Pump Cart
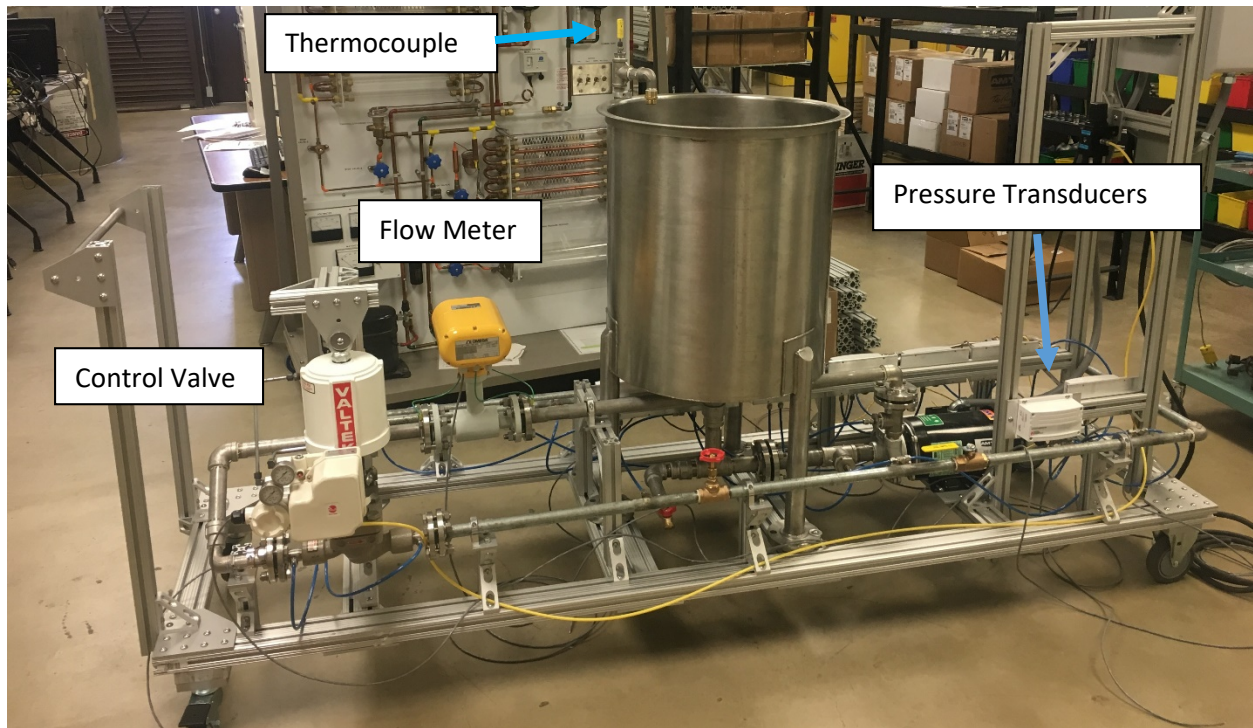
Pump:

      Speed: single

      Horsepower (single speed): 2 hp

Piping:

      Nominal diameter: ¾ in

      Material: galvanized steel

Flow meter:

      Range: .79 to 79 GPM (gallons per minute)

      Error: ±0.5% from 5 to 100% Qs, ±1% from 1 to 5% Qs

Pressure transducer:

      Range: 0 to 250 psid

      Error: ±1 % FS (full span of selected range in bidirectional mode)

Control valve:

      Type: Pneumatic globe valve

Size: 0.75"

Thermocouple:

Type K

Temperature measurement at recycle point

The control valve has holes drilled in the inlet and exit sides. From here you can obtain the pressure drop over the valve. The flow rate is read from the magnetic flow meter.

Procedures

Start up

-Plug experiment into appropriate socket

-Check tank level (should be at least half full)

-Using one of the lab computers, set the desired flow rate using the appropriate link on the lab website. (Interface must be run using the Pale Moon browser.)

-Start pump

Data Collection

-Choose 8 flow rates and perform 4 replicates of each point

-Select start

-Download the spreadsheet when completed

Shut down

-Stop pump

-Leave unit for next group