

Pulsed Plate Liquid Liquid Extraction Column

User's Manual

Revision 10.03

1) Position hand ball valves 2, 5 and 8 to their start-up position according to the following list:

HBV-2...Closed ([Fig. 1.1](#))

HBV-8...Closed ([Fig. 1.2](#))

HBV-5...Closed ([Fig. 1.3](#))

Fig. 1.1

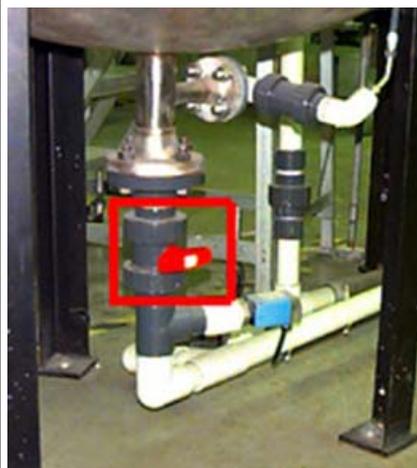


Fig. 1.2



Fig 1.3



2) Check switches on the control panel ([Fig. 2.1](#)) according to the following list:

3-Way Ball Valve..Manual ([Fig. 2.2](#)) It should never

Fig 2.1

Fig 2.2

be switched to allow water into the organic feed.

Other Switches....Computer

3) Turn on the master power switch (upper left corner of the front control panel -- [Fig. 2.3](#)). The water feed tank may fill--it has automatic shutoff.

4) Transfer the organic product tank contents to the organic feed tank, if needed, by pushing the transfer pump on/off button (lower left of the front control panel -- [Fig. 2.4](#)). It also has automatic shutoff.

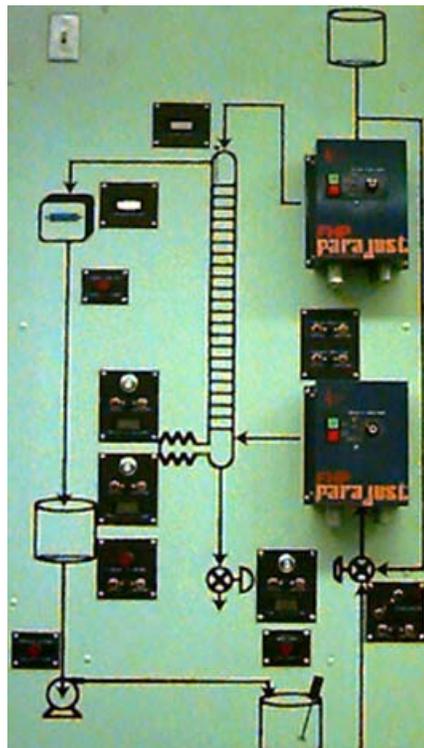


Fig 2.4

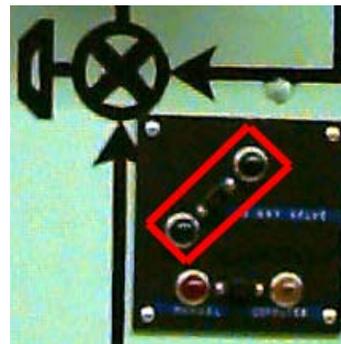


Fig 2.3



Fig 2.5

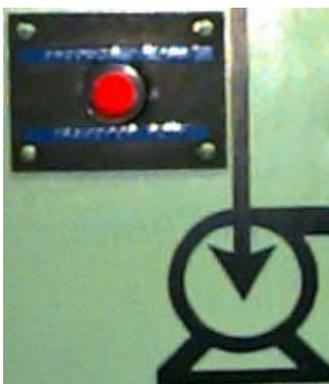


Fig 3.1



Fig 3.2

5) Measure out the desired amount of propionic acid and add it to the organic feed tank ([Fig. 3.1](#)) contents via the lid on back side of the tank ([Fig. 3.2](#)). When the liquid level in the organic feed tank is high enough, turn the mixer on (lower right of the front control panel -- [Fig. 2.5](#)).

6) Bring up the Bailey control menu on a lab computer. The pulsed column controls are under the Group

Displays (F1), Display #61 and #62. Start in Display #61.



- 1) Open the water feed tank valve, HBV-2 ([Fig. 1.1](#)).
- 2) Using Bailey Display #61, faceplate A (labeled as PP Column Impurity), set the water feed pump output, located at the bottom of the faceplate, to 30%. The pump won't start yet.
- 3) Using Bailey Display #61, faceplate C, set column level to automatic with a 70% set-point.
- 4) Start the water pump with Bailey Display #61, faceplate B. If the pump doesn't start turning, turn it off and get help from [Mike](#).
- 5) When the column begins filling with water, open the column bottoms valve, HBV-5 ([Fig. 1.2](#)). Let the column fill so the level comes up to its set-point on Bailey Display #61, faceplate C. If the column overfills, turn off the water pump and get help from

MIKE



- 6) Using Bailey Screen #62 faceplate G, start the pulsation pump. If the pump doesn't start immediately, be patient. If it doesn't start within 60 seconds, turn the pulsation pump off and get help from [Mike](#).
- 7) Open the organic feed tank valve, HBV-8 ([Fig. 1.3](#)).
- 8) Using Bailey Display #62, faceplate A, start the organic feed pump. Then using Display #62, faceplate C, set the pump to 35%.

Mike.

Fig 5.1

- 1) Using Bailey Display #62, Faceplate A, stop the organic pump.
- 2) Close the organic feed tank valve, HBV-8 (Fig. 1.3).
- 3) Using Bailey Display #61, faceplate B, stop the water pump.
- 4) Close the water feed tank valve, HBV-2 (Fig. 1.1).
- 5) Wait a few minutes to let the organic material in the column rise to the top (Fig. 5.1).
- 6) Using Display #62, faceplate G, turn off the pulsation pump.
- 7) Once the organic layer in the column has dropped below the level of the top outlet (Fig. 5.1), close the column bottoms valve, HBV-5 (Fig. 1.2).
- 8) Shut off (flip switch to down position) the master power switch (upper left hand corner of control panel Figs. 2.1 and 2.3).

