

# FIBER GLASS SYSTEMS Vacuum Monitoring System

Fiber Glass Systems recommends a vacuum system to continuously monitor the interstitial space of our Smith Fibercast RED THREAD® IIA piping system (Figure 1). Vacuum monitoring systems assure breach detection in the primary or secondary containment prior to release of contaminate to the environment. This meets California's requirement for a Class 1 (Leak Prevention) System, i.e. "the interstitial space of the UST must be maintained to detect a breach in the primary or secondary containment before the liquid or vapor of the stored substance is released to the environment."

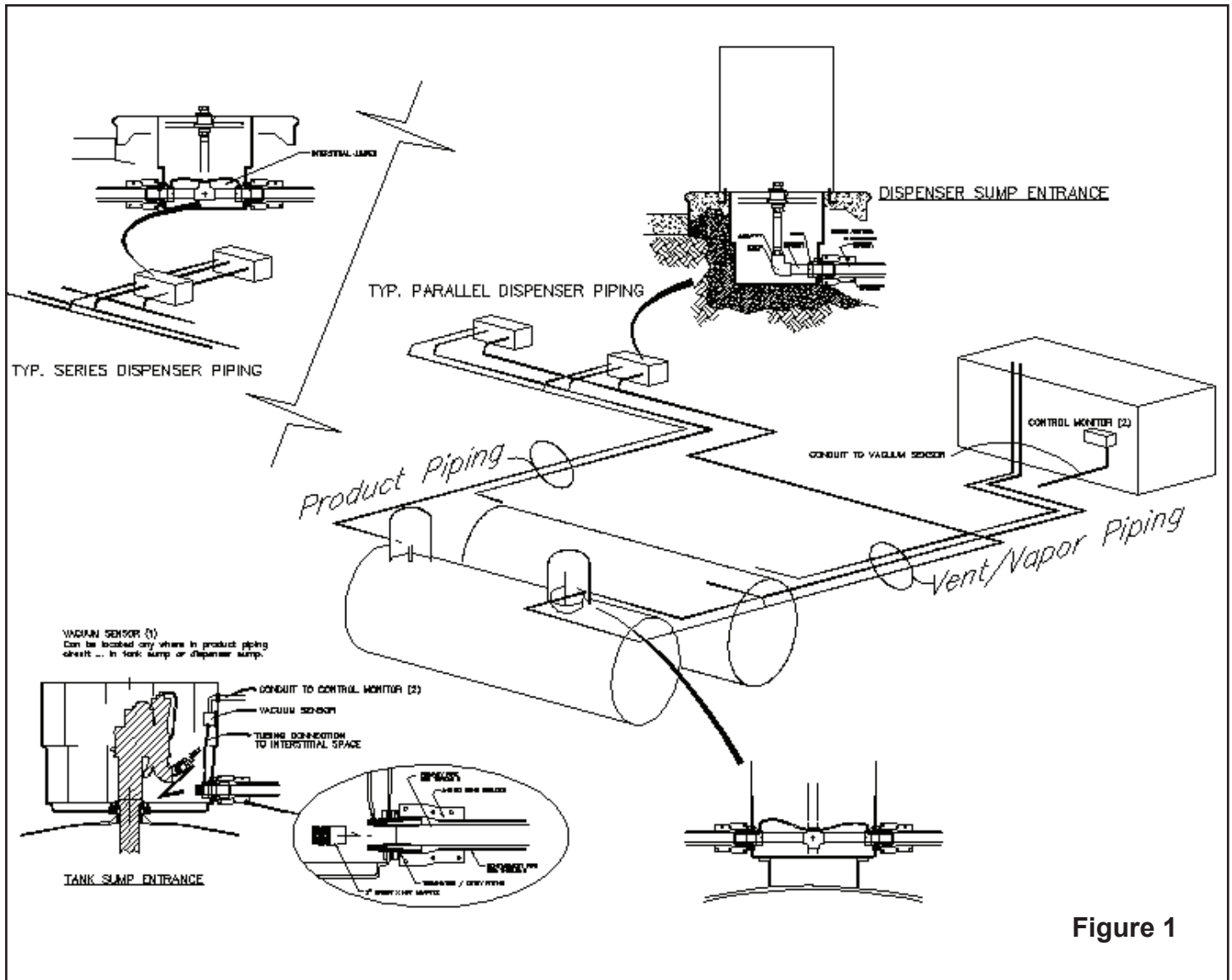


Figure 1

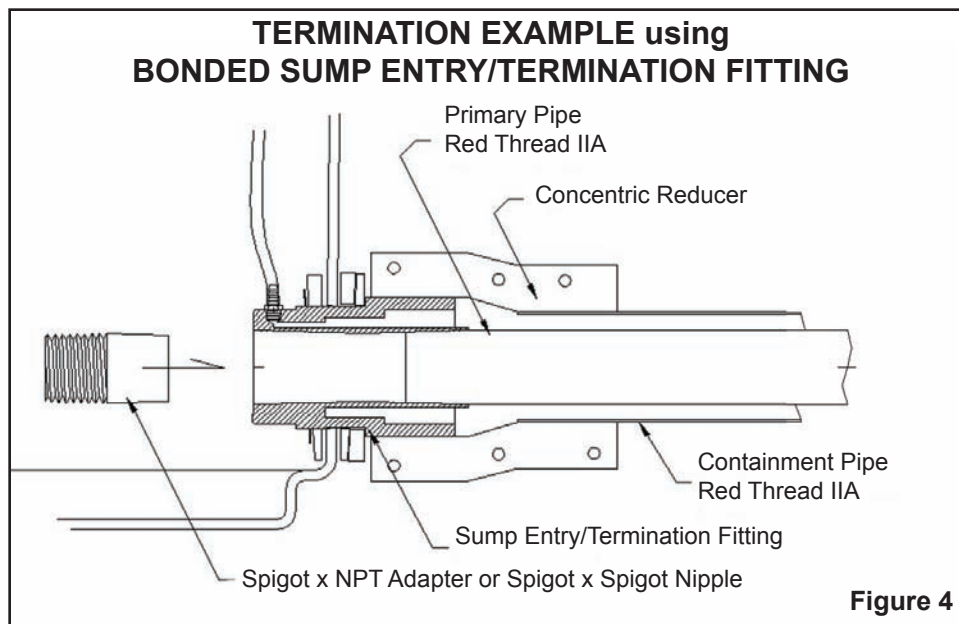
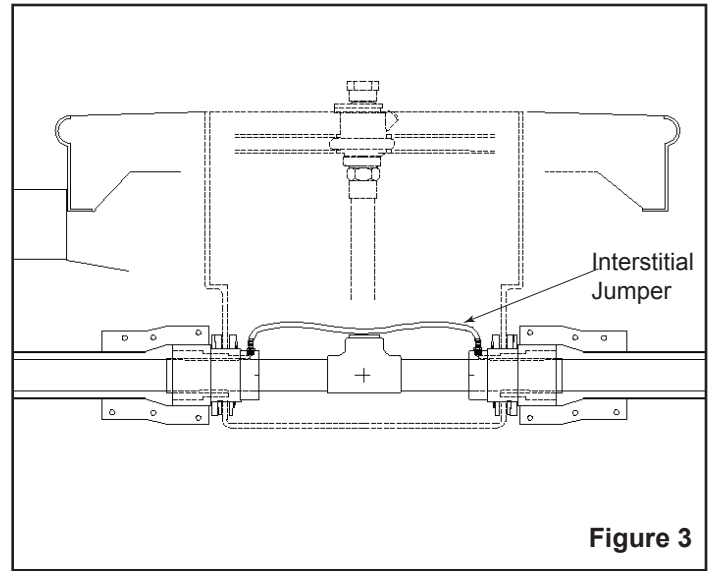
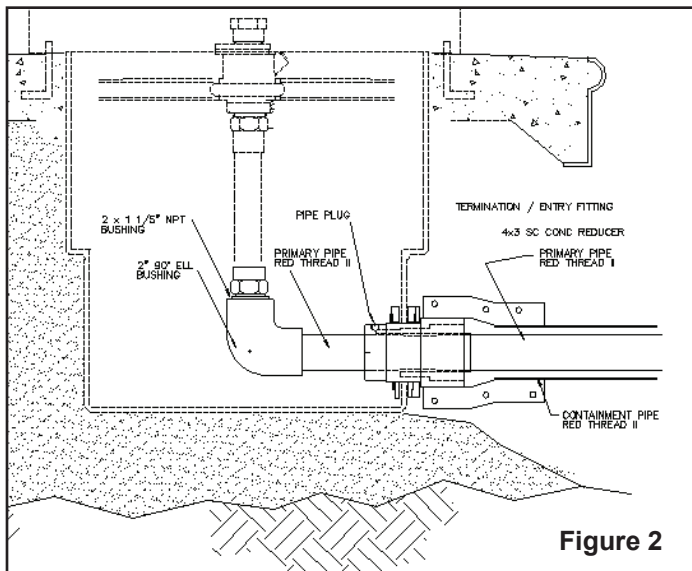
# Vacuum Monitoring Systems

