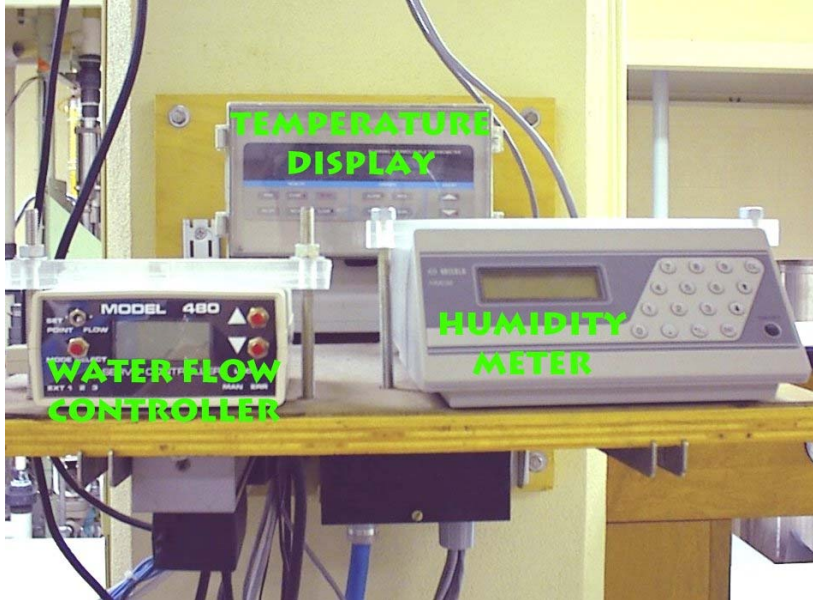


Wetted Wall Column

User's manual
Revision 00.4

There are two columns that make up this experiment. The left column (1.375") is called the big column and the right column (1.00") is called the small column.

This experiment is controlled in part by the Bailey Distributed Control System. The remaining controls are located either at the Control Panel just south of the columns or directly on the experiment.



Startup:

- 1.) Turn on the Main Power Switch located under the Control Panel.



- 2.) Since the Humidity Meter has an internal battery, it is always switched off at the end of the lab period. Therefore, it is necessary to turn it on now with the switch located on the lower right

corner of the meter.



3.) Fill the Main Reservoir with the provided solution of DI water and 500 ppm JetDry wetting agent.



4.) Using the Bailey, bring up the WWCOLUMN group display.

5.) Select the desired column (Window A). It is important not to switch between the columns with the water pump running. Also, if the columns are switched twice in quick succession, it is possible that the water pump outlet may become out of sync with the column selection. This condition can be corrected by an intentional rapid switching of the columns.

6.) The Run/Fill Valve (Window G) should remain in the Fill position.

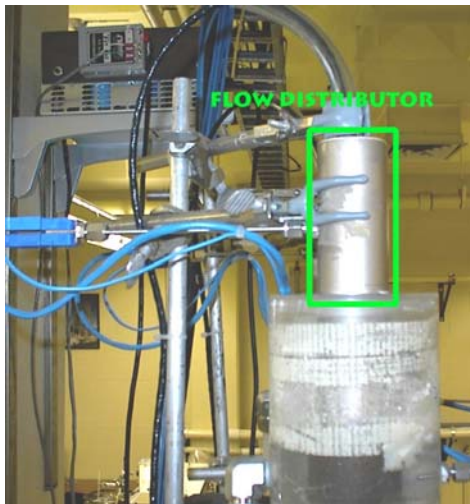
7.) Set the desired air flow rate (Window B).

8.) Set the desired water flow rate (Window H). Note that it may not always be possible to achieve the desired water flow rate at higher values. Once the pump is started, confirm the flow rate.

9.) Using the water pump switch on the columns, start the pump. Notice that the correct column is starting to fill. If water is entering the wrong column, this indicates that the pump outlet is out of sync; stop the pump and see step 5.



- 10.) The clamp on the Flow Distributor at the top of the column can be loosened and the distributor adjusted, side to side as well as up and down, to achieve a uniform wetting of the column wall. This is a somewhat tedious task but have patience and remember to retighten the clamp.



Collecting Data:

The Bailey displays all the required data and automatically switches to display data from the selected column. At this time, however, it is highly recommended that temperature data be obtained directly from the temperature display in the Control Panel. This display sequentially displays all the temperature for both columns numbered in accordance with the labels on the columns. While running the column, stay alert to the level of liquid in the Main Reservoir and refill as necessary. In order to obtain data for the humidity of the incoming air, either column can be run without water flow and the humidity of the outgoing air measured. This valve will remain constant for long periods of time but should be checked daily.

Shut Down:

- 1.) Turn off the Water Pump.

- 2.) Turn off the Humidity Meter.
- 3.) Turn off the Main Power Switch.