

## CATEGORY:

- Temperature
- Pressure
- Flow
- Speed
- Weighing
- Other

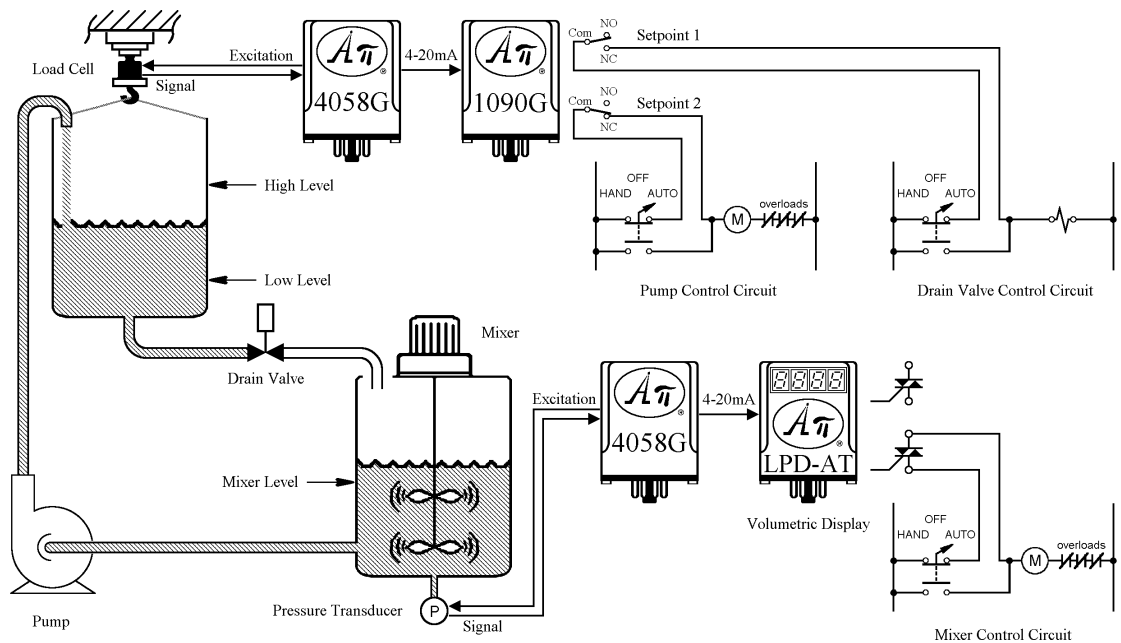
## CHEMICAL PLANT

### PROBLEM:

Pump a liquid from a mixing tank to an elevated storage tank until the level in the storage tank reaches its high limit, then stop the pump and drain the liquid from the storage tank to the mixing tank. When the level in the storage tank reaches its low limit close the drain valve and restart the pump. Repeat the cycle continuously. Run the mixer only when the mixing blades are fully submerged.

### SOLUTION:

The elevated storage tank is suspended from a load cell (strain gauge) which is connected to an Api Model 4058G Wide-Ranging, Field Selectable Strain Gauge (Bridge) Input to DC Transmitter module. The Api 4058G provides the +10 VDC excitation voltage for the load cell and produces a 4-20 mA output signal proportional to the level of the liquid in the storage tank. An Api Model 1090G DC Input, Wide-Ranging, Field Selectable Dual Alarm Trip module receives the 4-20 mA signal and controls the operation of the pump and the drain valve.



A second Api 4058G provides excitation voltage for a pressure transducer installed at the bottom of the mixing tank and produces a 4-20 mA output signal proportional to tank level. This output drives an Api LPD-AT Loop Powered Display Alarm module with Triac Output which displays the volume of liquid in the mixing tank scaled in appropriate units and controls the operation of the mixer.

### Did You Know ... ?

The functional test pushbutton on all Api alarm modules will toggle the outputs independent of the input signal.