## Sump Entry/Termination Fittings

Fiber Glass Systems' sump entry/termination fittings (bonded or gasketed) are key components of a vacuum monitoring system. These fittings reduce the space required in the sump and allow adaptation to fiberglass, steel and/or flexible connectors (Figure 2). These fittings provide positive seal at the sump and allow the capability to "jump" series piping systems in the sumps.

In series piping systems the dispenser sumps will require small, unobtrusive "jumper lines" for system continuity (Figure 3).

Figure 4 shows use of a bonded sump entry/termination fitting. **This bonded fitting has met the requirements and is Listed per UL 971.**



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## Piping System Installation and Testing

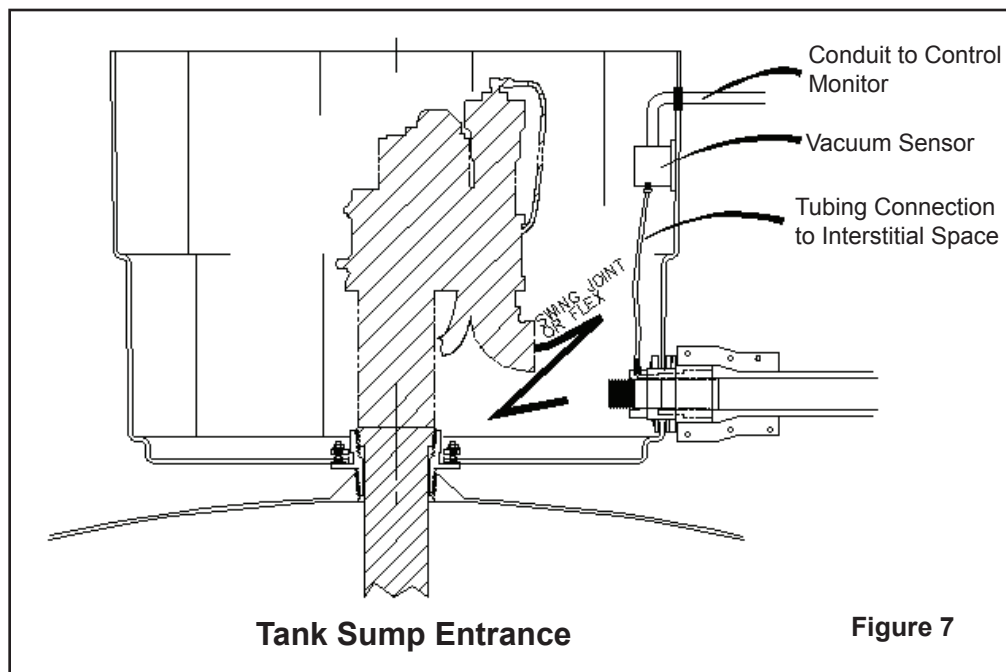
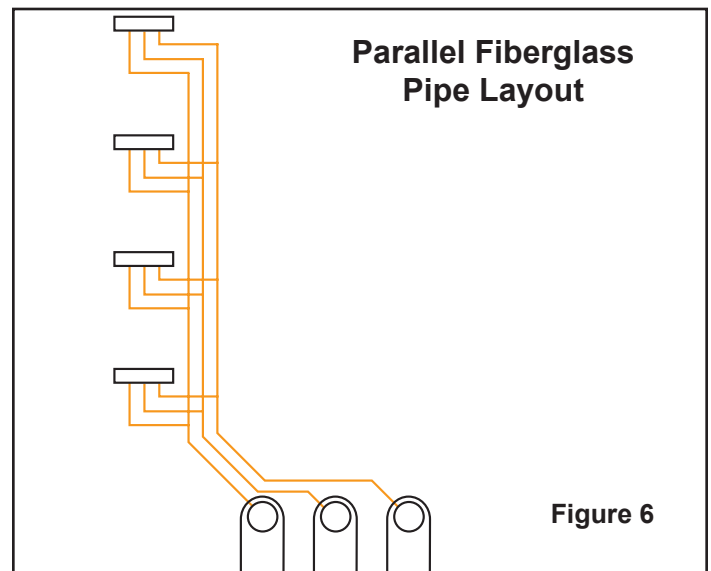
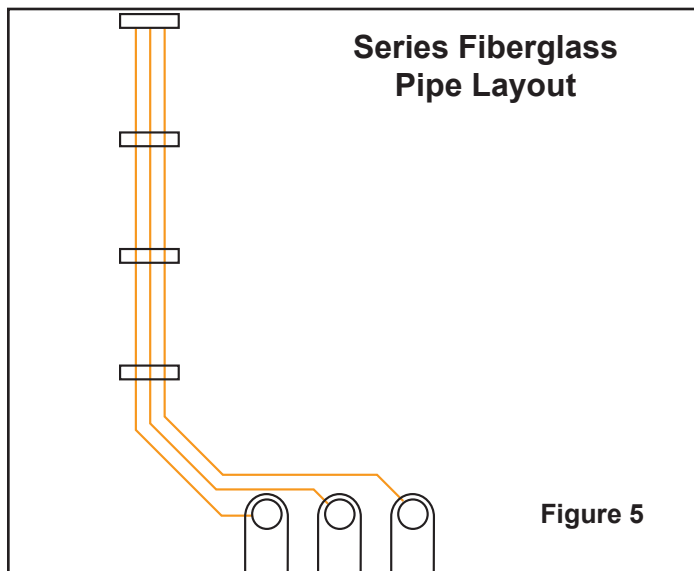
The incorporation of a vacuum monitoring system into RED THREAD IIA does not alter the basic installation procedure covered in Fiber Glass Systems Manual No. B2160. Please note that either series or parallel piping layout may be used (Figure 5 or 6).

The primary and secondary piping systems may be tested using the same procedures for non-vacuum monitored systems. However, more

stringent testing requirements can be, and have been, met.

## Sensor Equipment

The vacuum sensor is typically located in the tank sump, which allows easy serviceability (Figure 7). **Contact monitoring system manufacturer for installation instructions relating to their product.**



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## Features & Benefits of a Vacuum System vs. Hydrostatic System

- Provides continuous secondary monitoring capable of detecting a breach **before** the liquid or vapor of the stored substance is released to the environment
- Quick and precise leak detection/leak prevention
- More sensitive to small breaches than hydrostatic systems
- System can be easily installed
- No need for installation, refurbishing, disposal, or clean up of hydrostatic fluids
- Simpler retrofit capability
- Manifold system allows quick isolation of system components
- Continuous monitoring satisfies testing requirements
- Can be used for product, vent and/or vapor recovery systems
- Minimal equipment

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