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Troublesome Condensate Transfer Pumps

Many small condensate transfer units have pumps that are designed to return condensate to low pressure steam boilers. Accordingly, they are rated at 15-20 psi (35-45 ft. head) discharge pressure. In many installations, however, they are only pumping condensate up a few feet to another vented tank through a piping system that has a low head loss. If they are not throttled they will run way out on the pump curve and over-pump.

When this happens, there will be trouble. The operating cycles of the pump will be very short, sometimes lasting only a few seconds. This can put a lot of stress on the mechanical and electrical components. There will also likely be cavitation that can destroy the pump impeller. Limiting the flow on these pumps to the design value moves the operating point back up to the sweet spot on the pump curve. The operating cycles will be the proper length, the pump will quiet down, and maintenance requirements should be reduced.

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