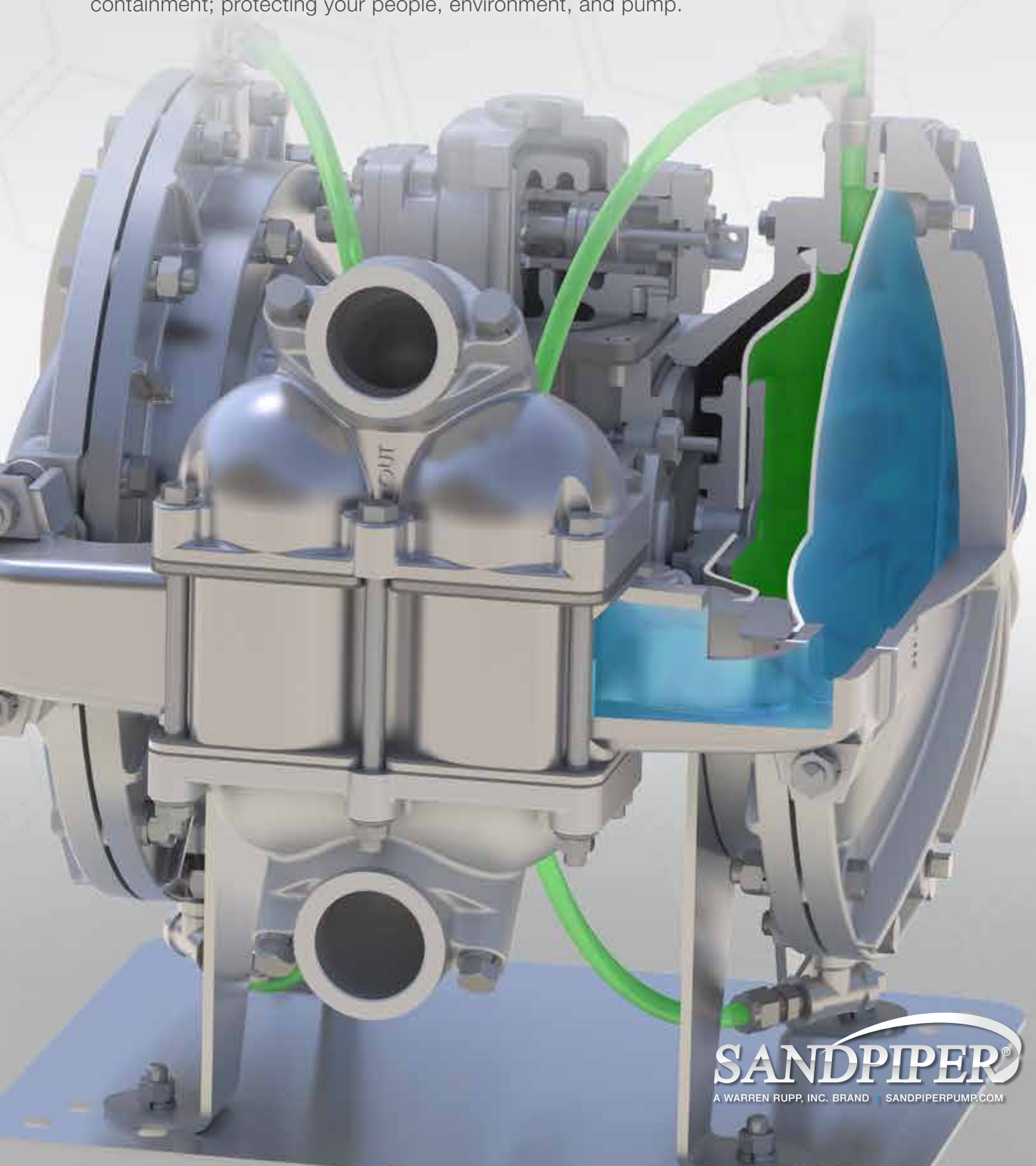


# CONTAINMENT DUTY BALL VALVE PUMPS

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



OUR SIGNATURE  
ENSURES YOUR SUCCESS



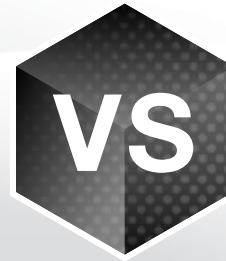
**SANDPIPER**<sup>®</sup>  
A WARREN RUPP, INC. BRAND | SANDPIPERPUMP.COM



