



MC Standpipe Continuous Level Application

A new era in pulp stock handling was introduced recently with the emergence of the MC pump. The latest evolution of the MC pump (standpipe system) includes a centrifugal pump with a recessed impeller that fluidizes the pulp mixture. Fluidization of the pulp permits an 8-18% (medium consistency) pulp stock to be pumped with centrifugal pumping methods. Pumping of pulp stock in the 8-18% range was never achievable before because of plugging.

The strong turbulence used to fluidize the pulp allows for the addition of bleaching chemicals. Therefore, maximum efficiency of chemical addition is achieved in this stage.

The MC standpipe system consists of an MC pump positioned at the bottom of a drop-leg (surge) tank. This drop-leg is the standpipe and level monitoring is very important because it:

- ▲ Prevents pump cavitation
- ▲ Eliminates overflow and back-up into the pulp system
- ▲ Eliminates bridging
- ▲ Maximizes chemical efficiency

The traditional instrumentation, using load cells, DP cells, and capacitance probes has proven to be ineffective for this application. Load cells are unpopular because of their high cost. DP cells produce problems because of frequent bridging inside the standpipe, which leads to false level measurements. With capacitance probes, coating on the probe could produce an erroneous reading, and all intrusive measuring instruments cause high maintenance costs.

For these reasons, Berthold continuous level gauges have significant advantages over other technologies.

- ▲ Easy installation
- ▲ Non-contacting measurement eliminates the need for maintenance
- ▲ High accuracy even with flow of material through the measuring span
- ▲ Repeatability

The difficulty of this application lies in the dimension of the standpipe (typically 36-40" in diameter and 10" high). Our competitors must use 3-4 point sources to achieve this measuring span and it is necessary to measure through a curtain of falling material in the pipe. Berthold uses its proven rod source technology in which the installation is off-center to prevent interference by falling material.

Berthold is the approved radiometric vendor for OEM's like Sulzer Process Pumps because of the repeatability that we achieve with our rod source and highly sensitive scintillation counter.

Berthold has installed more than 100 continuous level systems in the US and Canada, as well as in Sweden, Finland, and other parts of the world.