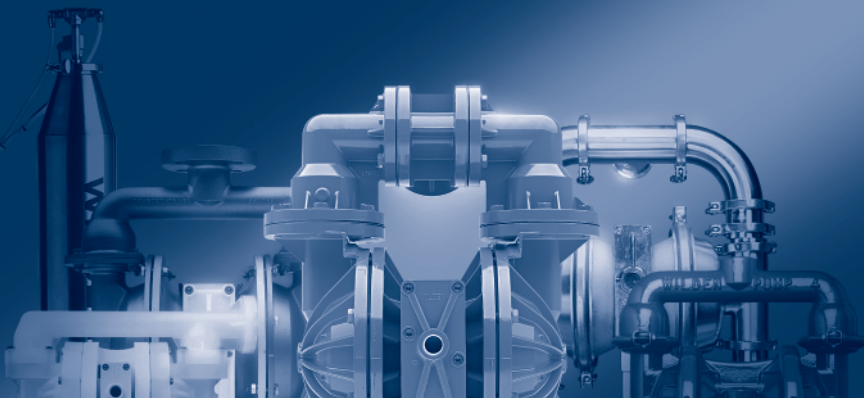




Maintenance

Directions for Disassembly/Reassembly

The following are generic directions for disassembly/reassembly of the Wilden pump. Please refer to your EOM for detailed disassembly/reassembly instructions and photographs pertaining to your specific pump.



CAUTION: Before any maintenance or repair is attempted, the compressed air line to the pump should be disconnected and all air pressure allowed to bleed from the pump. Disconnect all intake, discharge and air lines. Drain the pump by turning it upside down and allowing any fluid to flow into a suitable container. Wear safety glasses. When diaphragm failure occurs, material being pumped may be forced out the air exhaust.

NOTE: Before starting disassembly, mark a line from each liquid chamber to its corresponding air chamber. This line will assist in proper alignment during reassembly.

Before you disassemble the pump:

- Wear safety glasses
- Shut off main air supply
- Disconnect air hose from air valve to drain air pressure in hose
- Isolate pump using isolation valves to avoid product spillage from pipe
- Turn pump upside down to drain all liquid trapped by valve balls
- Mark a line from each liquid chamber to its corresponding air chamber to assist in proper alignment during reassembly

Inspection

Air Valve Piston/Spool and Casing

- Ensure piston/spool can move freely
- Clean out debris

Diaphragms

- Make sure no swelling, cracking, or other damage is apparent

Balls/Seats/O-rings

- Make sure no swelling, cracking, or other damage is apparent
- Lubricate shaft if needed

Mean Time to Failure

A Preventative Maintenance Schedule (PMS) should be set up for the following parts to ensure pump is serviced prior to part wear

- Diaphragms
- Valve Seats
- Valve Balls
- O-Rings

Seal Replacement

Proper seal installation is critical to pump performance when employing AODDPs in your application. Great care must be taken to ensure that seals are placed in the proper grooves and not damaged during installation. Incorrect seal location will render the pump inoperable. Damaged seals may cause decreased performance and shorter seal life. The Ringer™ seal installation kit, containing an installation tool and locator bushings, simplifies seal installation on Turbo-Flo™ pumps.

Disassembly Overview

The following instructions are to be used as a reference for disassembly/reassembly of your Wilden pump. These instructions are meant solely to give you an idea on how to disassemble/reassemble a Wilden pump. Your pump size and build may vary substantially. Please refer to your EOM for specific detailed instructions on disassembly / reassembly of your Wilden pump.

