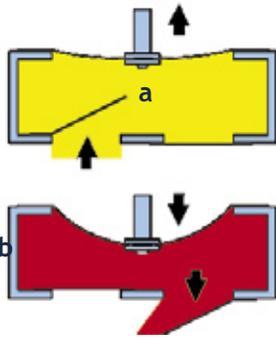


PUMPING PRINCIPLES

DIAPHRAGM



HOW IT WORKS:

- As the piston diaphragm is pulled away from the housing, the cavity increases in size. This creates a vacuum that draws in the liquid through the one way inlet valve.
- As the diaphragm is pushed toward the housing, the cavity decreases in size which forces the liquid out through the one way outlet valve.

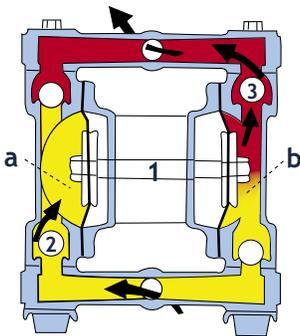
FEATURES:

Dry Running: can run dry indefinitely without damage

Self-priming: can lift up to 15 feet under ideal conditions

Self-adjusting: "air operated" diaphragm pumps automatically adjust their speed as viscosity fluctuates

AIR OPERATED DIAPHRAGM



HOW IT WORKS:

- Compressed air powers the piston (1) moving it right to enlarge cavity "a". This action draws in liquid through the inlet check valve (2).
- While the piston (1) enlarges cavity "a" it compresses cavity "b" forcing liquid out the one way check valve (3) toward the discharge.
- Once the piston (1) has fully extended, it is redirected (by compressed air) to compress chamber "a" (forcing liquid out) and enlarging chamber "b" (drawing liquid in).
- Once the piston (1) has fully extended to the left the cycle repeats as compressed air redirects the piston (1) back to the right.

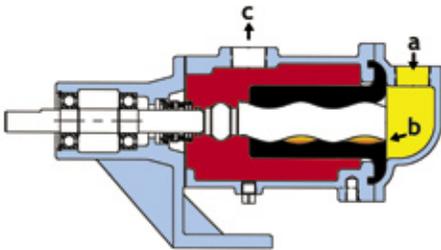
FEATURES:

Dry Running: can run dry indefinitely without damage

Dead Head: will simply stall and will not be damaged when the discharge is blocked

Self-priming: can lift up to 20 feet under ideal conditions

PROGRESSING CAVITY



HOW IT WORKS:

- Liquid is drawn into the suction of the pump as the corkscrew shaped rotor revolves within the rubber stator.
- Liquid is captured in the cavity between the rotor and stator. This cavity travels toward the discharge during rotation.
- The cavity opens into the discharge chamber and delivers its contents as it reduces in size. Liquid is forced out the discharge as more liquid is delivered by continued rotation.

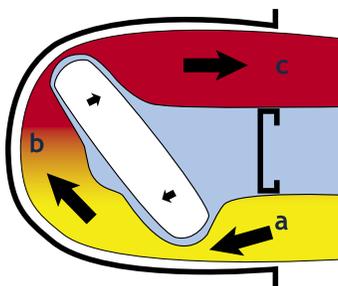
FEATURES:

Abrasive Handling: rotor/stator design allows handling of abrasive and/or viscous liquids

Low Shear: smooth gentle pumping action enables the pumping of shear sensitive and solid entrained liquids

High Pressure: up to 600 psi can be achieved with low to high viscosity liquids

PERISTALTIC



HOW IT WORKS:

- As the rollers compress the hose and move away from the inlet a vacuum is created drawing in liquid.
- The rollers work together to capture liquid between the pinched areas of the tube and move the liquid toward the discharge.
- The front roller leaves the hose, opening the captured area while the back roller pushes the liquid out the discharge.

FEATURES:

No Liquid Contact: liquid comes in contact only with the hose utilized within the pump

Self-priming: can lift up to 25 feet

Viscous and Abrasive Liquids: designed to handle viscous, corrosive, abrasive and high purity solutions