Wilden® Pneumatic Powder Transfer Diaphragm Pump

Safe, Reliable, Efficient

PSG a DOVER company

WILDEN®

Where Innovation Flows

From Innovator to Market Leader

In 1955, Jim Wilden invented the Wilden® Pump and Engineering Company's air-operated double-diaphragm (AODD) pump to solve a major industrial problem. The invention of the AODD pump is a classic example of American innovation and entrepreneurship, which has profoundly impacted the manufacturing industry. The AODD pump can handle almost any fluid, including those with a large amount of particulate matter. The Wilden design has been replicated, but no other brand of AODD pump has surpassed its reliability and performance, which is why Wilden continues to be the preferred choice in industries around the world.

The company's headquarters are located in Grand Terrace, California, with a facility spanning 170,000 square feet (approximately 15,793 square meters), housing the most advanced manufacturing equipment and technology. The facility not only produces the highest-quality AODD pumps but also continues to innovate and improve pump design, ensuring that Wilden remains at the forefront of the AODD pump industry. In addition, the company provides computer-aided design (CAD) support, facilitating the customization of pumps for specialized applications.

The Wilden global distributor network provides services for the energy, process, sanitary, mining, water, and wastewater markets, ensuring that you have access to the latest pump technology and fluid transfer services when you need them. To find the nearest distributor, please visit wildendistributor.com.

ENERGY

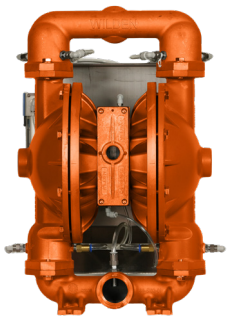
PROCESS

HYGIENIC

MINING

WATER/WASTEWATER

Pump Specifications Overview



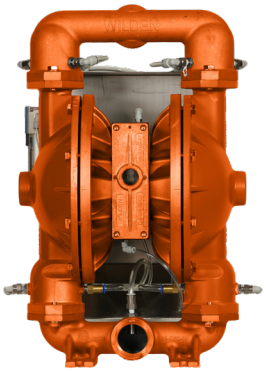
51 mm (2") XPR860P Powder Pump

Model Numbers: XPR860P/A, XPR860P/S

Air Inlet: 19 mm (3/4")
Powder Inlet: 51 mm (2")
Powder Discharge: 51 mm (2")
Connection Type:
NPT/BSPT (Threaded)

Max. Inlet Pressure:
8.6 bar (125 psig)
Max. Powder Particle Size: 150µm
Max. Powder Bulk Density: 800kg/m^3

Max. Suction Lift:
Dry 5.9 m (19.5")
Wet 8.7 m (28.4")
Shipping Weight:
Threaded AL 37.5 kg (82 lb)
Threaded SS 60.5 kg (132 lb)



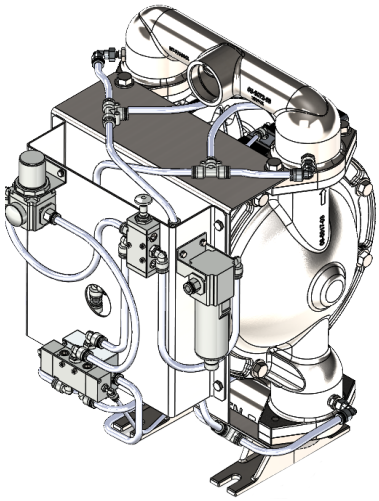
76 mm (3") XPR1560P Powder Pump

Model Numbers: XPR1560P/A, XPR1560P/S

Air Inlet: 19 mm (3/4")
Powder Inlet: 76 mm (3")
Powder Discharge: 76 mm (3")
Connection Type:
NPT/BSPT (Threaded)

Max. Inlet Pressure:
8.6 bar (125 psig)
Max. Powder Particle Size: 150µm
Max. Powder Bulk Density: 800kg/m^3

Max. Suction Lift:
Dry 6.8 m (22.2")
Wet 9 m (29.5")
Shipping Weight:
Threaded AL 64.5 kg (141 lb)
Threaded SS 107.5 kg (235 lb)



Benefits

Safety

- Operates on pneumatic power, eliminating the risk of electrical spark generation.
- The pump's operation generates no heat, complying with dust explosion-proof standards.
- Features a fully-sealed powder transfer system that conveys materials directly from the source container to the processing receptacle, minimizing workplace dust contamination and safeguarding personnel health.

Reliability

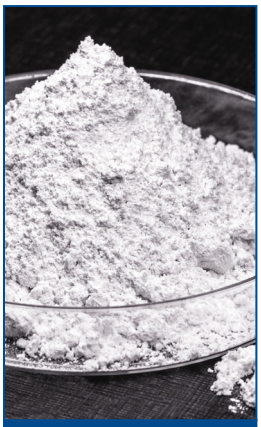
- The one-touch blowback feature effectively clears powder accumulation around the valve balls, reducing resistance during pump start-up.
- Synchronous and efficient airflow induction fluidization technology optimizes the ratio of material to gas. This prevents powder accumulation while reducing gas consumption and the gas content in the material.
- The fluidizing air that contacts the powder is purified and dried through a cyclone air-water separator, reducing the impact of atmospheric moisture on the powdered materials.
- The unbalanced air valve design eliminates stalling during pump operation.

