

Synthetic Rubber Manufacturer Reliably Meets Increased Demand

Industry-Leading Heavy-Duty Ball Valve Pump Keeps Operations
Running Smoothly Despite Challenging Application



SANDPIPER[®]

The COVID-19 pandemic placed an increased demand on providers of personal protective equipment (PPE) globally. This included the production of nitrile and latex gloves for essential workers.

When the increased demand hit a Thailand-based latex and synthetic rubber manufacturer, plant leadership determined that they needed to add an air-operated double-diaphragm (AODD) pump for their nitrile butadiene rubber (NBR) latex transfer operations.

Though versatile, latex requires precise manufacturing and handling processes. AODD pumps are ideal for the demands of latex handling.

SANDPIPER provided a solution that was perfect for the demanding application.

The Challenge

Handling latex emulsions is demanding. Even their standard definition (a mixture of two or more liquids that are normally unmixable) hints at the difficulties involved.

The following challenges exist when pumping latex:

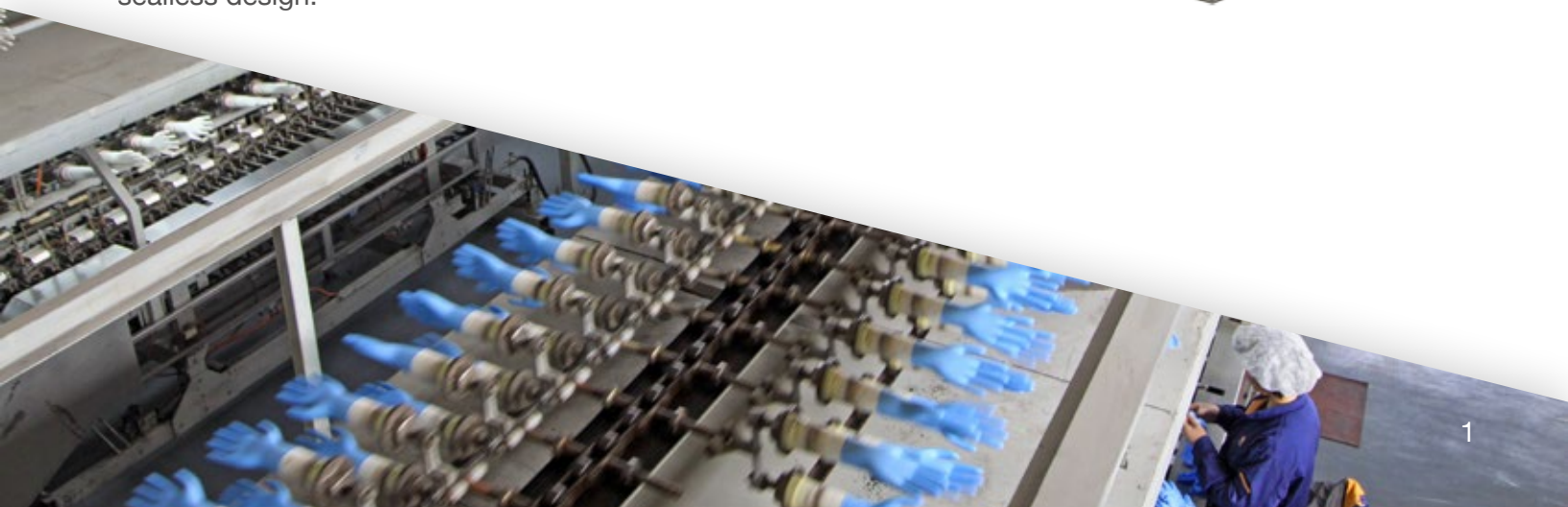
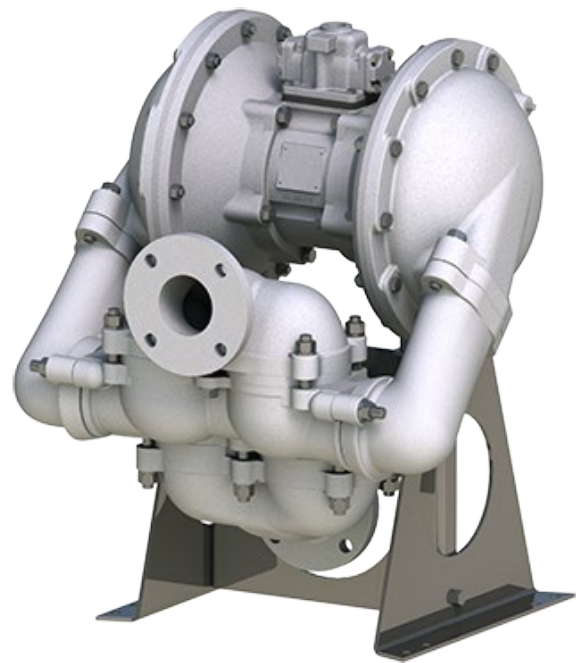
- Latex emulsions are shear-sensitive and require pumps that deliver a low shear rate
- Because any contact with air will further polymerize the latex, it's important that the pump has a sealless design.

The producer of synthetic rubber and latex products needed a pump that could deliver constant flow and meet the duty point requirements.

They were also looking for a pump that was:

- Portable
- Self-priming
- Easy to clean/sanitize
- Able to handle a wide viscosity range
- Able to run dry for an extended period of time

While other technologies fell short, SANDPIPER had the right industry-leading pump for the job.



