

## ENGINEERING DATA SHEET

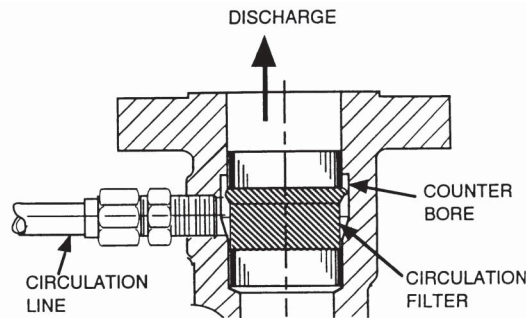
<i>Discharge Filters</i>		
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Because the recirculating flow in a Chempump serves as both coolant and lubricant, it is important that this fluid be as clean as possible prior to entering the motor cavity. This is accomplished by inserting a small, self-cleaning, cylindrical filter in the discharge flange of the pump casing. The discharge filter is made of the same corrosion-resistant materials as the internal wetted parts of both pump and motor. The screen of this filter is an 80 mesh which will prevent particles larger than .007" from entering the motor section of the pump.

The main discharge flow from the pump passes through the center of the cylindrical filter and is not filtered. A small amount of this flow passes through the screen of the filter and into the recirculation tube. In this way, solid particles are removed from the recirculating flow and are trapped on the inside surface of the flow. The filter is so designed that the differential pressure across it is negligible. The discharge flange is counter bored so that the entire 360° surface of the screen can be utilized.

In certain applications, the discharge filter will be omitted, such as when pumping gelatinous or viscous fluid. Gelatinous substances or particles may build up on the surface of the filter and will not be washed away by the main process flow resulting in the recirculation rate being decreased, and subsequent temperature increase in the motor cavity causing accelerated corrosion, or flashing of the fluid. Viscous fluids (above 30 cps) would not pass easily through the filter and would have a reduced flow to the motor section. In such cases, it is assumed that the materials which would normally plug the filter are non abrasive and will pass across the bearings surfaces without causing permanent damage or excessive wear.

The general design of the discharge filter is illustrated below.



*Figure: Discharge Filter*