

Name \_\_\_\_\_  
 Date \_\_\_\_\_

**TDP-623**  
**Water-Cooled Chillers**

1. Explain the various advantages of water-cooled chillers and the advantages of air-cooled chillers.

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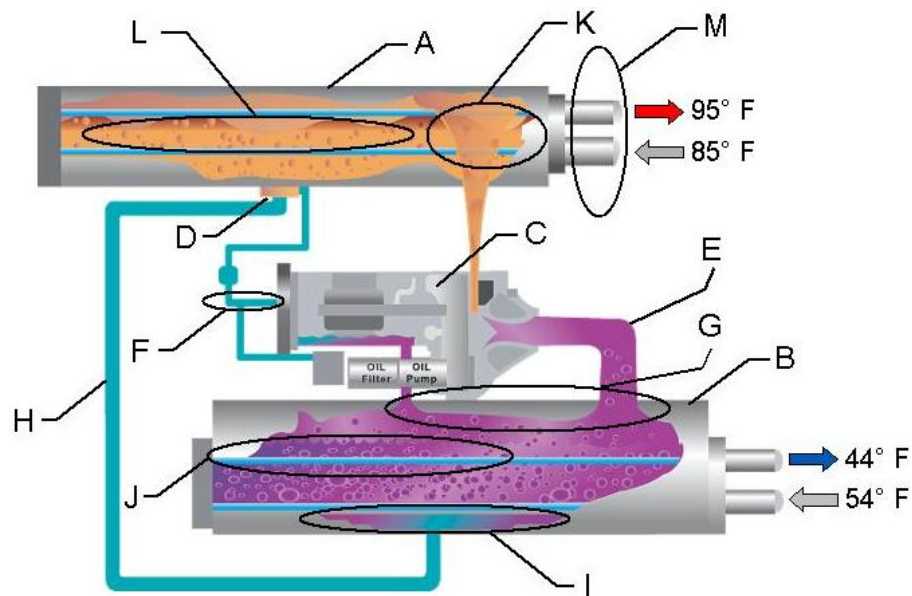
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2. Match the water-cooled mechanical refrigeration cycle points with the call-outs on the diagram.

- |   |                                       |
|---|---------------------------------------|
| ___ Liquid line from condenser                    | ___ Hot gas inlet to condenser        |
| ___ Liquid distribution system in evaporator      | ___ Condenser tubes with water inside |
| ___ Compressor                                    | ___ Compressor suction line           |
| ___ Water nozzles on condenser                    | ___ Suction gas in evaporator         |
| ___ Expansion device                              | ___ Hermetic motor cooling line       |
| ___ Condenser                                     | ___ Evaporator                        |
| ___ Evaporator tubes bathed in liquid refrigerant |                                       |



3. Discuss how the refrigerant used in a centrifugal chiller affects its construction.

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4. Name the four types of compressors most commonly used in water-cooled chillers and give a brief description of how each operates

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5. Describe the role of ASHRAE in centrifugal chiller efficiency and application.

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6. List the typical inputs required in the selection of a large centrifugal chiller.

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_
- d) \_\_\_\_\_
- e) \_\_\_\_\_
- f) \_\_\_\_\_
- g) \_\_\_\_\_
- h) \_\_\_\_\_
- i) \_\_\_\_\_
- j) \_\_\_\_\_

7. Describe why part load stability for a centrifugal chiller is an important selection consideration, but for a screw chiller is not a concern.

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