Caution! Do not run the pump dry. The pump may be severely damaged. The pumps use slide bearings that are lubricated by the pumped product. No lubrication, no bearings. Even short periods of dry running could damage the pump.

Caution! Do not Dead Head. Although the radial loads on the bearings are not a concern, the liquid in the pump will rapidly increase in temperature. This will continue until the boiling point is reached. Some liquids boil at temperatures sufficient to melt pump components and destroy the magnets. Other liquids will flash into vapor. This vapor collects at the bushing causing dry running.

Caution! Mag Drive Mismatch. Do not use inner and outer magnet assemblies with unlike drives (AK with BK, CK with AK, etc.). Mismatch of drives will prevent coupling from occurring and **will damage** the pump. Typically, the pump will make a loud buzzing noise with little or no flow and head developed.

Caution! Cavitation. Prolonged cavitation may cause pitting on the pump components. Short term severe cavitation, such as that caused by a closed suction will damage the pump bearings.

Caution! Water Hammer. Sudden changes in fluid velocity can cause large, rapid pressure surges. These pressure surges can damage the pump, piping and instrumentation. Typical causes are rapidly closing valves. Check valves on the suction can also cause water hammer if the liquid has time to reverse direction before the valve closes.

Recommended! Power Monitors. We recommend installing a power monitor on all pumps. These devices are very effective at protecting the pumps from dry running, cavitation or when frequent overload is expected. They are also very effective for stoppage during tank unloading applications.

- Dry Running
- Closed Valve
- Clogged Suction Filter

- Pump Seizure
- Severe Cavitation
- Excess (High) Flow

6-c. SHUTDOWN

If the pump is to be shut down for any reason, use the following procedure:

1. Close the discharge valve slowly to prevent water hammer.

2. Shut off the motor.

3. Close the suction valve.