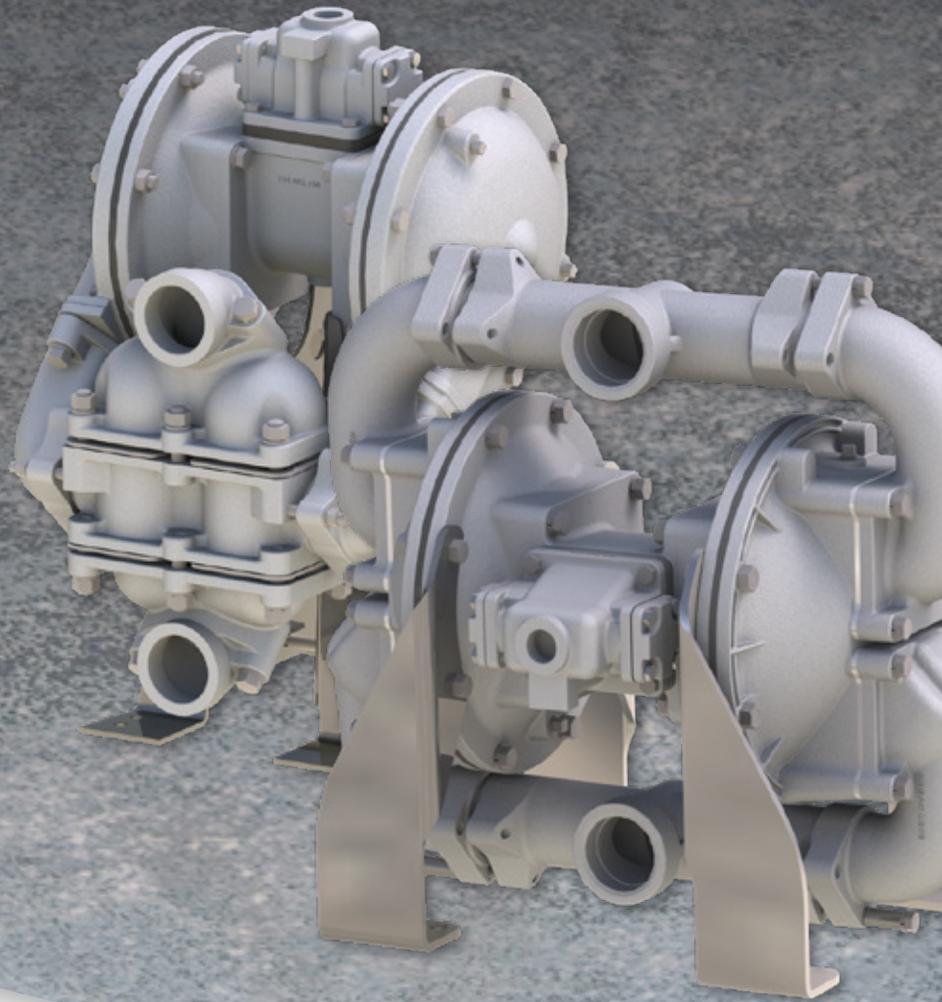


# An Introduction to the SANDPIPER Signature Series of Pumps

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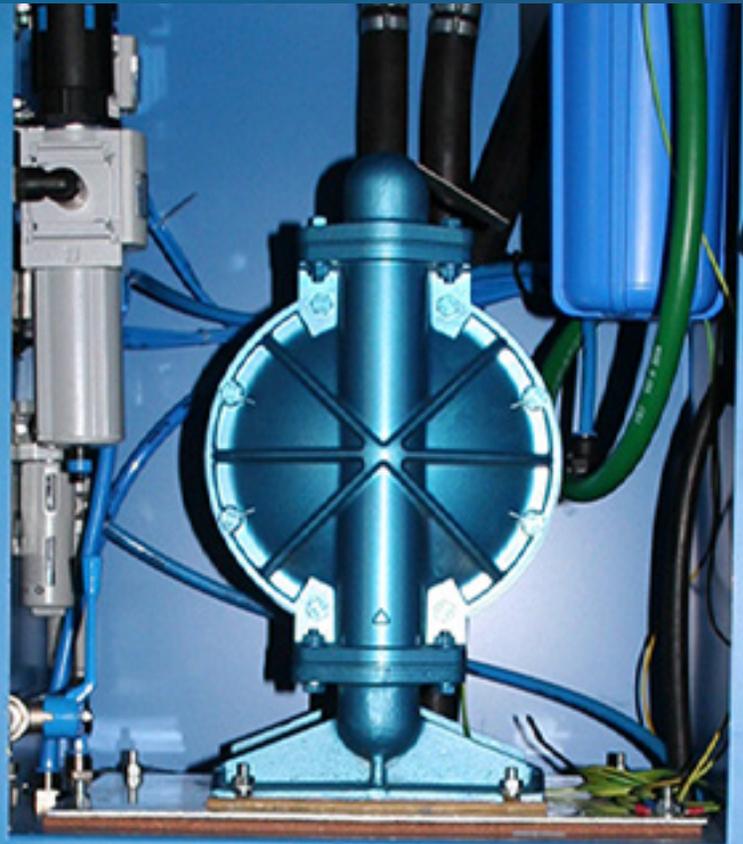
Air-operated double-diaphragm (AODD) pumps are the driving force behind many modern industrial processes. From water to solids-laden slurries—including volatile and dangerous liquids—AODD pumps fuel a range of applications that depend on the effective, efficient displacement of fluids.

