



Equipment II

Positive Displacement Pumps

Course Objectives

1. Distinguish between dynamic and positive displacement pumps.
2. Describe the operation and components for each type of positive displacement pump



Key Terms (Define the following)

positive displacement pump - _____



Principles

General Pump Categories	
Dynamic	Positive Displacement
an impeller spins around the pump's axis to move the fluid through the pump	reciprocating or rotary action moves a fixed volume of fluid from the suction side through to the discharge
<ul style="list-style-type: none"> ➔ Flow rates vary with output pressure ➔ Pump at lower pressures ➔ External check valves prevent backflow 	<ul style="list-style-type: none"> ➔ Fixed flow rates ➔ Pump at very high pressures ➔ Internal check valves prevent backflow



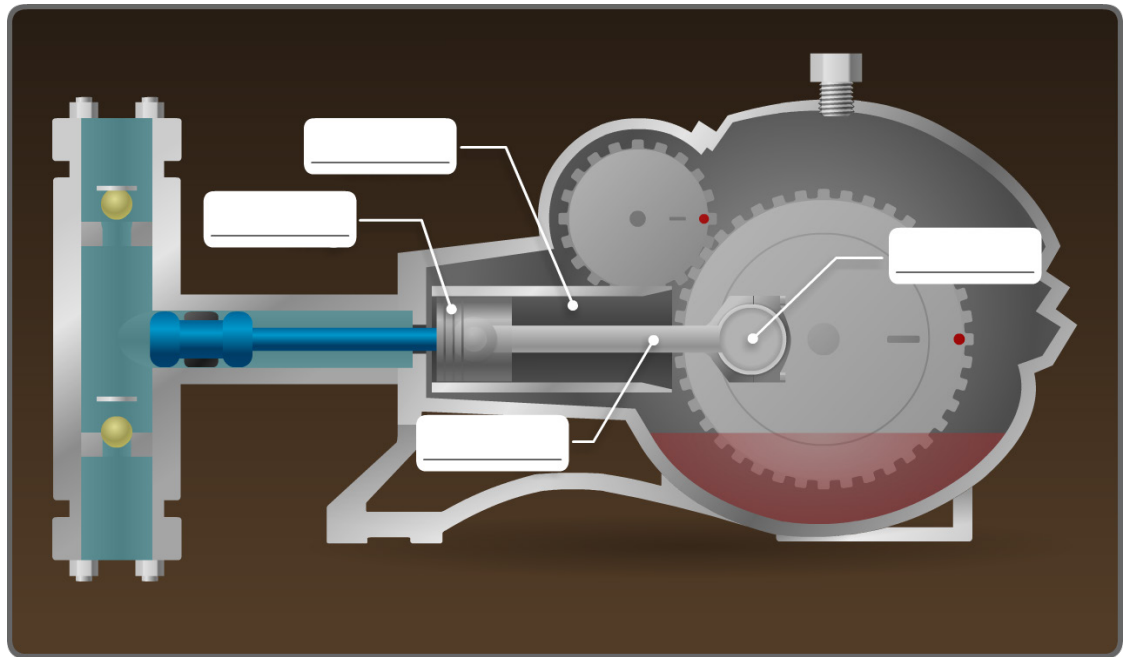
Questions

1. List three ways that a positive displacement pump differs from a dynamic pump.

2. List the two main categories of positive displacement pumps.

1) _____ 2) _____.

3. Label this single-action piston pump



4. Relative to power requirement, what is the advantage of using a duplex or triplex pump over a single-action pump?

5. How does a multi-stage piston pump differ from a duplex or triplex pump?

6. How does a plunger pump differ from a piston pump?

7. How does a diaphragm pump differ from a piston pump?

8. What is the advantage of a diaphragm pump over a piston or plunger pump?

9. List the types of impellers used in rotary pumps.

10. What is the difference between an internal and an external screw pump?

11. Label the parts of this internal screw pump