# KEY ADVANTAGE

WHAT HAPPENS WHEN THE PUMPING DIAPHRAGM IS BREACHED

## TYPICAL AODD PUMP



## CONTAINMENT DUTY



When the pumping diaphragm is breached, the fluid enters the air distribution system and escapes into the environment through the muffler, requiring immediate service. This results in:

- Safety & Environmental Hazards
- Costly Clean-up & Maintenance
- Interruption of Operations
- Loss of System Fluid
- Extended Downtime
- Potential for Product / Process Contamination from Air Supply

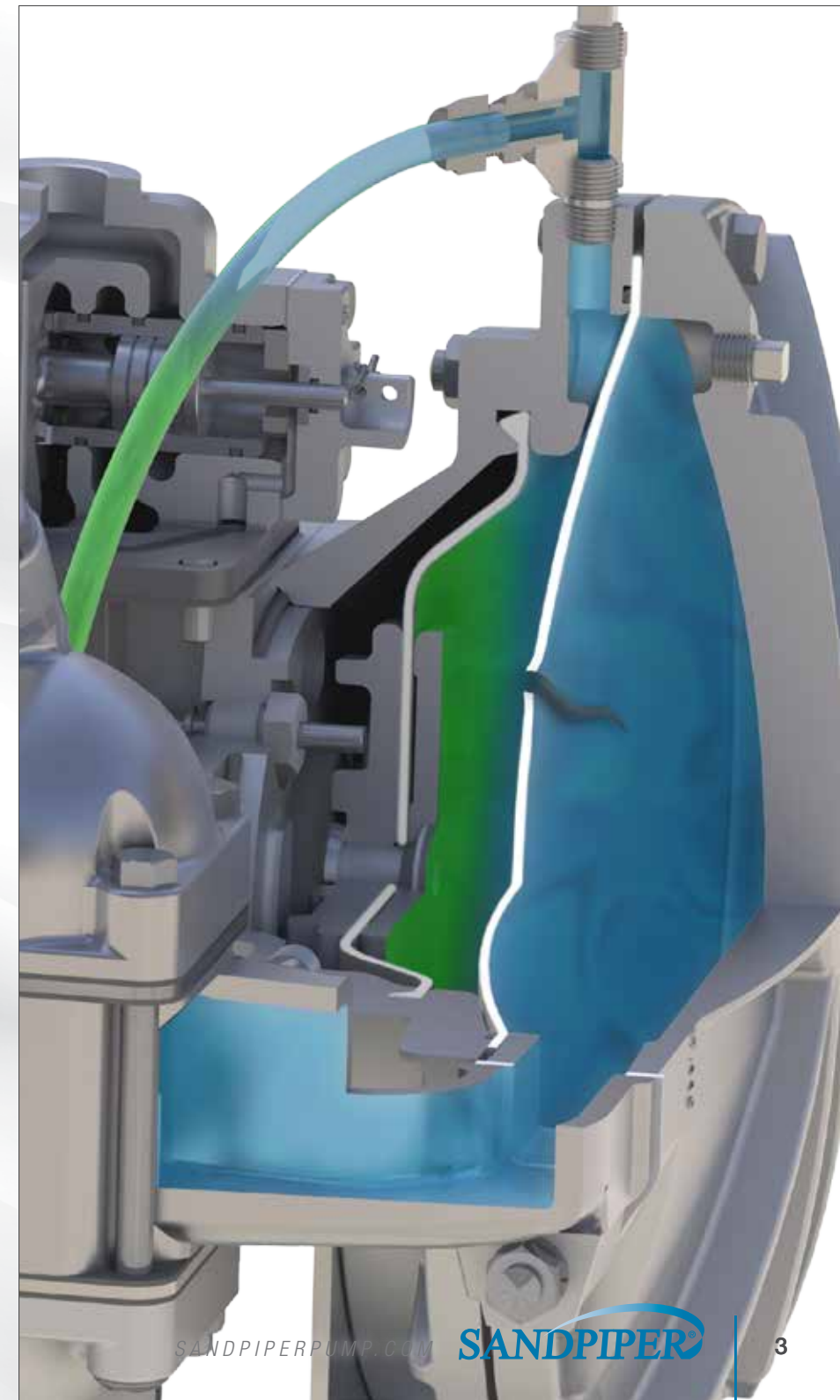
When the pumping diaphragm is breached, the fluid enters the containment chamber and visual indicator sight tubes, alerting the user. The fluid is fully contained so the pump can continue running until the operation is complete or maintenance can be scheduled.

