**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Controls Research Activity \_ Actuators**

Look up information about the actuator for the automated valve on your desk (actuator model M9106-AGA-2).

* This actuator is connected to a ball valve. How might this be used in an HVAC application?
* What other applications could this actuator be used for, and how could it be adapted?
* What is the torque rating, and why would knowing the torque rating matter?
* The factory setting is to move from fully open to fully closed position in 60 seconds. Is it possible to slow the movement to 792 seconds?
* The M9106-xGx-2 Series of actuators can be used with control types of either on/off, floating, or proportional control. Research these terms.
  + What are differences among on/off, floating, and proportional control types?
  + Which digit of the model number signifies which control types a given actuator can be used with? Which control types can the M9106-AGA-2 actuator be used with?
  + Sketch a control loop for using this actuator in an HVAC application.
* What is the difference between a spring-return damper actuator and a non-spring return damper actuator?