

# Installation and Operation of E-Series Pump

E-Series pumps are designed to operate in one direction: with the pump shaft pointing towards the observer, the pump operates in a clockwise direction. (This is the opposite of our D-Series pumps.)

All E-Series pumps are equipped with a built-in by-pass valve which will either discharge internally, or externally (see sheet "AL-47"). This is unlike the D-Series pumps, where the bypass valve will only relieve externally. The E-Series bypass valve port is located on the gear end cover. The EG-1Z bypass valve port is 1/2-inch FNPT while the EC-HZ bypass valve port is 3/4 FNPT. Both pumps must be piped so that a bypass valve line leads either from the pump cover with the bypass port in the 12:00 position, or from a separate bypass valve off of a tee in the pump outlet line, back to the vapor space connection on the supply tank. Proper pump bypass is important and should not be ignored. Our recommendations should be followed as closely as possible. **If an E-Series pump is operated with a plug in the gear end cover, that plug should be orientated to allow internal discharge of the bypass valve, and an external bypass valve must be used.** The bypass valve in both E-Series pumps is set to crack at 90 PSID.

All E-Series pumps are equipped with a stainless steel strainer screen. Separate Y-type in-line strainers are not necessary and may cause damage to the pump. Periodic inspection of the built-in strainer is required, and a thorough cleaning may be necessary. This is important!

Periodic inspection of all working parts should be an automatic feature of any maintenance program. If significant wear is found with any working part such as the gear set, bushings, idler gear shaft, bypass valve cartridge, or mechanical shaft seal assembly, these parts should be immediately replaced. If in doubt, contact the factory for advice.

E-Series pumps are designed to discharge rated capacities at 3600 RPM motor speed.

Inlet and outlet pipe should be 3/4-inch for the EG-1Z pump and 1-inch for the EC-HZ pump. Smaller than recommended pipe size will cause premature wear of most working parts in the pump.

If product leakage is detected, the pump should immediately be taken out of service and repaired or replaced.

