CM3215 Laboratory: Feedback
16 April 2012

Laboratory 1: Differential Pressure Meter Calibration
- color change
- ic monometric fluid same
- hard pump leaking
- leaky connection
- add cut off valve
- Instruct how to use

Laboratory 2: Viscosity Concentration Dependence
- more tanks
- Excel exercise - ask why you'd want to do this
- no pertin - hard to finish

Laboratory 3: Rotameter Calibration
- Orifice meter - inaccurate
- clean screens regularly
- Why start / run dirty
- Orifice meter at all

Laboratory 4: Control Valve Trim
- Easy
- Load up valve? OK

Laboratory 5: Friction in Pipes
- Inaccuracy
- Long pipe
- got more accurate
- add smaller pipes
- Improve accuracy by calibrate DP meter

Laboratory 6: Lossy Pump Characteristic Curves
- Successful
- Buy border gauge with firm reading scale

Laboratory 7: Heat Exchanger Overall U Measurement
- short on time
- some buckets leaking
- hose not working
- heat into wall untune
- look or select
- trap
- fill buckets
- change to pipe

Laboratory 8: Sphere h Measurement
- Operate
- avoid spilling
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Laboratory 1: Differential Pressure Meter Calibration
- baby pump need to be checked, leakage of air

Laboratory 2: Viscosity Concentration Dependence
- more tanks
- explain purpose of graphs

Laboratory 3: Rotameter Calibration
- look into orifice meter
- clean screens regularly

Laboratory 4: Control Valve Trim

Laboratory 5: Friction in Pipes
- longer pipes for better accuracy
- smaller diameter pipes than 1/4"
- more accurate gages

Laboratory 6: Lossy Pump Characteristic Curves

Laboratory 7: Heat Exchanger Overall $U$ Measurement
- short on time
- leaky buckets
- change hose to pipe
- fill buckets on bench

Laboratory 8: Sphere $h$ Measurement
CM321§ Laboratory: Feedback
16 April 2012

Laboratory 1: Differential Pressure Meter Calibration
Leaky connection, maybe add cut off value, training is a little off
Hand pump does not work right

Laboratory 2: Viscosity Concentration Dependence
Small lab more turns off water, learning how to read the data, excel exercise ask why
You seem to hit the pit

Laboratory 3: Rotameter Calibration
The orifices maybe need, if liquid is brown it can clog up and send the pump to its
maximum psi, clean orifices screens before each lab.
Computer to control to turn valves on and off, to control the flow rate

Laboratory 4: Control Valve Trim

Laboratory 5: Friction in Pipes
Measurements are inadequate, don't trust anything under 5 psi, want lab to be
in honest safe, larger pipe, possibly add more copper pipes, will not only use one.
Three more gauges with inner reading scale

Laboratory 6: Lossy Pump Characteristic Curves

Laboratory 7: Heat Exchanger Overall U Measurement
Thermometer not working and buckets leaking, spilling things when moving the hose, should change
to pipe. Fill buckets on the bench.

Laboratory 8: Sphere h Measurement
Laboratory 1: Differential Pressure Meter Calibration

Laboratory 2: Viscosity Concentration Dependence

Laboratory 3: Rotameter Calibration

Laboratory 4: Control Valve Trim

Laboratory 5: Friction in Pipes

Laboratory 6: Lossy Pump Characteristic Curves

Laboratory 7: Heat Exchanger Overall $U$ Measurement

Laboratory 8: Sphere $h$ Measurement
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Laboratory 1: Differential Pressure Meter Calibration
- Hand pump leaks
- Maybe add a non-return valve

Laboratory 2: Viscosity Concentration Dependence
- More training with multimeter
- More blanks of water

Laboratory 3: Rotameter Calibration
- Check critical meter screens more/larger inaccurately
- Why does station 1 run tighter?
- Why unbleed meters at all

Laboratory 4: Control Valve Trim
- Explain how to read valve gauge more

Laboratory 5: Friction in Pipes
- DP meter can only really measure pressure drops of about 1 psi, which makes measurements inaccurate
- Maybe get a smaller sized pipe for more accurate data

Laboratory 6: Lossy Pump Characteristic Curves / Calibration of system curve
- Buy burden gauges with a fine-gauge

Laboratory 7: Heat Exchanger Overall $U$ Measurement
- Time constants
- Broken thermometers / circuit loading

Laboratory 8: Sphere $h$ Measurement
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Laboratory 1: Differential Pressure Meter Calibration

Good

Laboratory 2: Viscosity Concentration Dependence

@ More Tanks @ More Time

Laboratory 3: Rotameter Calibration

Good

Laboratory 4: Control Valve Trim

Good

Laboratory 5: Friction in Pipes

Bourdon gages that have a smaller scale of measurement between increments.

Laboratory 6: Lossy Pump Characteristic Curves

Good

Laboratory 7: Heat Exchanger Overall U Measurement

@ Not enough time @ Thermometer's need to be checked.

Laboratory 8: Sphere h Measurement
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Laboratory 1: Differential Pressure Meter Calibration
- Hand pumps leak when pumping manometer (2nd valve?) 4 Cut off valve

Laboratory 2: Viscosity Concentration Dependence
- More tanks
- Hard to freeze (not enough of time)

Laboratory 3: Rotameter Calibration
- Cleanly screens of orifice regularly
- Can orifice meters? - Make orifice meters detached?

Laboratory 4: Control Valve Trim

Laboratory 5: Friction in Pipes
- Conical pipe?
  - Add smaller pipe so 2 test only one

Laboratory 6: Lossy Pump Characteristic Curves

Laboratory 7: Heat Exchanger Overall U Measurement
- Change steam trap tubes for pipes

Laboratory 8: Sphere h Measurement