fluid to escape from the pump's air exhaust port. Unmonitored, the spill can create an extreme expense for your company in lost product, material cleanup, and EPA reporting. The Spill-STOP® Leak Containment system's patented design effectively works to control this potential hazard.

Spill-STOP BENEFITS:

- Prevents spills due to a failed diaphragm by capturing the expelled fluid
- Automatically shuts down the pump, isolating it from the system and the environment

- Reduces dangerous airborne materials that may be expelled from pump exhaust
- Allows continuous process fluid flow with optional integrated backup pump switchover
- Prevents the loss of product

Spill-STOP FEATURES:

- Compatible with all AOD* pumps with discharge sizes from 1/4" to 4"
- Patented design is both simple and reliable
- All Pneumatic – No hazardous electronics or unreliable batteries used
- Warning alarm and automatic backup pump switchover options available
- Standard models available from stock
- Custom models available
- Bodies available in a full range of chemically resistant materials
- US Patent # 5,501,577

*AOD® is a registered trademark of Price Pump



Sentinel® Diaphragm Seals Protect and Isolate System Components

Without proper protection, hazardous and corrosive process fluids regularly contaminate and damage system instrumentation. The strength and durability of Sentinel Diaphragm Seals protect and isolate all forms of system instrumentation from the hazards of corrosive process flow environments, providing the ideal solution to this potentially costly problem.

SENTINEL BENEFITS:

- Protect gauges and other pressure instruments from contamination, corrosion and clogging
- Replace expensive gauges with low cost utility gauges
- Ensure gauge and switch accuracy

- Smooth out erratic pressure surges
- Extend the life of pressure instrumentation
- Protect gauges from freezing and slurries
- Receive accurate and consistent readings when working with corrosive or solids-laden fluids

SENTINEL FEATURES

- Accuracy of $\pm 2\%$ full deflection or better
- Simple and quick installation
- Pressure ranges up to 1000 PSI
- Works for pressure and vacuum
- 1/4" to 3/4" inlet ports
- All standard models available from stock
- Bodies available in a full range of chemically resistant materials
- Custom models available

PRINCIPLES OF OPERATION

INLET STABILIZER

The patented "J" Model Inlet Stabilizer accumulates liquid at the pumps inlet to improve the flow conditions to any pump. This insures complete chamber fill and extends the service life of all inlet system components. The "J" Model inlet stabilizer features a patented control that allows you to adjust for pressure or vacuum depending on whether pump operation is under suction lift or positive inlet conditions. Patent # 6,089,837.



