

Operator Quiz Corner
Calibration of Liquid Chemical Feed Pumps

1. True or false? A centrifugal pump curve and a peristaltic pump curve are similar.
 - a. True
 - b. False
2. What should an operator do prior to running the pump for calibration?
 - a. Make sure the liquid chemical is properly diluted
 - b. Weigh the full calibration column to ensure accuracy
 - c. Isolate the pump from the system
 - d. All of the above
3. When an operator notices a reduction in ml/min during the next calibration it is likely due to....
 - a. Disruption in the DC current power supply
 - b. Worn pump parts
 - c. Temperature change of the supply water
 - d. Inaccurate calibration column
4. Replacement of pump _____ is a common maintenance procedure for _____.
 - a. Tubing, a peristaltic pump
 - b. Diaphragm, a peristaltic pump
 - c. Spring, a peristaltic pump
 - d. Spring, a diaphragm pump
5. If a calibration check show that a liquid diaphragm metering pump is pumping 70 ml/min of 50% sodium hydroxide calculate how many gallons are being injected in a 24 hour period.
 - a. 3
 - b. 20
 - c. 27
 - d. 1680

Solution:

$$\begin{aligned} & (70 \text{ ml/min}) \times (1\text{L}/1000\text{ml}) \times (1 \text{ gal}/3.785\text{L}) \times (60 \text{ min/hr}) \times (24\text{hr/day}) \\ &= 100,800 / 3785 \\ &= 26.63 \text{ gallons} \end{aligned}$$