**DO NOT OPERATE ANY PUMP WITH A LEAKING SEAL!**



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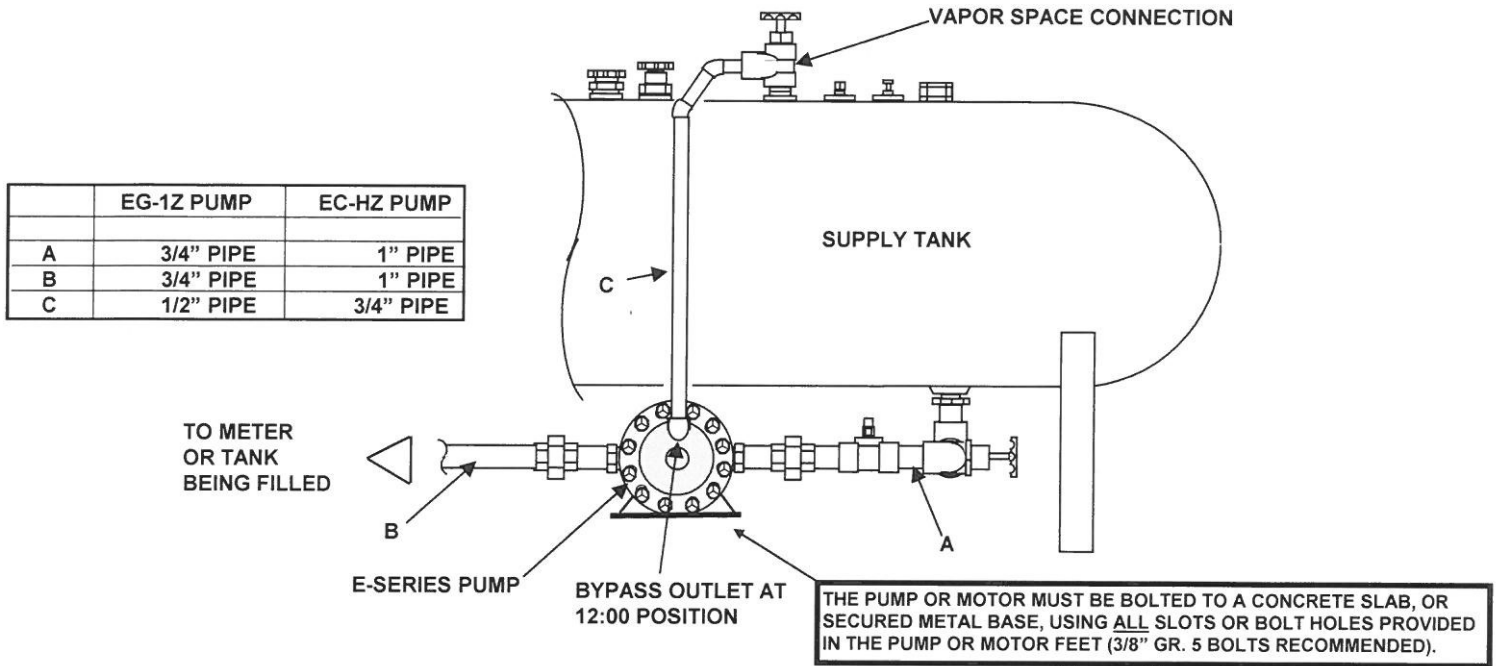
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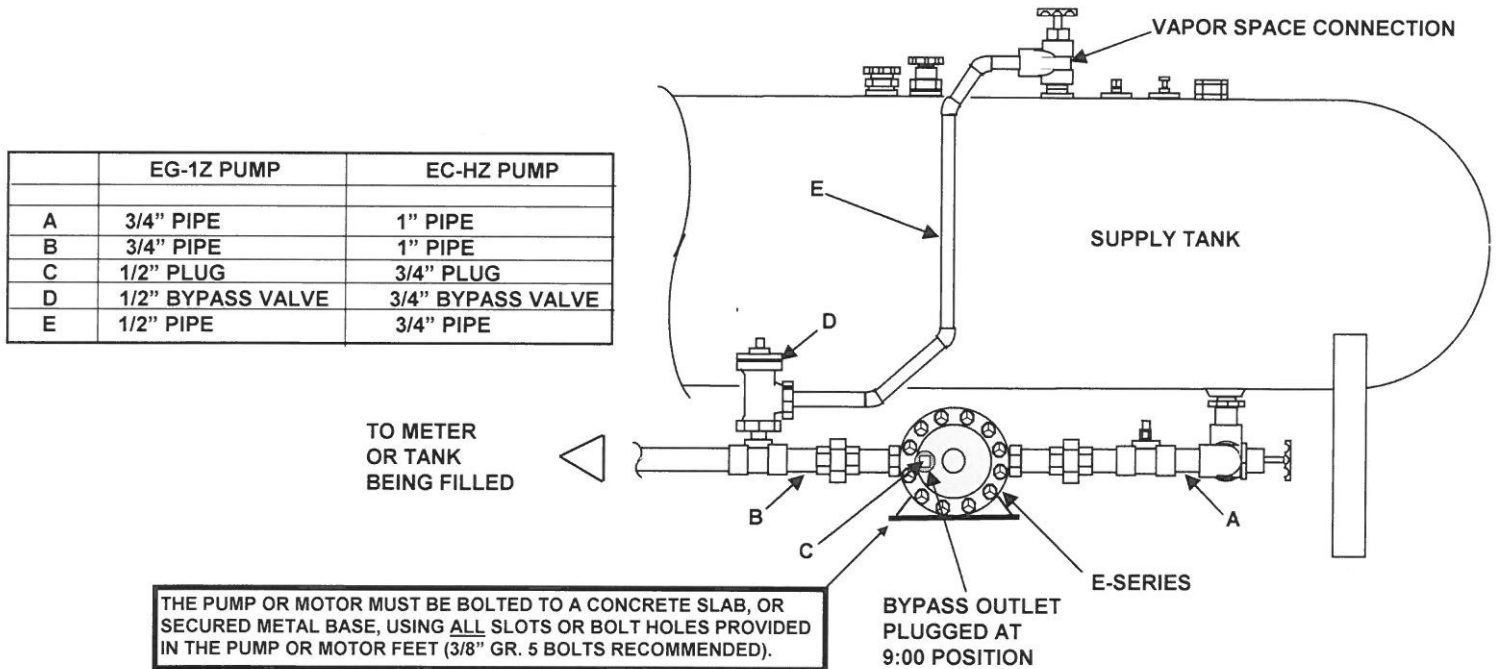
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## GENERAL INSTALLATION USING BUILT-IN BYPASS VALVE



## GENERAL INSTALLATION USING SEPARATE EXTERNAL BYPASS VALVE



These diagrams are intended to show general piping and installation configurations only. For more specific information consult with the other equipment manufacturers, follow all applicable safety codes and regulations, and read other literature available from Smith Precision including but not limited to the following: "AL-3", "AL-17A", "AL-47", "AL-57", and "ED-1". Contact the factory for dimension drawings or assembly views (specify model). Consult "NFPA-58".



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