The Solution

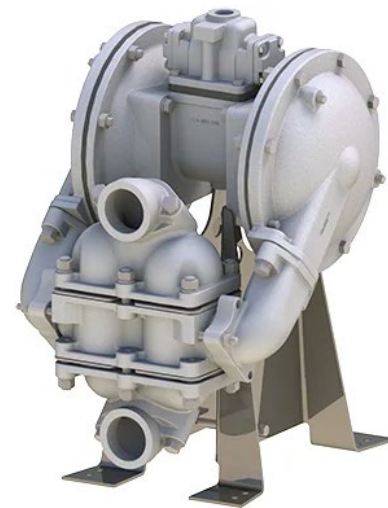
Following a SANDPIPER distributor's recommendation, the manufacturer received AODD pumps to test in the application.

SANDPIPER'S heavy-duty ball (HDB) valve pump became the manufacturer's preferred choice for NBR latex transfer.

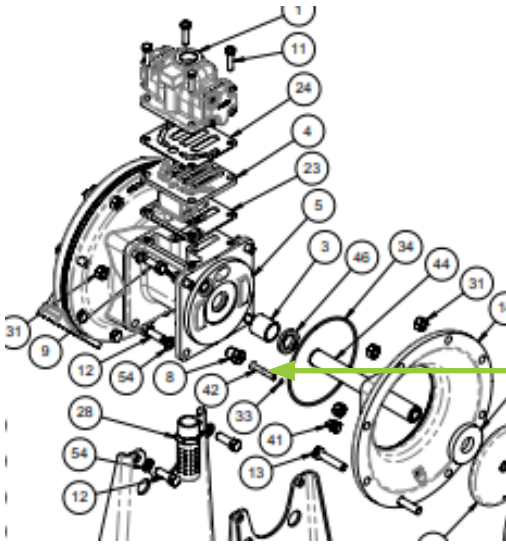
Not only is the pump portable, self-priming, easy to clean and able to run dry and handle a wide viscosity range, the tests showed that it met the duty point requirements and offered safe, reliable, leak-free performance.

The manufacturer also chose the SANDPIPER HDB valve pump because they:

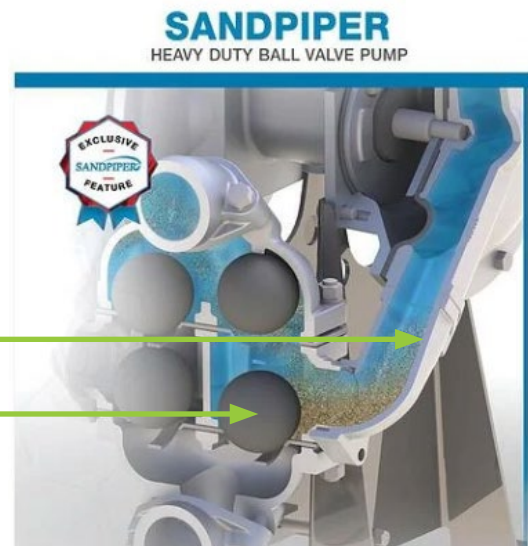
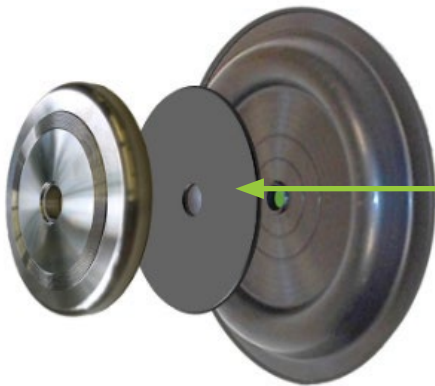
- Come with extended-wear packages
 - Benefits: robust and durable, less downtime and excellent flow rate
- Provide excellent suction lift capability and exclusive variable porting options (side, top, bottom and dual)
- Are thick-wall constructed of sand-casted aluminum, cast iron and stainless steel with elastomer and TPE (thermoplastic elastomer) and PTFE options in diaphragms and check valves



The SANDPIPER HDB valve pump's exclusive advantage:



- **Heavy-duty plunger bushings and actuator pins:**
Designed to withstand severe applications
- **Diaphragm wear pads:** Installed between the diaphragm and outer diaphragm plate, providing a secondary wear surface that extends the life of the diaphragm
- **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



HDB3 / S30 – Stainless

	HDB3	S30	Difference
Pin Diameter	0.278	0.158	0.12
Manifold Wall Thickness	0.31	0.19	0.12

The Result

The HBD valve pump delivered reliable high-performance when the manufacturer needed it most.

This resulted in:

- 900 liters of liquid pumped per minute (to empty a 400-gallon tanker truck)
- 6 months of constant operation without downtime (four months for competitor diaphragms)

Need a Reliable Pumping Solution for a Challenging Application?

The SANDPIPER team and our network of distributors are here to partner with you to ensure you select the best pumping equipment to solve your most challenging application needs. Regardless of your industry, we'll provide the right equipment the first time, and we'll be there to support you with expert service to support you throughout the life of your pump—from selection through maintenance.

Our team is here to help you diagnose your pumping needs so you gain maximum efficiency by applying the right technology to the job.

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