Open Loop vs Closed Circulating Loop Systems

Selecting the correct pump for your circulation system can be confusing when it comes to choosing an open or closed loop pump. The diagram and loop system descriptions listed below will help you choose which best matches your application. Keep in mind some installation issues may require a professional to evaluate your plumbing and help you determine which system to select. For basic installation please review the information below to determine if you are in need of an open or closed loop pump.

**Open Loop System**
This system uses the existing cold water lines to return the cool uncirculated water back to the cold water supply in the home before the heating source. Typically used in retrofit and minor remodeling situations an open loop circulation pump will draw water directly from the hot or cold lines on which it is installed. Open Loop pumps can be installed by adding a tee or adapter before the fixture shut off valve as well as inline along the supply or return pipe. In an open loop system the pumps are typically located in a cabinet, under a shelf or counter top very near to the fixture. The pump is controlled by a thermostat or timer, circulating water whenever it is needed to keep incoming water to the fixture at the desired temperature.

**Closed Loop System**
Closed loop water circulation systems have a dedicated return line for carrying water back to the original heating or cooling source. Installing a dedicated return line prevents the possibility of warm or cold spots being mixed in the water supply as in a open loop system. Often installed in new construction or extensive remodeling applications, this also allows for the circulation pump to be installed near the water heater or other heating/cooling source.

If you are still having difficulty choosing a circulation system product, please contact us at askzoro@zoro.com or 855-289-9676.

Information sources include: W.W. Grainger, Laing