Efficiency

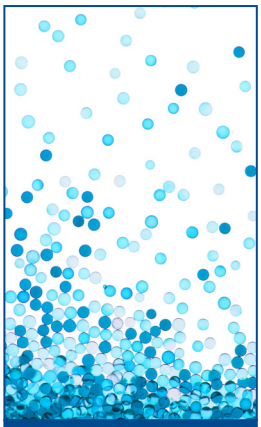
- Replaces inefficient manual powder conveying methods.

Typical Powders Suitable for Conveyance

Wilden Powder Transfer Diaphragms are ideally suited for conveying light, dry, and non-adhesive industrial powders, including carbon black, silica dust, silicone, resins, and pharmaceutical powders. To ensure effective and safe transport, it is recommended that the powder's bulk density should not exceed 800 kilograms per cubic meter, and the particle size of the powder is recommended not to be larger than 150 micrometers.



CHEMICAL INDUSTRY: FUMED SILICA



MATERIALS: GLASS MICROSPHERES

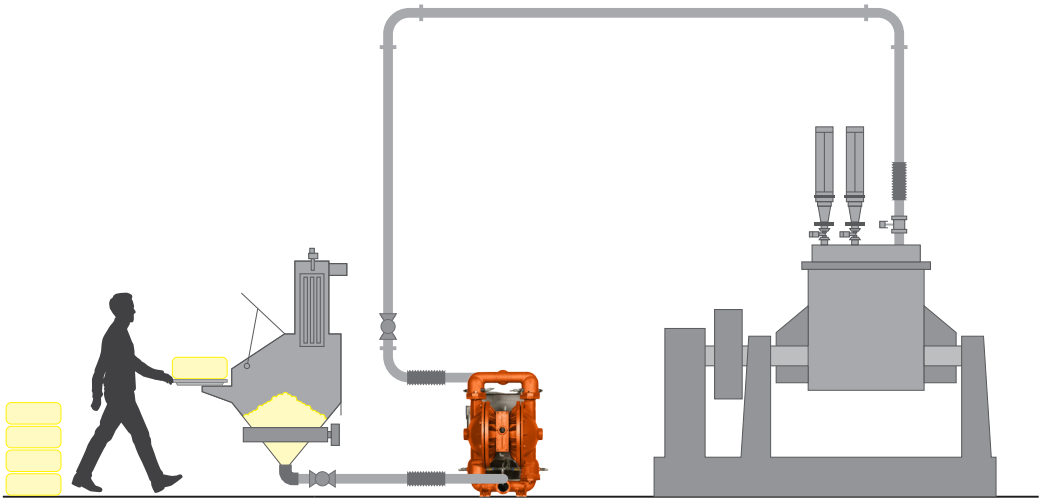
FOOD AND DAIRY CHEMICALS: FLOUR

PLASTICS: RESINS

ENVIRONMENTAL PROTECTION: ACTIVATED CARBON

Typical Application: Dust-Free Powder Feeding Station

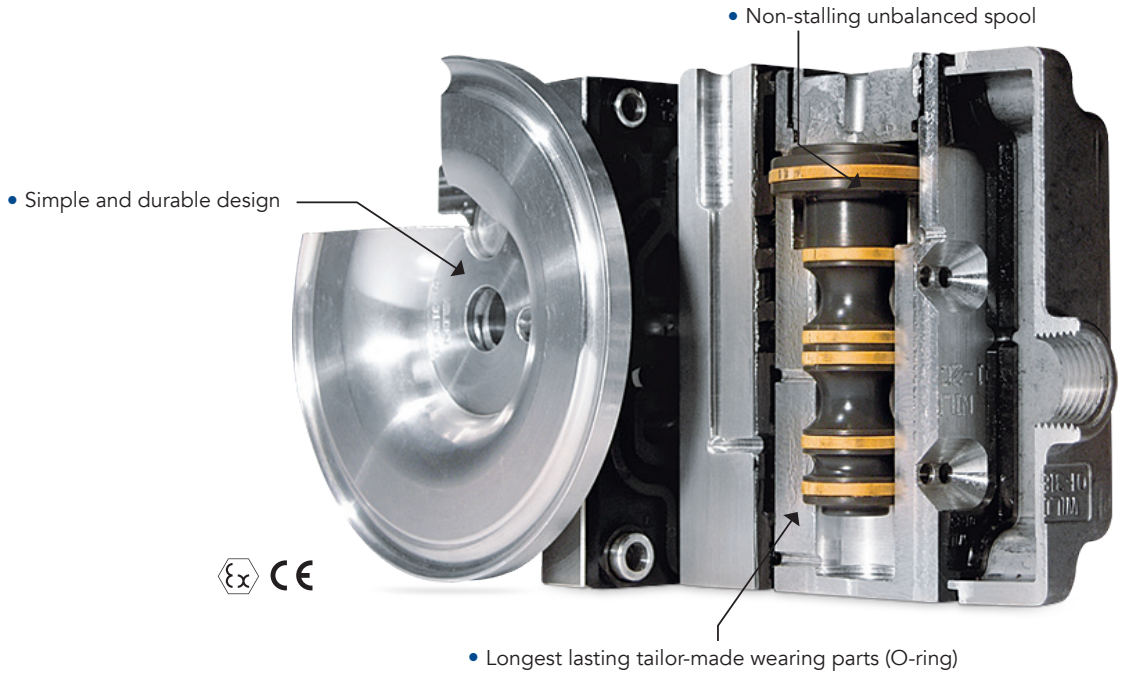
The system below includes a dust-free feeding table, a Wilden diaphragm-type powder transfer pump, an auxiliary air-blowing device, a transfer pipeline, a control valves, and a receiving device. The dust-free feeding table is connected to the receiving device via a transfer pipeline, which is fitted with a Wilden powder diaphragm transfer pump, auxiliary air-blowing device, and control valves. The powder is first conveyed from the dust-free feeding table through the diaphragm pump and pipeline to the receiving device, with the auxiliary air blowing device enhancing the powder's pressure.



