

# **Air Operated Double Diaphragm Pumps Market – Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Pressure (Up to 80 Bar, 80-200 Bar, Above 200 Bar), By Application (Wastewater & Water, Oil & Gas, Petrochemical & Chemical, Pharmaceutical, Food & Beverages, Others), By Region, By Competition, 2020-2030F**

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## **Abstracts**

### Market Overview

The Global Air Operated Double Diaphragm Pumps Market was valued at USD 2.2 billion in 2024 and is expected to reach USD 3.1 billion by 2030 with a CAGR of 5.7% through 2030. The Global Air Operated Double Diaphragm (AODD) Pumps Market is witnessing significant growth, driven by several key factors. The rising demand for wastewater treatment across industries due to increasing environmental regulations is a major driver, as AODD pumps are ideal for handling corrosive and abrasive fluids. The chemical and petrochemical sectors are also expanding, especially in regions like Asia-Pacific and the Middle East, fueling the need for pumps that can safely transfer aggressive chemicals.

Additionally, AODD pumps are gaining traction in the food & beverage and pharmaceutical industries due to their sanitary design, gentle handling of shear-sensitive fluids, and compliance with hygiene standards. Their versatility, self-priming capability, and low maintenance make them suitable for diverse applications, including mining, construction, and oil & gas, where reliability in harsh environments is critical. Technological advancements, such as energy-efficient designs and IoT integration for real-time monitoring, are further boosting market adoption. Moreover, stringent safety

and emission regulations are pushing industries to adopt leak-free pump systems, reinforcing the shift toward AODD pumps. Overall, the market is expected to grow steadily as industries seek efficient, reliable, and environmentally friendly fluid transfer solutions.

## Key Market Drivers

### Rising Demand from Water & Wastewater Treatment Industry

One of the primary drivers of the global AODD pumps market is the increasing demand for effective water and wastewater treatment solutions across industrial and municipal sectors. With growing urbanization, industrialization, and stringent environmental regulations, governments and private industries worldwide are prioritizing water treatment infrastructure. AODD pumps are particularly well-suited for handling a wide range of fluids, including those containing solids, corrosive chemicals, or high viscosity, which are commonly encountered in wastewater applications.

These pumps are capable of running dry, self-priming, and are resistant to abrasive or chemically aggressive materials, making them highly reliable for sludge handling, chemical dosing, and pH adjustment processes. Additionally, AODD pumps offer leak-free operation and require minimal maintenance, which is crucial for 24/7 operation in treatment facilities. The growing global emphasis on water reuse and zero liquid discharge (ZLD) practices further increases reliance on these pumps.

Developing economies, particularly in Asia-Pacific, Latin America, and Africa, are investing heavily in upgrading their water treatment capacities due to increasing population pressure and industrial expansion. Simultaneously, developed nations are modernizing existing infrastructure to meet higher environmental standards. These trends are expected to create sustained demand for AODD pumps over the coming years. Over 2 billion people globally lack access to safely managed drinking water services, driving urgent demand for treatment infrastructure. Wastewater treatment facilities processed approximately 250 billion cubic meters of wastewater worldwide in 2024. Global investments in wastewater treatment technologies reached nearly 90 billion dollars in 2024, with significant growth in membrane filtration and biological treatment solutions. More than 60 percent of new wastewater treatment projects in 2024 included advanced nutrient removal and energy recovery systems. Desalination capacity worldwide surpassed 120 million cubic meters per day, contributing significantly to freshwater supply in water-scarce regions.

## Key Market Challenges

### High Energy Consumption and Operational Costs

One of the most significant challenges facing the global AODD pumps market is the high energy consumption associated with their operation. AODD pumps are powered by compressed air, and the generation of this air requires substantial amounts of energy. In many industrial setups, the compressed air system accounts for a considerable portion of the facility's overall energy usage. Compared to electric-driven pumps, AODD pumps can be less energy-efficient, especially in continuous duty operations, leading to higher operational costs in the long run.

Furthermore, inefficiencies in air valve systems or poor maintenance can result in air leakage and pulsation issues, further increasing air consumption and reducing pump efficiency. This energy inefficiency becomes particularly problematic in regions where energy costs are high or where sustainability goals push companies to adopt greener technologies.

In light of growing pressure on industries to reduce carbon footprints and improve energy efficiency, many end-users are re-evaluating their pumping systems. Some are considering alternatives like peristaltic or centrifugal pumps that offer better energy profiles for certain applications. This shift in customer preference could hinder the widespread adoption of AODD pumps unless manufacturers focus on improving air valve designs and offering more energy-efficient models.

To address this, pump manufacturers must invest in R&D to enhance air efficiency, reduce pulsation, and introduce energy-saving accessories such as surge dampeners or smart air management systems. However, integrating these features often increases the upfront cost, creating a further barrier to adoption. Overall, high energy consumption not only impacts the cost-efficiency of AODD pumps but also challenges their position in a market increasingly focused on sustainability and operational optimization.

## Key Market Trends

### Integration of Smart Monitoring and IIoT Technologies

One of the most significant trends shaping the global AODD pumps market is the growing adoption of smart monitoring systems and Industrial Internet of Things (IIoT) technologies. As industries worldwide embrace digital transformation, AODD pump

manufacturers are integrating sensors and cloud-based platforms into their products to provide real-time data on pump performance, efficiency, and health status.

These smart pumps can monitor parameters such as flow rate, pressure, temperature, air consumption, and diaphragm condition. The collected data enables predictive maintenance, reduces unplanned downtime, and optimizes pump operation by alerting users to potential failures before they occur. This is especially important in critical applications like chemical processing, oil & gas, pharmaceuticals, and food & beverage, where pump failure can disrupt production and lead to safety hazards.

Additionally, IIoT-enabled AODD pumps help companies achieve operational excellence by enabling remote monitoring, reducing manual inspections, and supporting energy optimization. For instance, data insights can be used to identify excessive air usage or inefficient cycle rates, prompting adjustments that reduce energy consumption and costs.

Major pump manufacturers are now collaborating with automation and software companies to develop plug-and-play digital solutions. This trend aligns with broader industrial movements such as Industry 4.0 and smart manufacturing, where interconnected systems and data analytics are central.

### Key Market Players

Graco Inc.

Idex Corporation

PSG Dover (Pump Solutions Group)

Xylem Inc.

Yamada Corporation

Wilden Pump & Engineering LLC

Verder Group

TAPFLO Group

## Report Scope:

In this report, the Global Air Operated Double Diaphragm Pumps Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

### Air Operated Double Diaphragm Pumps Market, By Pressure:

Up to 80 Bar

80-200 Bar

Above 200 Bar

### Air Operated Double Diaphragm Pumps Market, By Application:

Wastewater & Water

Oil & Gas

Petrochemical & Chemical

Pharmaceutical

Food & Beverages

Others

### Air Operated Double Diaphragm Pumps Market, By Region:

North America

United States

Canada

Mexico

Europe

Germany

France

United Kingdom

Italy

Spain

Asia Pacific

China

India

Japan

South Korea

Australia

South America

Brazil

Colombia

Argentina

Middle East & Africa

Saudi Arabia

UAE

South Africa

## Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Air Operated Double Diaphragm Pumps Market.

## Available Customizations:

Global Air Operated Double Diaphragm Pumps Market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

## Company Information

Detailed analysis and profiling of additional market players (up to five).

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