

Operator Quiz Test No. 118 – Pumps

The following questions are designed for trainees as they prepare to take the ABC wastewater operator test. It is also designed for existing operators to test their knowledge. Each issue of *Clear Waters* will have more questions from a different section of wastewater treatment. Good luck!

- This type of pump, commonly used to pump wastewater, may contain open or closed impellers supported on a shaft. When liquid enters this pump, mechanical forces convey flow through the discharge:
 - Peristaltic
 - Progressive Cavity
 - Impeller Driven
 - Centrifugal
- This type of pump, commonly used to pump sludges, consists of a screw-shaped rotor which rotates within a rubber-lined stator:
 - Reciprocating
 - Peristaltic
 - Progressive Cavity
 - Centrifugal
- This type of positive displacement pump consists of a piston that moves back and forth:
 - Reciprocating
 - Inline Screw
 - Peristaltic
 - Inline Sump
- This type of pump injects compressed air into a discharge line, which mixes and raises solids through the line due to sludge density differential:
 - Diaphragm
 - Air Lift
 - Peristaltic
 - Centrifugal
- This type of pump uses rollers, sometimes called shoes, to compress a flexible hose. As the shoes rotate around the hose, it fills with material which is squeezed through to the discharge:
 - Rotary Lobe
 - Peristaltic
 - Progressive Cavity
 - Centrifugal
- This type of positive displacement pump consists of a reciprocating membrane. Material fills a chamber as the membrane flexes and gets forced out through a discharge check valve:
 - Rotary Lobe
 - Sump
 - Air Lift
 - Diaphragm
- This type of pump uses two synchronized rotors rotating against each other to create open cavities between the rotors and pump casing. As flow enters the open spaces it is conveyed in the direction of the moving rotors to the discharge:
 - Rotary Lobe
 - Reciprocating
 - Peristaltic
 - Centrifugal
- In this type of centrifugal pump, the motor is sealed and closed-coupled to the pump. This pump typically pushes flow from the bottom of a pit into a discharge line:
 - Submersible
 - Axial
 - Rotary Lobe
 - Diaphragm
- This condition is the result of low pressures within a pump, which creates boiling water and vapor bubbles. Damage to the impeller can happen when these vapor bubbles pop:
 - Air Lock
 - Water Hammer
 - Cavitation
 - Plugging
- This material can be made from Teflon or graphite and is used to prevent leakage between moving parts of a pump:
 - Packing
 - Stuffing
 - Duct Tape
 - Oil

Answers from page 61: 1 D, 2 C, 3 A, 4 B, 5 B, 6 D, 7 A, 8 A, 9 C, 10 A

For those who have questions concerning operator certification requirements and scheduling, please contact Tanya May Jennings at 315-422-7811 ext. 4, tmj@nywea.org, or visit www.nywea.org/OpCert.