- NO** Safety & Environmental Hazards
- NO** Costly Clean-up & Maintenance
- NO** Interruption of Operations
- NO** Loss of System fluid
- NO** Extended Downtime
- No** Product / Process Contamination from Air Supply



**WATCH THE VIDEO TO LEARN MORE**

[SANDPIPERPUMP.COM/CONTAINMENT](http://SANDPIPERPUMP.COM/CONTAINMENT)





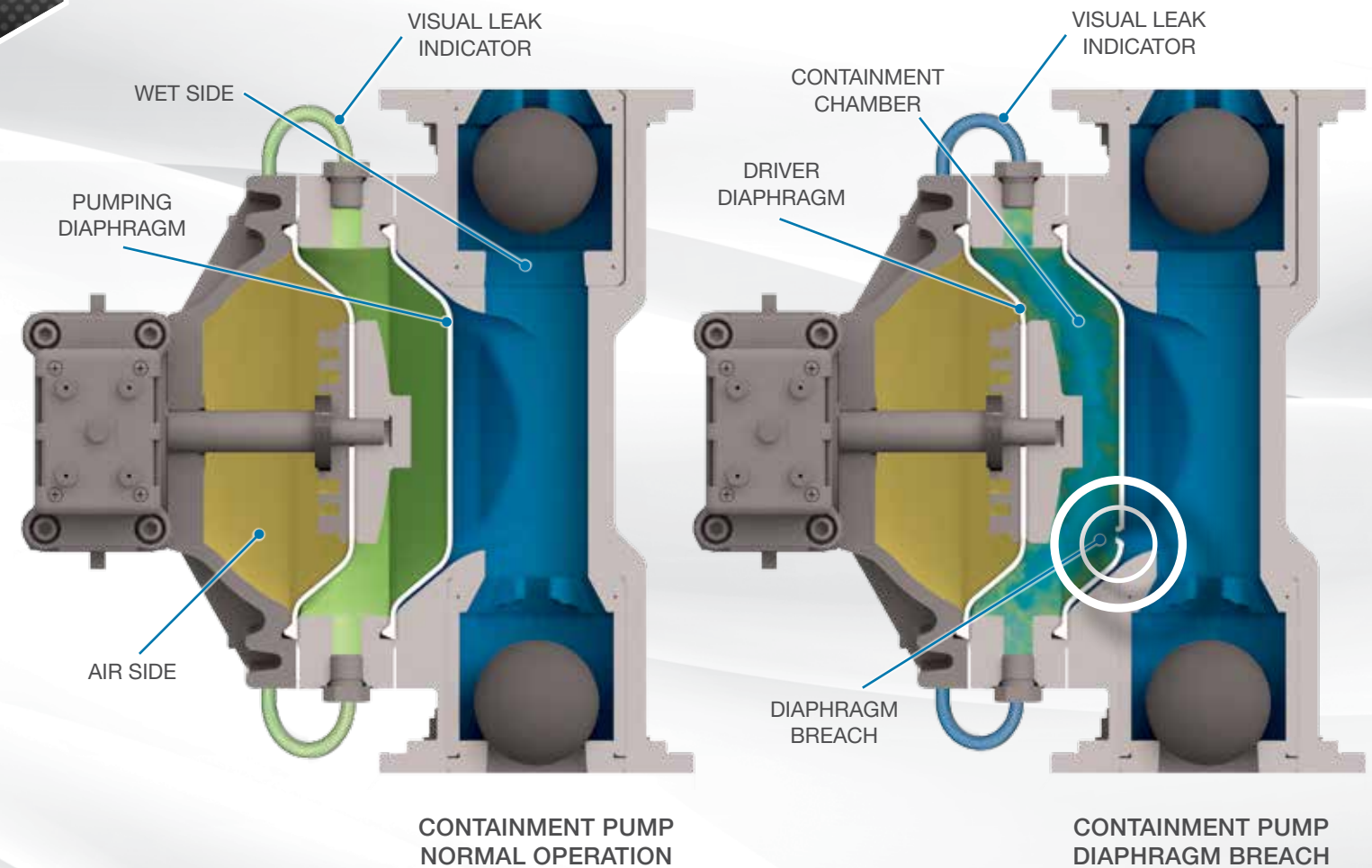
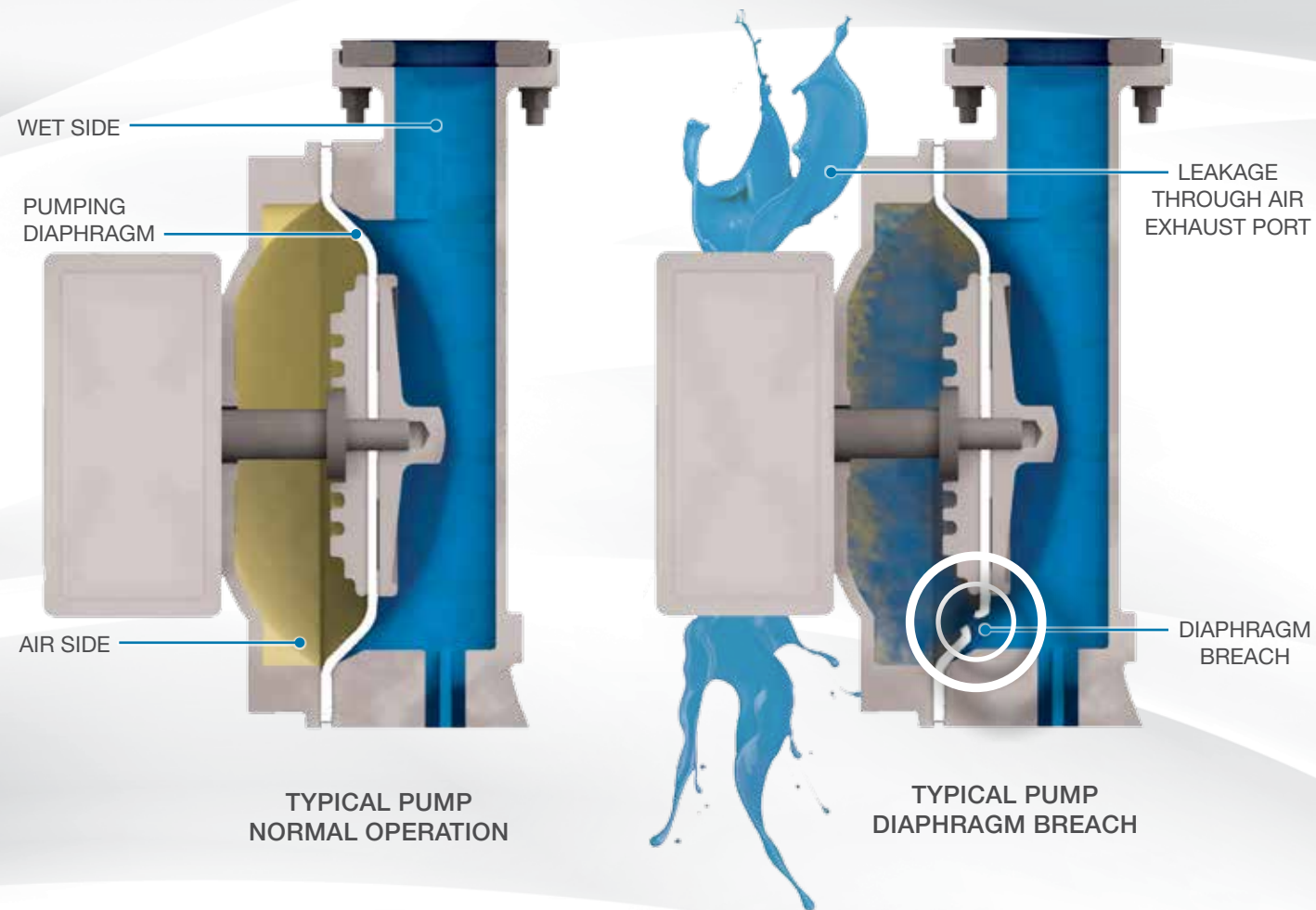
# TWO DIAPHRAGMS ARE BETTER THAN ONE

HOW IT WORKS

## TYPICAL AODD PUMP



## CONTAINMENT DUTY



**Typical AODD pump** designs utilize a **single pumping diaphragm** to drive the fluid. The pumping diaphragm is the **only barrier** between the Wet Side and Air Side of the pump. This diaphragm is an elastomeric material that **will eventually wear or become breached**. When this occurs, the system fluid enters the Air Side of the pump and **escapes to the environment** through the air exhaust muffler. The pump must be **immediately repaired or replaced**.