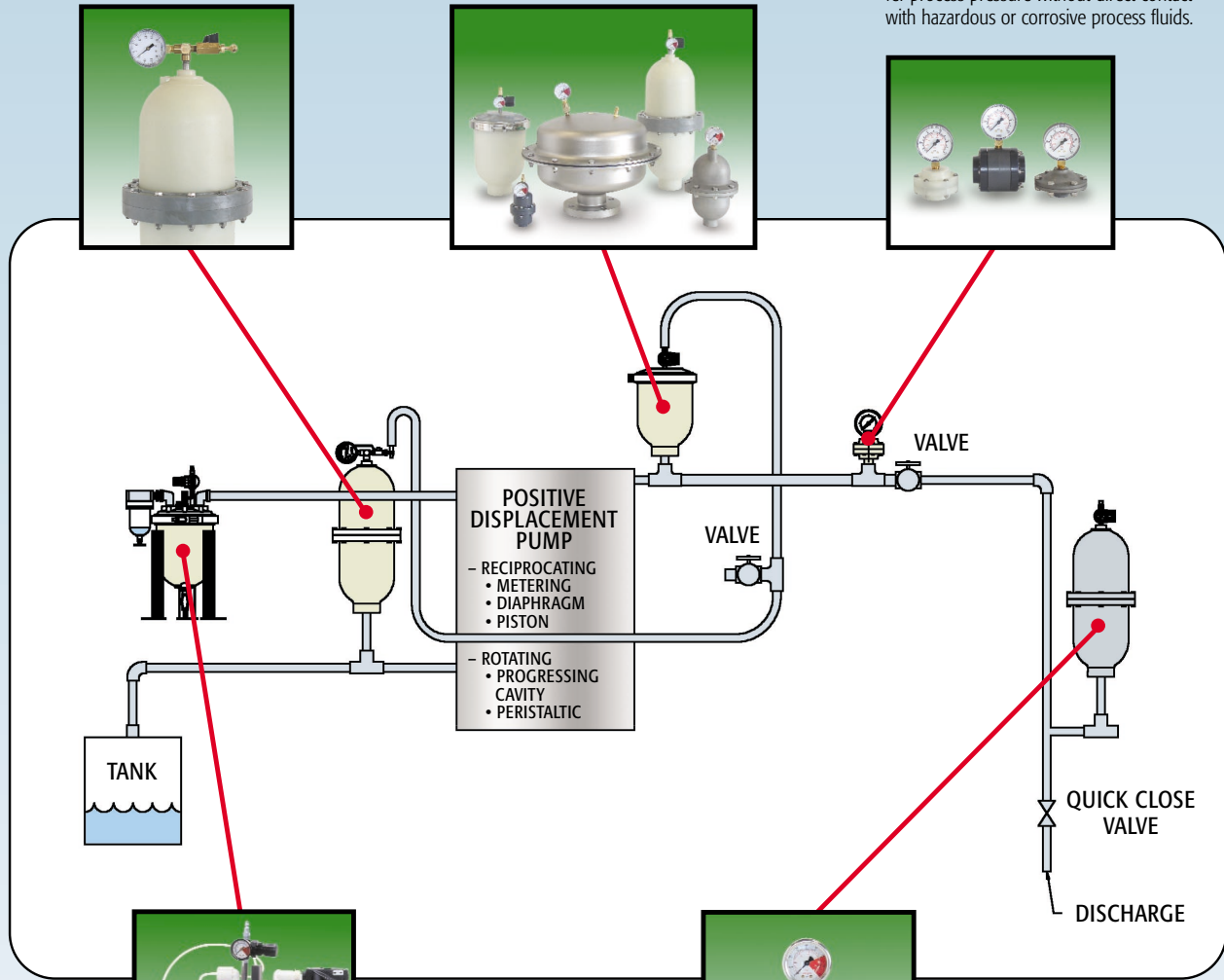
SENTRY® PULSATION DAMPENERS

SENTRY Pulsation Dampeners use a compressed gas separated by a bladder from the process fluid like a shock absorber. During the pump's discharge stroke, fluid pressure displaces the bladder, compressing the trapped gas. During the pumps next cycle, fluid flow stops momentarily causing expansion of the compressed gas, forcing the bladder to push accumulated fluid back into the discharge line. This fills the void created by cycle shift and dampens pulsation up to 99%.



SENTINEL® DIAPHRAGM SEALS

Sentinel diaphragm seals employ a chemically resistant diaphragm to effectively isolate process fluids from recording gauges and other process instrumentation. This durable diaphragm allows Sentinel to accurately transfer process pressure without direct contact with hazardous or corrosive process fluids.



SPILL-STOP® LEAK CONTAINMENT

The patented Spill-STOP attaches directly to the exhaust of an air operated diaphragm pump. Upon diaphragm failure, the Spill-STOP prevents spills by capturing contaminated or dangerous liquid in an internal receptacle while raising a float switch. This switch automatically turns off the pump pneumatically and, for most applications, is configured to sound a warning alarm and/or initiate a backup pump switchover. Patent # 5,501,577.



SENTRY® SURGE SUPPRESSOR

SENTRY Surge Suppressors use a compressed gas separated by a bladder from process fluid to suppress hydraulic surge or "water hammer" created by quick-closing valves, back surge, and pump start-up/ shut-down. Without suppression, shock waves created will continue to oscillate back and forth until dissipated by friction or system component failure.