

Mag-VFC Electrical Installation

The *Mag-VFC* (Variable Frequency Controller for the IST) electrical installation must be performed in accordance with the *Mag-VFC Installation and Owner's Manual* and all applicable Federal, State, and Local regulations.

The *Mag-VFC* requires 200-250 Volt, 1 or 3 Phase, 50 or 60 Hz input power and a properly connected ground. The output power to the IST (the pump which includes the manifold and Pump Motor Assembly) is regulated by the *Mag-VFC*. The IST has a variable speed, three phase motor which requires three power wires and a ground wire of the proper size and type for installation in hazardous locations. Grounding the *Mag-VFC* and the IST is very important and should be done per the Federal, State, and Local Regulations as well as per the NFPA and NEC. Each IST requires a *Mag-VFC* for operation.

Electrical interference is created by several types of equipment in a station (i.e., compressors, fluorescent lighting, submerged pumps, etc.), some more than others, and this interference can affect the operation of more sensitive equipment (such as tank monitors and electronic line leak detectors) which communicate through data lines. Data communication is highly sensitive in some cases and the routing of equipment power wires (i.e., compressors, fluorescent lighting, IST, etc.) near, or within the same conduits, raceways, or power panels as communications lines can cause communication problems.

When installing the *Mag-VFC*, FE Petro recommends that the power wires from the Power Source as well as the power wires to the IST be in their own steel conduit which is not broken or routed through raceways. If this is not possible, at a minimum, power wires need to be in separate steel conduits from data communication wires. Please see the table below for the maximum wire length to wire gauge recommendations for submersible wiring. FE Petro also recommends that all equipment be installed per the manufacturer's requirements for best results.

Wire Size	Maximum Run
10 Gauge	650 Feet
12 Gauge	400 Feet
14 Gauge	250 Feet

Please contact Technical Support if we may be of any assistance.