**SANDPIPER Containment Duty** pumps feature an **additional driver diaphragm**. The space between the pumping and driver diaphragms is called the **containment chamber**. It is filled with a "system compatible" fluid and is void of air. This hydraulically locks the two diaphragms together. When the driver diaphragm is breached, the system fluid enters the containment chamber and the **indicator system alerts the user of a breach**. However, the system can **continue operating** until maintenance can be scheduled. The **system fluid does not escape** to the environment, which eliminates the cost of a major cleanup.



# PUMP ANATOMY

## CONTAINMENT DUTY



### Containment Chamber

The area between the pumping and driver diaphragms that contains the fill fluid; This creates a barrier between the fluid and the air distribution system / environment



### Leak Detection

Alerts the user of a breach in the pumping diaphragm when equipped with visual, electronic, or mechanical leak detectors



### Fill Fluid

A compatible liquid that hydraulically couples the pumping and driver diaphragms, allowing them to operate in tandem



### Pumping Diaphragm

This diaphragm stays in contact with the fluid and moves it through the system



### Driver Diaphragm

This diaphragm stays in contact with the fill fluid and drives the pump

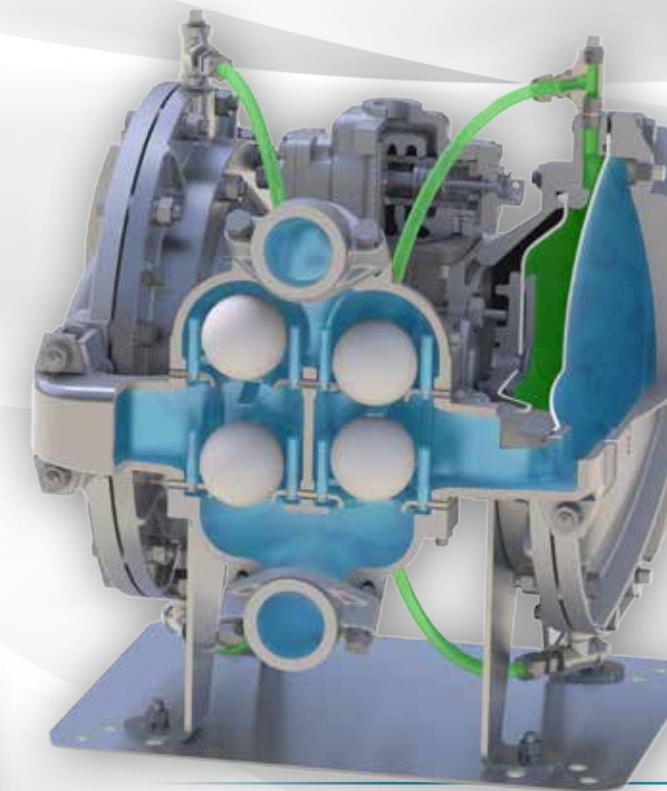
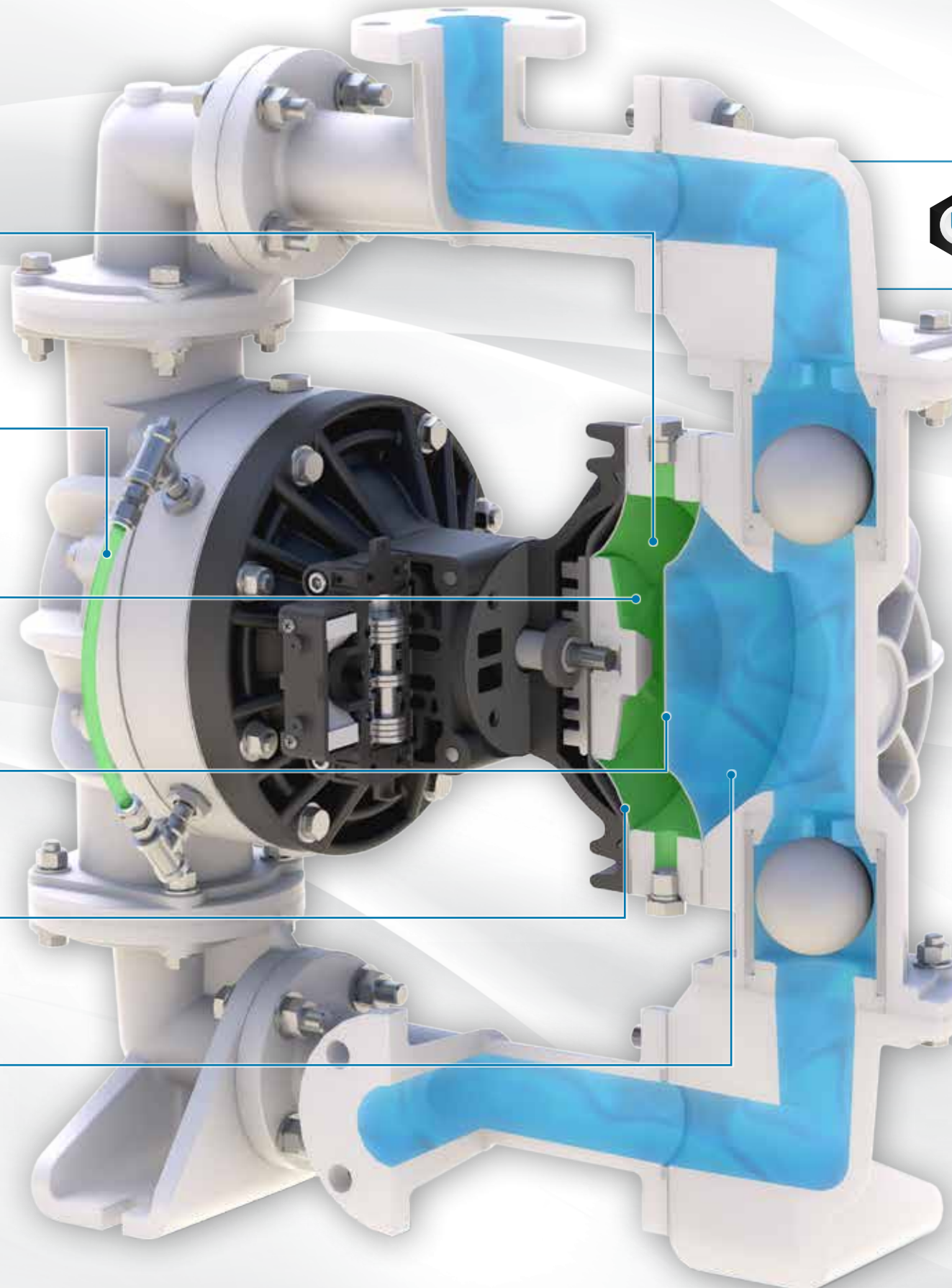


