

ACE/BOWDOIN

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MICROSCALE SPINNING BAND COLUMN

OPERATING INSTRUCTIONS

Assembly:

1. Assemble the apparatus as illustrated in Figure 1. Insert Teflon Band thru male joint on bottom of column and attach pot/vial with "V" magnet of Band in pot. In the process, make sure the Band is as straight as possible. In particular, the pointed "V" section extending into the pot must be straightened so that as little vibration (wobbling) as possible occurs during rotation of the Band.

2. Insert the Teflon Stopper in the receiver side arm. This Stopper plays a very important function in the operation of the column. Insertion of the Stopper creates a closed system. Suspension of the thermometer in the column, can act to release a buildup of pressure during distillation. If the thermometer is not utilized for any reason, do **NOT** stopper the top joint of the Air Condenser. **The system must be able to vent during operation.**

Initial Equilibrium Conditions:

3. Gently heat the pot until boiling occurs. When reflux commences at the base of the column, the magnetic stirrer is turned on. Once liquid begin to enter the column, the spin rate is advanced to maximum speed (1000-1500 rpm).

4. It is absolutely critical that the temperature of the pot be adjusted so that vapors rise in the column **very** slow. The orientation of the Air Condenser acts to control the reflux rate in the head of the column. While this control is effective, it is also rather sensitive and can be overridden by a too rapid boil-up rate. In order to keep the cost of the system as low as possible, this procedure is used to avoid placing an expensive stopcock on the head of the column.