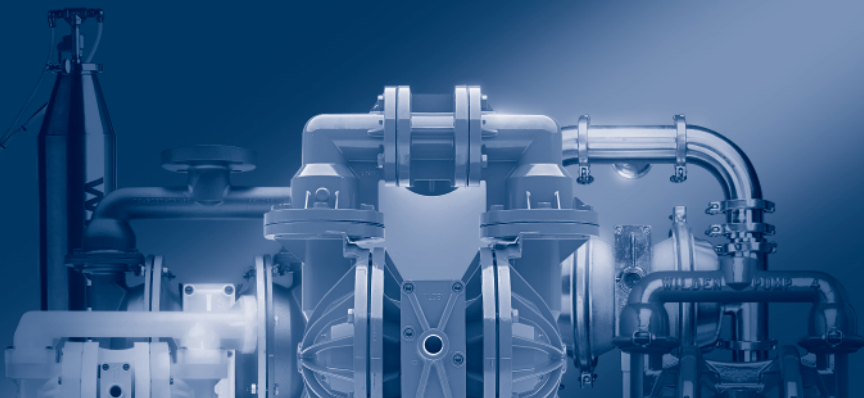
Before starting disassembly, mark a line from each liquid chamber to its corresponding air chamber. This line will assist in proper alignment during reassembly.

Remove the fasteners that connect the discharge manifold to the liquid chambers. Remove the discharge manifold to expose the valve balls and valve seats. Inspect the ball cage area of the manifold for excessive wear or damage. Remove the discharge valve balls, seats and o-rings from the discharge manifold and inspect for nicks, gouges, chemical attack and/or abrasive wear. Replace worn parts with genuine Wilden parts to ensure reliable performance.

Remove the fasteners that connect the inlet manifold to the liquid chambers. Lift the intake manifold away to expose the valve balls and seats. Inspect intake valve ball cage for excessive wear or damage. Remove the intake valve balls, seats and o-rings from the discharge manifold and inspect for nicks, gouges, chemical attack and/or abrasive wear. Replace worn parts with genuine Wilden parts to ensure reliable performance.

Remove the fasteners that connect the liquid chamber to the center section assembly. Lift liquid chamber away from the center section assembly to expose the diaphragm and outer piston. Using an adjustable wrench, remove the diaphragm assembly. Inspect diaphragm assembly and shaft for signs of wear or chemical attack. Repeat disassembly instructions for opposite liquid chamber.

See your Engineering, Operation & Maintenance manual (EOM) for detailed disassembly/reassembly instructions of your pump's air distribution system.



Trouble- shooting

11

The following is a concise set of troubleshooting suggestions. Contact your local Wilden distributor for a comprehensive Troubleshooting Guide, or turn to your EOM for your pump's specific troubleshooting techniques.

Pump Will Not Run or Runs Slowly:

1. Check air inlet screen and air filter for debris.
2. Check for sticking air valve, flush air valve with cleaning fluid.
3. Check for worn out air valve. Replace if necessary.
4. Check center block seals. If worn excessively, they will not seal and air will simply flow through the pump and out the air exhaust. Use only Wilden seals as they are of special construction.
5. Check for rotating piston in air valve.
6. Check type of lubricant being used if you are using a pump that needs lubrication. A higher viscosity oil than suggested may cause the piston to stick or run erratically. Wilden suggests the use of a hydraulic oil with arctic characteristics (ISO grade 15/5wt arctic oil).

Pump Runs But Little or No Product Flows:

1. Check for pump cavitation; slow pump speed down to allow material to enter pumping chambers. Increase speed accordingly.
2. Check for sticking ball checks. If material being pumped is not compatible with pump elastomers, swelling may occur. Replace balls with the proper elastomers.
3. Check to make sure all suction connections are air tight, especially manifold connections around intake balls.

Pump Air Valve Freezes:

Check for excessive moisture in compressed air. Install either a dryer or a hot air generator for compressed air.

Air Bubbles In Pump Discharge:

1. Check for ruptured diaphragm.
2. Check tightness of clamp bands, especially at the intake manifold.

Product Comes Out Air Exhaust:

1. Check for ruptured diaphragm.
2. Check tightness of large clamp bands.
3. Check tightness of piston plates to shaft if applicable.

Pump Rattles:

1. Use softer balls.
2. Create false discharge head or suction lift.
3. See Troubleshooting section in EOM.