The SANDPIPER product portfolio offers unique heavy-duty options engineered to deliver industry-leading durability and performance, even for your most severe applications and environments.

This whitepaper has been created to introduce you to the SANDPIPER Signature Series.

### **In this whitepaper, we will cover:**

- The Signature Series of AODD pumps
- How these pumps compare to others on the market
- The features that make these pumps unique
- The applications and industries these pumps are perfect for

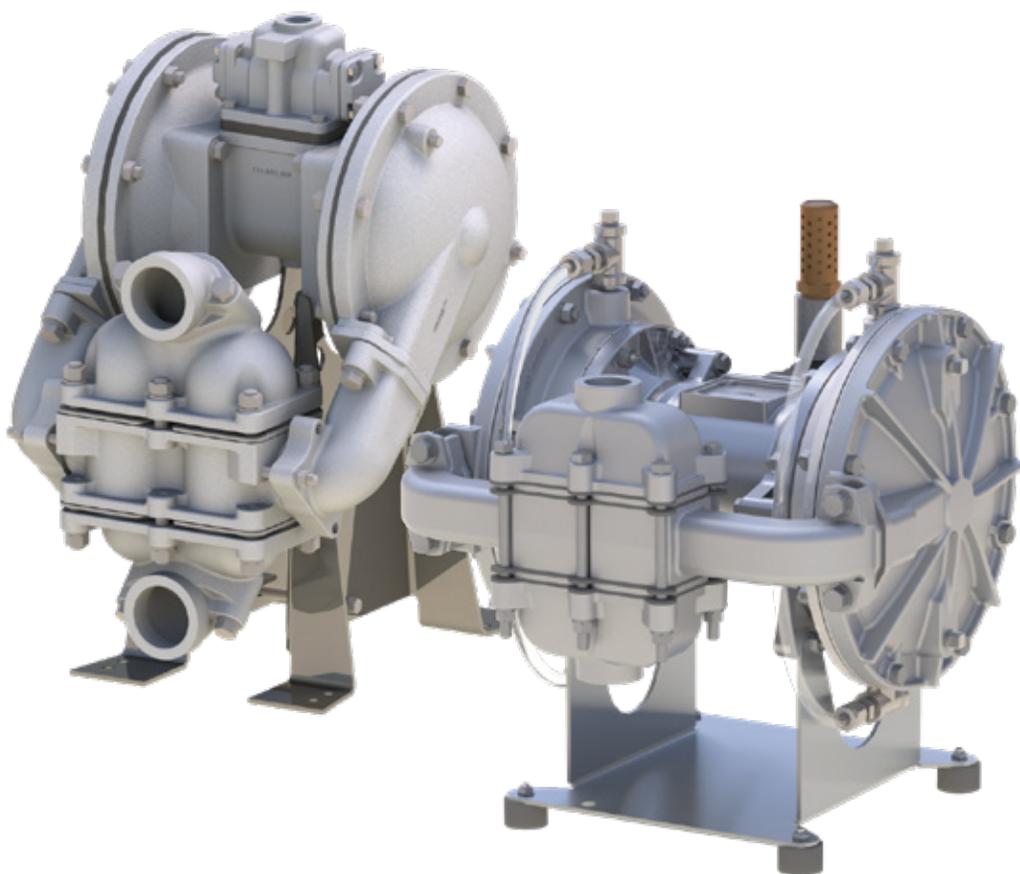


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# Signature Series Product Portfolio

SANDPIPER Signature Series AODD pumps are engineered to provide industry-leading durability and performance, even for your most severe applications and environments. These pumps include **heavy-duty flap, heavy-duty ball, and containment duty ball valve pumps.**

## Heavy-Duty Flap Valve AODD Pumps

Heavy duty-flap valve pumps are the ideal solution for abrasive slurries, non-suspended and line-size solids requirements. These solids handling pumps are workhorses in markets like meat and poultry because of their unique ability to pass large solids that would commonly clog standard AODD pumps. In fact, the SANDPIPER heavy-duty flap valve pump is known as the “blood pump” because it can easily transfer solids that would find their way into the blood collection areas.

