



HEATER and CHILLER OPTIONS

For Use With Process Applications

Filtrine chillers offers four heater and chiller options to totally control the temperature of an industrial process fluid over a wide range. They each work with any of the following chiller types:

- 1. PCP- CLOSED LOOP CHILLER:** a liquid is pumped from the chiller through a closed cooling loop and back to the chiller.
- 2. POC- OPEN LOOP CHILLER:** a liquid is drawn from a tank or sump, pumped through the chiller and back to the tank.
- 3. PC- ONE PASS CHILLER:** Liquid is pumped or passes through the chiller under pressure.

FEATURES

Wide Temperature Range: Heating and cooling

Instantly Switches: From hot to cold and back again

Maintains Constant Liquid Temperatures: Under varying heating or cooling loads

Dial-A-Temp Control: Cools liquids at high temperatures from 0°F to 350°F

HEATER AND CHILLER OPTIONS

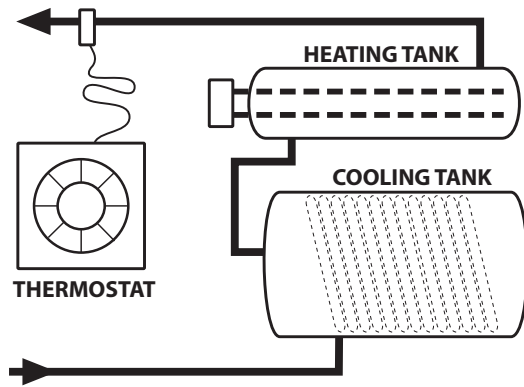
1. IN-LINE HEATER (ILH) OPTION

Maintains constant outlet temperature under varying heating and chilling loads. Thermostat senses liquid temperature and calls for cooling when above set point and heating when below set point.

OUTLET TEMPERATURE RANGE: 0° F to 90° F

TYPICAL APPLICATIONS

- Cool or heat city water as necessary to maintain constant, year round, 68° wash water for photo processing.
- Warm up machine tool coolant to optimum operating temperature for start up, and then cool it to maintain that temperature during operation.
- Cool or heat liquid from an outdoor storage container to optimum makeup temperature.



2. HEAT/COOL (H/C) OPTION

Switches instantly from hot to cold and back. Heating and cooling tanks are controlled by their own thermostats. The fluid in each is continuously agitated to maintain close temperature control. A 3-way selector switch operates four solenoid valves to permit the flow of liquid through either the heater or chiller as required.

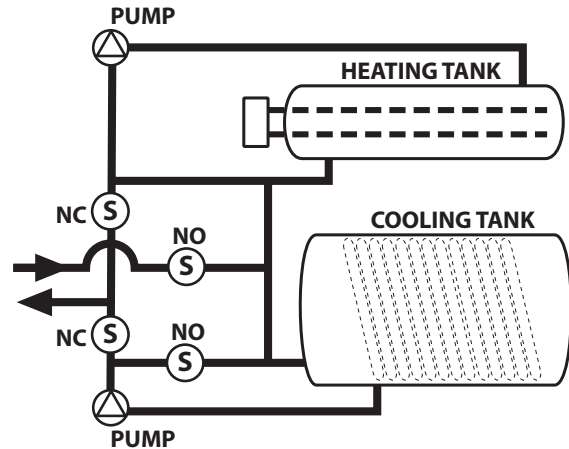
OUTLET TEMPERATURE RANGE:

Heats to 250°F

Cools from 90°F to 0°F

TYPICAL APPLICATIONS

- For vacuum coating, heat up work piece for coating then quickly cool it down for handling.
- Product testing with quick and extreme coolant temperature changes.



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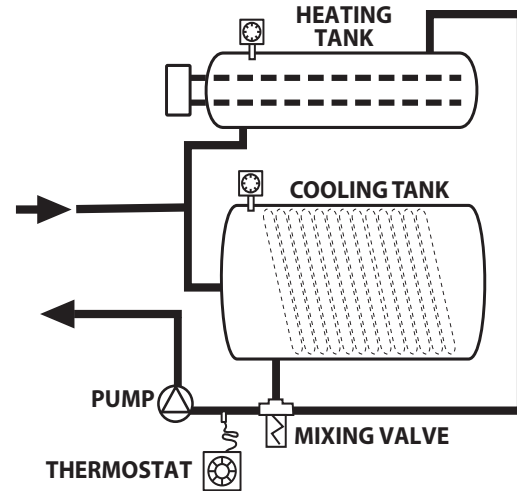
3. MIXED HOT & COLD (MHC) OPTION

Complete dial-a-temp control over a wide temperature range. Outlet temperature will follow the set point control up or down as it is changed. Heating and cooling tanks are controlled by their own thermostats set at extremes of temperature range desired. Temperature controller operates a mixing valve that blends hot and cold fluid to produce desired outlet temperature.

OUTLET TEMPERATURE RANGE: 0° F to 200° F

TYPICAL APPLICATION

Ramp heating and cooling of electronic components for precise computer monitored testing.



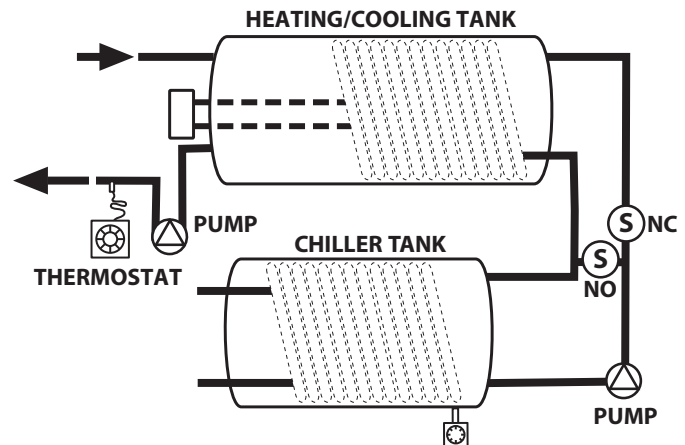
4. BATH COIL HEATER/CHILLER (BHC) OPTION

Extremely wide range heater/chiller. Ideal for cooling fluids at high temperatures. Temperature control is accomplished in a heating/cooling tank. When the controller calls for cooling solenoid valves are actuated and cold fluid is circulated from the chiller tank and through the cooling coil. When the controller calls for heating, the circulation of cold fluid stops and the heater is activated.

OUTLET TEMPERATURE RANGE: 20° F to 350° F.

TYPICAL APPLICATION

Heat up a device to optimum process temperature, then cool it to maintain that temperature during the process, then cool it down for handling.



HEATER AND CHILLER ACCESSORIES: There are many variations to the above four designs to suit specific applications. All heater chillers can be built with any of the options available on standard Filtrine chillers.

In addition, special controllers are offered:

- Analog Set Point and Indicating Controller
- Digital Set Point and Indicating Controller
- Time Proportioning Output to Heater
- Adjustable Wide ON-OFF Differential
- Multiple Output Options – for remote monitoring 0-5 VDC, 4-20mA, RS-232, RS435, and more...
- Local-Remote Set Point – computer compatible
- Local and remote readouts
- Remote Control Panel – ready for installation separate from the heater/chiller