

SYSTEM

In many processes involving filtering systems, it is necessary to backflush the filter to prevent clogging.

PROBLEM

If the water quality and flow rate are fairly constant, a simple timer can be used to initiate a backwash cycle on a fixed time schedule. However, if the flow rate or water quality varies greatly this approach does not provide adequate control. The pressure drop across the filter alone may also not be adequate.

SOLUTION

The Badger Meter Series 2200 Batch Controller, can provide control based on almost any combination of flow rate, differential pressure, or time.

EXAMPLE

The system requires a flow rate that does not drop below 50 GPM. Unless the water quality clogs the filters more quickly than expected, the regeneration/backflush cycles occur once every 300,000 gallons. The regeneration/backflush cycle requires that 100 gallons be dumped to waste.

To accomplish this a flow sensor is installed in each of the clean and waste water lines, and the Series 2200 is ordered as a dual channel batch controller.

Channel #1 controls based on Clean Water Flow Rate and Total.

Channel #2 controls based on Waste Water Flow Rate and Total.

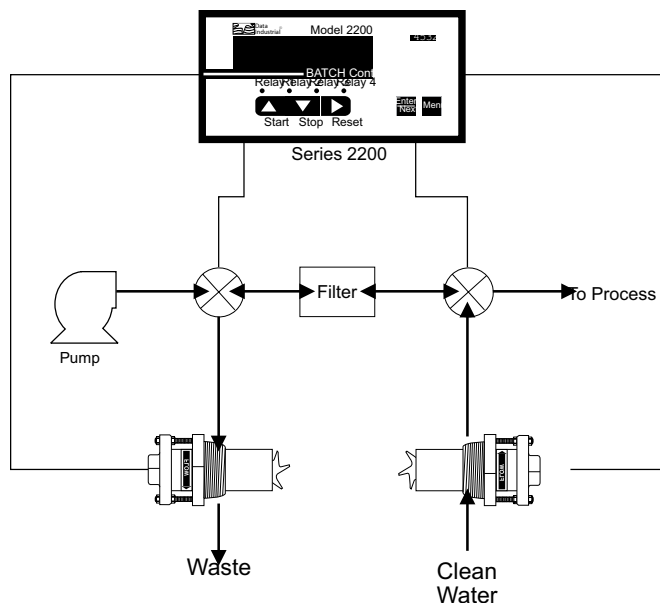
Relay #1 is programmed as a Clean Water Low Flow Set Point of 50 GPM

Relay #2 is programmed as a Batch #1 of 300,000 gallons total clean water.

Relay #3 is programmed as a Batch #2 of 100 gallons total wastewater.

If either the flow rate drops below 50 GPM, or 300,000 gallons of clean water passes through the filter, a backflush cycle is started. When 100 gallons has been flushed through the filter, and any other required regeneration actions have been completed the system resets and the process repeats.

Depending on specifics of the system one or more external relays and/or time delay relays may be required. Again, depending on system design requirements, the batches are reset either automatically or manually and the process continues.



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