Compared to standard AODD ball valve pumps and other rotating pump technologies, heavy-duty flap valve pumps are optimized to enhance performance and efficiency. They have:

- The highest flow capacity ([1"](#), [2"](#) and [3"](#) pumps are available)
- The lowest air consumption in their class
- No reduction in performance as the pump wears
- Minimal flow velocity changes for superior handling of thick, viscous fluids

## Perfect for Handling Line-Size Solids

- Large flow area to allow up-to-line-size solids to pass directly through the pump
- Bottom discharge design works with gravity helping prevent these solids from settling in the unit
- Eliminate common issues associated with ball valve pumps, where solids get stuck in the suction manifold or settle in the outer chamber, affecting performance



## Heavy-Duty Flap Valve AODD Pumps Cont.

### Quick Access to Serviceable Components

- **Removable Clean-Out Caps and Manifolds:** By simply removing the six bolts securing the clean-out cap or manifold in place, you can access and clear simple clogs without disassembling the entire pump.
- **Modular Check Valve Access:** With the clean-out cap or manifold removed, flap valves can be inspected and/or replaced as needed; four bolts hold the modular flap valves in place for quick maintenance and repair.
- **ESADS+Plus:** SANDPIPER's signature ESADS+Plus (Externally Serviceable Air Distribution System) allows for the maintenance and/or repair of both pilot valve and air valve components without removing the pump from service.



## Heavy-Duty Ball Valve AODD Pumps

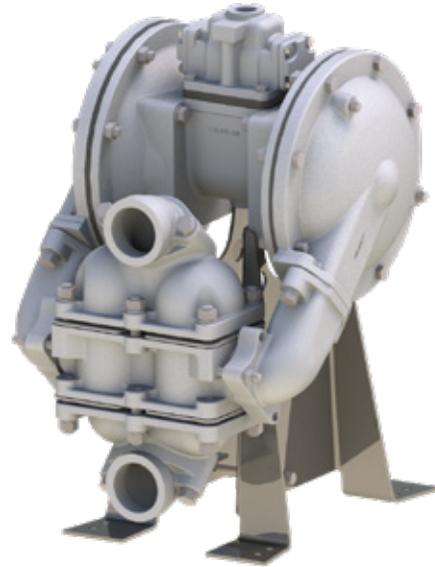
For fluids containing settling, suspended, and floating solids, trust the performance and reliability of heavy-duty ball valve pumps and their exclusive features. These double-diaphragm pumps are ideal for thin to highly viscous and small solids-laden fluids. They're capable of providing excellent suction lift and exclusive variable porting options.

Common applications where you can find heavy-duty ball valve AODD pumps include [paints and coatings](#), [aerospace](#), [building products and construction](#), [chemical](#), [sanitary](#), [transportation](#), and much more.

Heavy-duty ball valve pumps feature thick-walled chambers and manifolds, constructed of sand-casted aluminum, cast iron, or stainless steel. Paired with chemically compatible elastomers, this allows for a robust pump designed for the most aggressive applications.

### Multiple Porting Positions

- **Top Ported:** For fluids containing floating solids, suspended solids, or entrained gases. The discharge port is positioned above the center line of the pump for easier evacuation and less buildup of solid material or gases. In addition, top-ported units work exceptionally well with thick viscous fluids such as glues and adhesives.
- **Down Ported:** For fluids containing settling solids. The discharge port is positioned below the center of the pump so solids settle in the elbow and are easily discharged. This helps reduce wear on the diaphragms and associated components. Traditional AODD pumps work against gravity to evacuate settling solids.
- **Side Ported:** For use in tight spaces. The ports are positioned with the center of the pump, allowing for installation in smaller, confined areas. This design allows for installation options while still providing the added benefits of a heavy-duty pump.