### System Fluid

What you are pumping



Non-Metallic



Metallic



# CONTAINMENT DUTY BALL VALVE PUMPS

PERFORMANCE & SPECIFICATIONS

## 1" 25 mm ST1 / ST25 Metallic



**SOLIDS HANDLING** Up to .25" (6.3 mm) **MAX FLOW** 42 GPM (159 LPM) **MAX PRESSURE** 125 psi (8.6 bar) **DISPLACEMENT** 0.09 gallon (.34 liter)

| OPTIONS           |                 |          |                    |                    |             |
|-------------------|-----------------|----------|--------------------|--------------------|-------------|
| Porting           | Wet Side        | Air Side | Driver Diaphragms  | Pumping Diaphragms | Check Balls |
| 1" NPT Threaded   | Aluminum        | Aluminum | Neoprene           | PTFE               | PTFE        |
| 25mm BSP Threaded | Stainless Steel |          | Fluorocarbon (FKM) |                    |             |
|                   | Alloy C         |          | PTFE-Neoprene      |                    |             |

## 1 1/2" 38 mm S15 Non-Metallic



**SOLIDS HANDLING** Up to .47" (12 mm) **MAX FLOW** 100 GPM (379 LPM) **MAX PRESSURE** 100 psi (7 bar) **DISPLACEMENT** .43 gallon (1.63 liter)

| OPTIONS            |               |               |                   |                    |             |
|--------------------|---------------|---------------|-------------------|--------------------|-------------|
| Porting            | Wet Side      | Air Side      | Driver Diaphragms | Pumping Diaphragms | Check Balls |
| 1-1/2" ANSI Flange | Polypropylene | Polypropylene | PTFE-Neoprene     | PTFE               | PTFE        |
| 40mm DIN Flange    | PVDF          |               | Santoprene®       | Santoprene®        | Santoprene® |