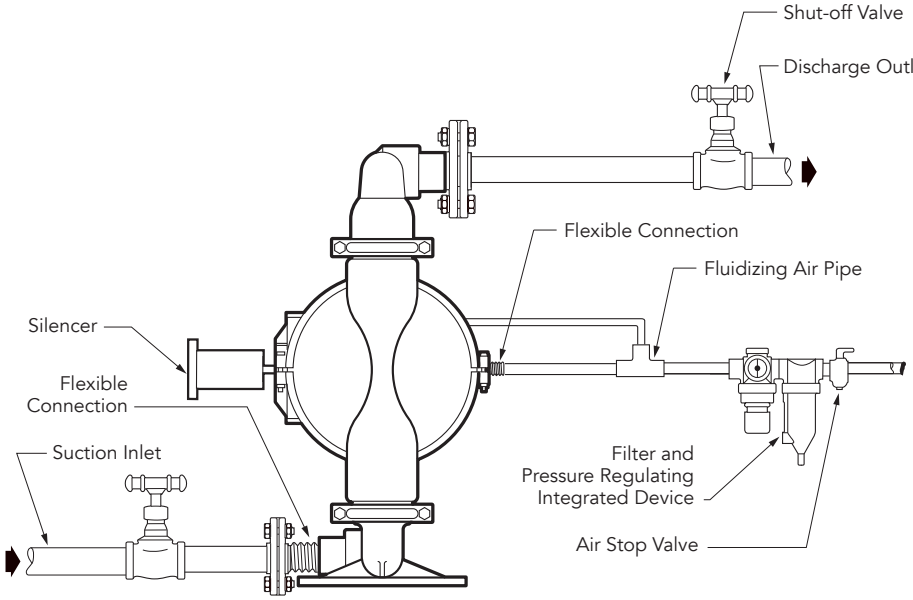
In the dust-free powder feeding system, Wilden pneumatic powder transfer diaphragm pumps efficiently transport powder from storage containers to the next stage of the production line. Utilizing Wilden powder diaphragm pumps to transfer powder materials ensures the continuity and stability of the powder conveying process, significantly reducing dust leakage and dispersion, maintaining workplace cleanliness, and safeguarding employee health. Wilden powder transfer diaphragm pumps are designed for easy operation and maintenance, and are suitable for handling powder materials in industries with stringent hygiene and environmental requirements, including food, pharmaceuticals, and chemicals.

Air Distribution System (ADS) Technology

A Wilden pneumatic powder transfer diaphragm pump features an integrated Air Distribution System (ADS) designed for simplicity, durability, and cost-efficiency. A robust metallic center block, an air valve, and a maintenance-free, lubrication-free operation distinguish this system. The pump's ADS consists of only three moving components: the unbalanced air valve spool, the pilot spool, and the main shaft/diaphragm assembly, ensuring streamlined functionality and exceptional reliability.



Installation and Usage Notes for Powder Transfer Pumps



- Air Supply: Each pump should be connected to an air supply line of adequate size to achieve the desired flow rate. For optimal performance, the pump should be equipped with a 5-micron air filter, a needle valve, and a regulator. Installing an air filter at the pump inlet can remove the majority of contaminants from the piping.
- Piping Connection: Compressed air quick couplings and inlet/outlet water pipe connectors facilitate easy pipeline connections for on-site personnel. An inlet water filter prevents large solid particles from being sucked in and clogging the pipelines..
- Maintenance and Inspection: As each application is unique, the maintenance schedule for each pump will differ. Factors such as frequency of use, pipeline pressure, and the viscosity and abrasiveness of the process fluid will affect the lifespan of the pump components. Experience shows regular inspections are the best way to prevent unexpected pump downtime.

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