## Heavy-Duty Ball Valve AODD Pumps Cont.

### Heavy-Duty Wear Parts

- Heavy-duty, thick plunger bushings and robust actuator pins are designed to withstand severe applications requiring on-off reliability.
- Diaphragm wear pads are installed between the diaphragm and outer diaphragm plate, providing a secondary wear surface that extends the life of the diaphragm. This is helpful when moving abrasive fluids.
- Thicker, more robust wetted castings provide extended wear resistance.
- Heavy-duty weighted check valve balls are 30–60% heavier than solid rubber check balls, allowing for more consistent chamber filling when pumping more viscous products.



## Containment Duty Ball Valve AODD Pumps

The only complete line of AODD pumps featuring superior fluid containment; protecting your people, environment, and pump.

In typical diaphragm pump applications, when the pumping diaphragm is breached, the fluid enters the air distribution system and escapes into the environment through the muffler, requiring immediate service. With containment duty pumps, when the pumping diaphragm is breached, the fluid enters the containment chamber and visual indicator sight tubes, alerting the user. The fluid is fully contained so the pump can continue running until the operation is complete or maintenance can be scheduled.

- **No Lost System Fluid:** Perfect for pumping fluids that are dangerous to your employees or the environment. Makes repairs easy, as the air side of the pump does not get contaminated.
- **No Costly Cleanup:** When a typical AODD pump has a diaphragm breach, the system fluid passes through the air side of the pump and out into the environment. Cleanup is expensive and time-consuming.
- **2 Diaphragms Are Better Than 1:** Features two diaphragms. The space between the diaphragms creates a barrier between the air side and wet side of the pump, preventing escape of the fluid to the environment when the pumping diaphragm becomes breached.
- **Visual Leak Detection:** Alerts the user when there is a diaphragm breach before any of the system fluid can escape to the environment. Also available with electronic and mechanical leak detectors.



# Signature vs. the Competition

SANDPIPER's unique combination of best-in-class max flow rates and lowest air consumption makes them the most efficient and economical pumps available.

## Tale of the Tape

### SANDPIPER

### COMPETITION

#### HEAVY DUTY FLAP VALVE PUMP

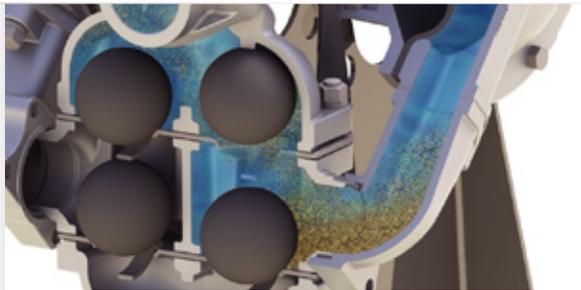


Large solids easily pass through pump

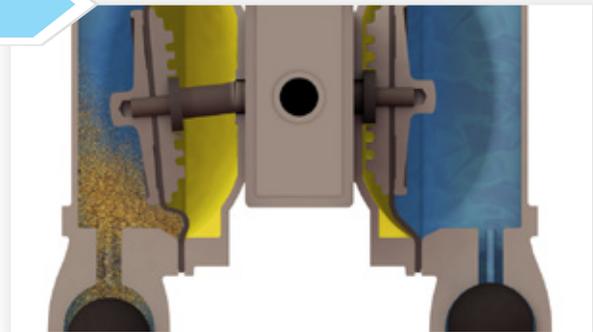


Large solids cannot pass through pump, affecting operation

#### HEAVY DUTY BALL VALVE PUMP

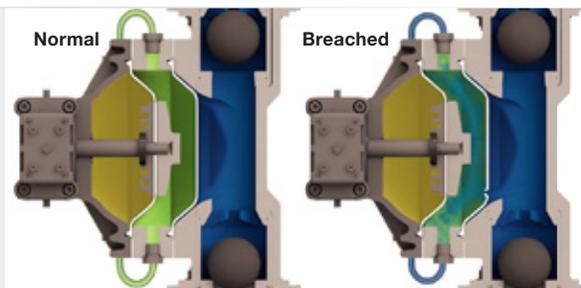


Settling solids easily pass through pump

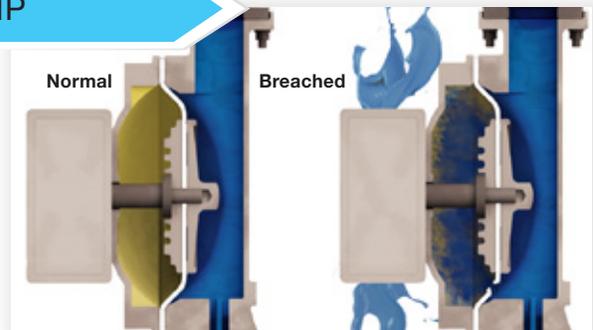


Settling solids collect inside pump, causing damage & affecting operation

#### CONTAINMENT DUTY BALL VALVE PUMP



Contains fluid when diaphragm becomes breached



Fluid escapes to environment when diaphragm becomes breached.