## 1 1/2" 38 mm ST1 1/2 / ST40 Metallic



**SOLIDS HANDLING** Up to .25" (6.3 mm) **MAX FLOW** 106 GPM (400 LPM) **MAX PRESSURE** 125 psi (8.6 bar) **DISPLACEMENT** 0.37 gallon (1.4 liter)

| OPTIONS             |                 |           |                    |                    |             |
|---------------------|-----------------|-----------|--------------------|--------------------|-------------|
| Porting             | Wet Side        | Air Side  | Driver Diaphragms  | Pumping Diaphragms | Check Balls |
| 1-1/2" NPT Threaded | Aluminum        | Aluminum  | Neoprene           | PTFE               | PTFE        |
| 40mm BSP Threaded   | Cast Iron       | Cast Iron | Fluorocarbon (FKM) |                    |             |
|                     | Stainless Steel |           | EPDM               |                    |             |
|                     | Alloy C         |           |                    |                    |             |

## 2" 50 mm S20 Non-Metallic



**SOLIDS HANDLING** Up to .66" (17 mm) **MAX FLOW** 160 GPM (606 LPM) **MAX PRESSURE** 100 psi (7 bar) **DISPLACEMENT** .46 gallon (1.74 liter)

| OPTIONS                        |               |               |                   |                    |             |
|--------------------------------|---------------|---------------|-------------------|--------------------|-------------|
| Porting                        | Wet Side      | Air Side      | Driver Diaphragms | Pumping Diaphragms | Check Balls |
| 2" Universal ANSI / DIN Flange | Polypropylene | Polypropylene | PTFE-Neoprene     | PTFE               | PTFE        |
|                                | PVDF          |               | Santoprene®       | Santoprene®        | Santoprene® |

## 1" 25 mm S1F Non-Metallic



**SOLIDS HANDLING** Up to .25" (6.3 mm) **MAX FLOW** 53 GPM (201 LPM) **MAX PRESSURE** 100 psi (7 bar) **DISPLACEMENT** .19 gallon (.72 liter)

| OPTIONS         |               |               |                   |                    |             |
|-----------------|---------------|---------------|-------------------|--------------------|-------------|
| Porting         | Wet Side      | Air Side      | Driver Diaphragms | Pumping Diaphragms | Check Balls |
| 1" ANSI Flange  | Polypropylene | Polypropylene | PTFE-Santoprene®  | PTFE               | PTFE        |
| 25mm DIN Flange | PVDF          |               | Santoprene®       | Santoprene®        | Santoprene® |
|                 |               |               | One-Piece Bonded  |                    |             |

Santoprene® is a registered trademark of Exxon Mobil Corp.

## 3" 75 mm S30 Non-Metallic



**SOLIDS HANDLING** Up to .71" (18 mm) **MAX FLOW** 238 GPM (901 LPM) **MAX PRESSURE** 100 psi (7 bar) **DISPLACEMENT** .9 gallon (3.41 liter)

| OPTIONS          |               |                       |                   |                    |             |
|------------------|---------------|-----------------------|-------------------|--------------------|-------------|
| Porting          | Wet Side      | Air Side              | Driver Diaphragms | Pumping Diaphragms | Check Balls |
| 3" ANSI Flange   | Polypropylene | Epoxy Coated Aluminum | PTFE-Santoprene®  | PTFE               | PTFE        |
| 75 mm DIN Flange | PVDF          |                       | Santoprene®       | Santoprene®        | Santoprene® |

For more detailed Performance and Specification information, please visit [SANDPIPERPUMP.COM](http://SANDPIPERPUMP.COM)



# WHAT'S THE RISK?

## WHY USE CONTAINMENT DUTY PUMPS?

### Environmental Concerns

When these fluids escape to the environment, significant time and effort is required to clean them up. Additionally, the costs of downtime, lost production, manpower, equipment replacement, disposal fees, and fines can be excessive.

