

Troubleshooting Priming Issues in Fuel Oil Systems

Low flow rates, high points, dramatically oversized piping, and devices that necessarily obstruct flow, such as antisiphon valves, all can lead to systems which can not be primed by the pumps alone and prolonged attempts to prime such systems with the pumps alone can lead to seal failure and excessive wear of the pumps.

- Do not run pumps for more than 30 seconds to a minute in an attempt to self prime the system. Your pumps may simply not have enough flow rate to develop the velocity required to prime the suction piping. In this case, manual priming of the piping is required.
- Open the strainer baskets and fill them with oil. This fluid will assist the pumps to evacuate air more effectively. This can be particularly helpful if priming from the highest point of the piping is not possible.
- Manually prime from the highest point of the piping by opening a pipe plug, if available, and pouring or hand-pumping oil into the pipe until it is filled as much as possible. This is the best method to assure the system is completely primed. Manual priming of pump systems from the highest available point can alleviate most suction related issues in otherwise well designed piping systems.
- If there are multiple high points in the piping, prime them all working from the lowest of the high points to the highest.
- If there is an antisiphon valve, prime on both sides of that valve, if possible.
- During priming, either with the pump or manually, a discharge gauge can be unscrewed and the system allowed to vent through the needle valve to air until oil appears, at which point the valve should be closed. This assures oil has filled the pumps.
- During priming, if a back pressure valve is installed on a return loop in the system, open the bypass valve, if present, to allow the system to freely return oil back to the tank and evacuate air. If a bypass valve is not available, the relief valve can similarly be used to return flow and air back to the tank. Please contact the factory for assistance.

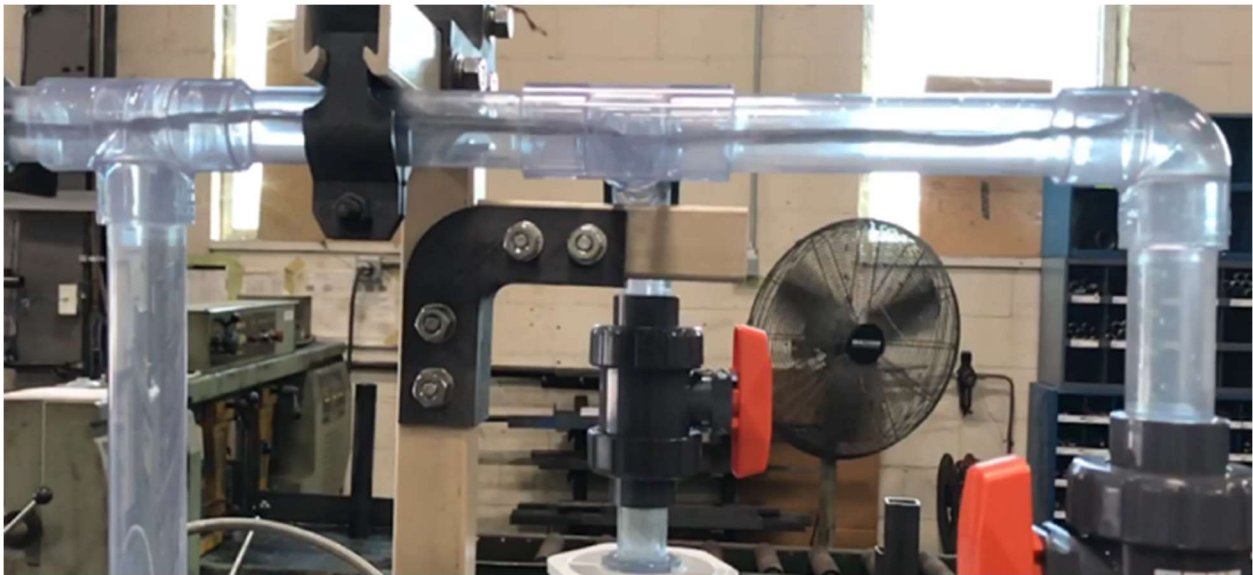


Figure 1: At high points in suction piping, air can remain trapped for long periods of time, causing surging and “waterfalls” that impact pump performance. Priming from the highest point in the piping eliminates these air pockets.