# Signature Features

Exclusive and unique to SANDPIPER, the externally serviceable air distribution system (ESADS+) allows for quick and easy access to the pilot and spool valves. While most AODD pumps have externally accessible air valves, accessing the pilot valve often requires complete removal from the fluid system and a complete disassembly of the unit.

With the inline serviceability of the exclusive SANDPIPER ESADS+, only four bolts need to be removed to access and repair the pilot valve assembly. Pilot-dynamic O-rings can be replaced quickly, repairing one of the most commonly replaced parts of the air distribution system.

This operation can take over an hour to accomplish on a competitor pump, but with ESADS+, this process requires approximately five minutes—no unit draining, no lost product, and **considerable savings in both uptime and maintenance costs.**

Utilizing ESADS+ for more than 40 years, SANDPIPER is the only AODD pump brand that gives you the capability of servicing the complete air distribution system while the pump is installed. The ESADS+ system is an exemplary air distribution system available on all SANDPIPER pumps. You can expect **process reliability, consistent restarts, and complete inline serviceability** with every SANDPIPER pump.

## GUARANTEES:

-  **Diaphragm Connecting Rod Guarantee:** Guaranteed not to yield under tension, compression, or bending
-  **5-Year Limited Product Warranty:** 5-year guarantee for defects in material or workmanship
-  **ESADS+Plus Anti-Stall Air Valve Guarantee:** Allows for quick and easy access to the pilot and spool valves

SANDPIPER	Vs.	COMPETITORS
 <p><b>5 MINUTES</b> Accomplished in minutes by removing four bolts while the pump remains in service</p>	<p><b>MAINTENANCE/ CLEANING</b></p>	 <p><b>55 MINUTES OR LONGER</b> The air valve components can only be accessed by removing the pump from service and taking it entirely apart</p>
 <p>Saves you money by minimizing downtime</p>	<p><b>COSTS</b></p>	 <p>Costs you money due to extended downtime</p>

# Markets and Applications

Our Signature Series of pumps are built to exceed the demands of your sump waste treatment and other applications, including:



**Automotive:** Applications include oil transfer, fuel transfer, machine coolant, auto wash, auto lube, and much more



**Ceramics:** Applications include batching, mixing, casting machines, day tank transfer, mold filling/cleaning, glaze spray, slip transfer/recirculation, and much more



**Chemical:** Applications include packaging, drum/tote, processing, injection, mixing, and much more



**Coatings:** Applications include pigment milling, paint filtration, mixing tanks, filling machines, tank transfer, low shear requirements, and much more



**Construction:** Applications include portable utility, oil transfer, fuel transfer, site dewatering, seal coating, road striping, municipal utility, and much more



**Food Processing:** Applications include food packaging, product transfer, wine tank-over, FDA compliance, low degradation requirements, wine fermentation/pump-over, and much more



**Marine:** Applications include oil transfer, fuel transfer, cargo cleanup, deck dewatering, cargo oil transfer, lubricants transfer, and much more



**Mining:** Applications include oil transfer, fuel transfer, water evacuation, mine face dewatering, drift dewatering, and much more



**Pharma/Personal Care:** Applications include day tank transfer, batching, chemical feed, FDA compliant, personal hygienic/cosmetics, and much more



**Pulp & Paper:** Applications include bulk transfer, day tank transfer, batching, bleaching, converter/packaging, adhesives/ink, and much more



**Oil & Gas:** Applications include natural gas fields, service rigs, offshore platform requirements, settling pond transfer, diesel fuel transfer, spill cleanup, salt water transfer/disposal, flare knockout, and much more

# The Perfect Pump for Your Unique Application Needs

Innovative pump manufacturers always focus on pump efficiency. SANDPIPER and its Signature Series is no exception. Over five decades of innovation have resulted in many class-leading options for each customer's unique application needs. You can trust our wide range of products to satisfy everything from your most basic to most demanding requirements.

We're also here to help you select the best pumping equipment to overcome your challenges. We'll ensure you get the right equipment the first time, and we'll be there to support you with expert service and expertise throughout the life of your pump.

[CONTACT US](#)

**SANDPIPER<sup>®</sup>**

800 North Main Street  
Mansfield, Ohio 44902  
(419) 524-8388