- Paints, Inks, and Coatings
- Adhesives and Resins
- Chemicals and Petrochemicals
- Oils and Hydrocarbons
- Acids, Caustics, Corrosives
- Resins and Polymers
- Contaminated Water and Wastewater
- Pesticides and Herbicides
- Fertilizers
- Preservatives
- Mercury
- Phthalates

### High Cost of Lost Fluid

When these fluids escape to the environment, the cost of losing them is significant. Lost fluid means lost profit.

- Drugs and Pharmaceuticals
- Foods
- Cyanotic Based Paints
- Precious Metal Based Fluids
- Cosmetics
- Perfumes
- Printer Inks
- Beer and Alcohol
- Blood
- Creams and Lotions

### Fluids That Need Contained

Even non-toxic fluids like clean water can create hazards, annoyances and safety concerns if your people are in or around the area surrounding a pump when a diaphragm fails.



## ESADS+PLUS

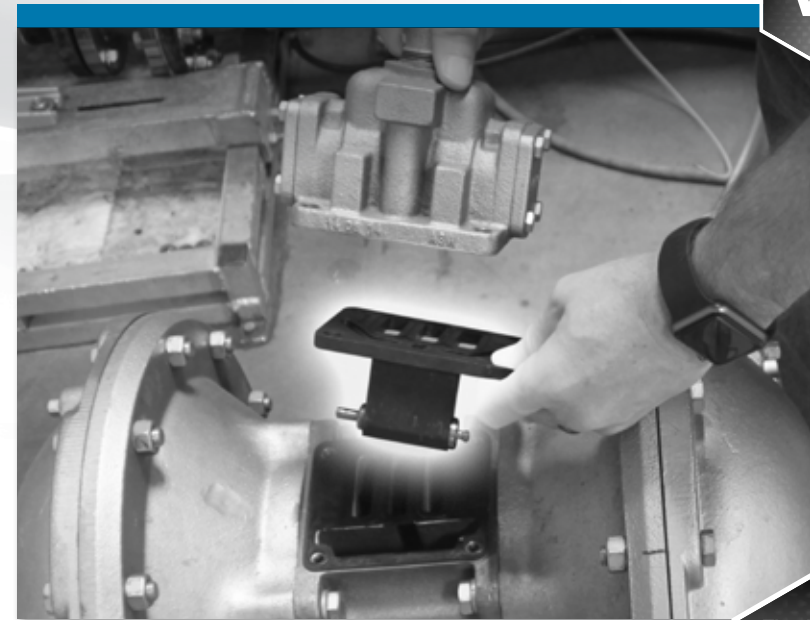
SANDPIPER'S EXTERNALLY SERVICEABLE AIR DISTRIBUTION SYSTEM

SANDPIPER's Externally Serviceable Air Distribution System (ESADS) allows for quick and easy access to the pilot and spool valves without removing the pump from service, maximizing up time!

## SANDPIPER

VS

## COMPETITORS



The Air Motor's Pilot Valve is the Most Often Serviced Part on an AODD Pump



**5 MINUTES FOR MAINTENANCE / CLEANING**  
Accomplished in minutes without removing pump from service by removing only 4 bolts



Saves you money by minimizing downtime



**55 MINUTES OR LONGER FOR MAINTENANCE / CLEANING**  
The air valve components can only be accessed by removing the pump from service and taking it entirely apart



Costs you money due to extended downtime



### ROBUST DIAPHRAGM CONNECTING ROD

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 AIR DISTRIBUTION SYSTEM

Allows for quick and easy access to the pilot and spool valves.

# WHAT HAPPENS WHEN YOUR PUMP HAS A SPILL?

REPORTING **INSURANCE**  
 WORKER'S COMPENSATION  
 LOST PRODUCT  
**DISPOSAL**  
 DOWNTIME

CLEAN-UP  
 EQUIPMENT  
 INJURIES

**SAFETY**  
**FINES**

RESOURCES TO HELP  
**INSIDE OR OUTSIDE**  
 REGULATIONS

**FLUID TYPE**  
**LOGISTICS**

HOW MUCH  
 SPILLED  
 STRATEGY FOR  
 CLEAN-UP



## HOW MUCH ARE YOU WILLING TO INVEST TO PREVENT A SPILL?

|   |                |
|---|----------------|
| Typical 1" Stainless Steel AODD Pump      | \$2,500        |
| <b>SANDPIPER 1" Containment Duty Pump</b> | <b>\$4,000</b> |
| <b>Difference*</b>                        | <b>\$1,500</b> |

\*varies by size and materials of construction



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