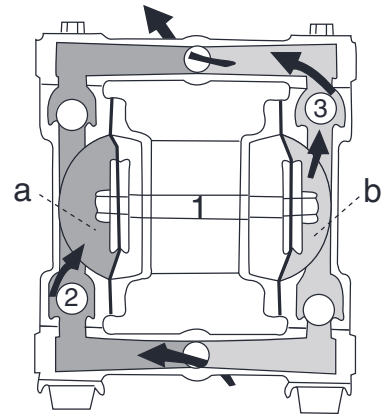


# FLEXIBLE IMPELLER vs. AIR OPERATED DIAPHRAGM



VS.



## Advantages: Flexible Impeller

- Smooth Flow: ..... Smooth gentle flow. The AOD has a severe pulsation to its flow. To reduce its pulsation the AOD requires an expensive pulsation dampener.
- Reversible: ..... Can be used with "high torque" reversible motor to move liquid in both directions. The AOD is not reversible.
- Power: ..... More energy efficient than AOD. Efficiency is lost in the transfer of energy from electric power to compressed air and back to reciprocating motion.
- Simplicity: ..... Fewer parts than AOD. The only moving parts are the impeller, shaft, and seal.
- Repair: ..... Significantly easier to repair than an AOD.  
Significantly faster to repair than an AOD (less down time).
- No air required: ..... An AOD requires compressed air. Compressed air is not always available where the pump needs to be located.
- Noise: ..... The FIP is significantly quieter than the AOD design.

## Advantages: AOD

- Dry running: ..... The FIP cannot run dry (some exceptions). AOD pumps can run dry without damage indefinitely.
- Dead Head: ..... The FIP pump will be damaged when run against a closed discharge. The AOD will simply stall and will not be damaged.
- Exp. Proof: ..... The FIP pump requires an explosion proof motor to operate in explosive atmospheres. The AOD design requires grounding to prevent static discharge.
- Sealless: ..... The AOD does not utilize a mechanical seal. This creates the impression that an AOD is more intrinsically safe when handling hazardous materials.
- Teflon: ..... AOD pumps are available with Teflon diaphragms, which enable the handling of a wider array of liquids.
- PSI: ..... Maximum pressure of the FIP is 60 psi in currently available models. AOD Pumps typically delivery a maximum of 100-120 psi.
- Flow: ..... Maximum flow of the FIP is 100 gpm in currently available models. A 3" AOD pump can deliver over 200 gpm under ideal conditions.

**Shared Benefits:** ..... Self-priming, variable flow, solids handling, high viscosity handling and comparable pump and repair parts cost

## General Markets

- Sanitary: ..... Food products and Filling machines
- Industrial/Commercial: ..... Waste handling, environmental cleanup, paint/ink transfer, and general chemical/fluid handling
- Water/Waste Water: ..... Lime slurry, thickening agents, and waste sampling