

Work Session

Name _____

TDP-502 Chilled Water Piping & Pumps

1. A chilled water system is a/an _____ loop system.

2. A condenser water system with a cooling tower is a/an _____ loop system.

3. Name 4 types of valves that can be used for flow control duty?
 1. _____
 2. _____
 3. _____
 4. _____

4. What are the 3 types of valves that can be used for shutoff duty?
 1. _____
 2. _____
 3. _____

5. What is the price and equivalent pressure drop in feet for a butterfly, globe, gate and ball valve of 6-in. size?

Valve	Price	Pressure Drop (ft)
Butterfly		
Globe		
Gate		
Ball		

6. What determines the need for a volume tank in a closed-loop system?

7. Sketch a typical piping detail for a pump. Label accessories and note their functions.
8. Should the pump be pushing or pulling water through the chiller evaporator and condenser?

9. In a closed-loop system with a flow of 300 gpm, what size chilled water line should be used?
_____ What is the water velocity? _____ What is the friction loss in ft of water/100 ft of pipe? _____
10. If you have 3 pumps in parallel and the system flow is 400 gpm @ 60ft. of hd, what is the flow through each pump? _____ What is the head at each pump? _____
11. Which piping system offers true simultaneous heating and cooling without mixing of the hot and cold water flows? _____
12. When should there be concern regarding NPSH?

13. What type of water control valve would be used on the coils in a variable flow chilled-water system? _____
14. What kind of water control valve is used in a conventional constant flow primary-secondary system? _____
15. Which piping system required a seasonal “changeover” from cooling to heating and vice versa? _____

