

AUTOMATIC MAINTENANCE AND FLOW CONTROL OF HEAT EXCHANGER

ABSTRACT

A heat transfer system that includes one or more heat exchangers and one or more control pumps that control flow through the heat exchangers. In order to source a variable load, the control pumps can be controlled to operate at less than full duty flow. In an example embodiment, a controller can calculate, when each heat exchanger is clean, coefficient values of each respective heat exchanger. The controller can determine, during real-time operation, real-time coefficient values of the heat exchanger to compare with the respective coefficient values when clean, in order to determine whether there is fouling in that heat exchanger. In some examples, the controller can determine that maintenance is required on the heat exchanger due to the fouling, and perform flushing of the heat exchanger by operating one or more of the control pumps at full duty load during real-time operation to source the variable load.

[FIGURE 3B]