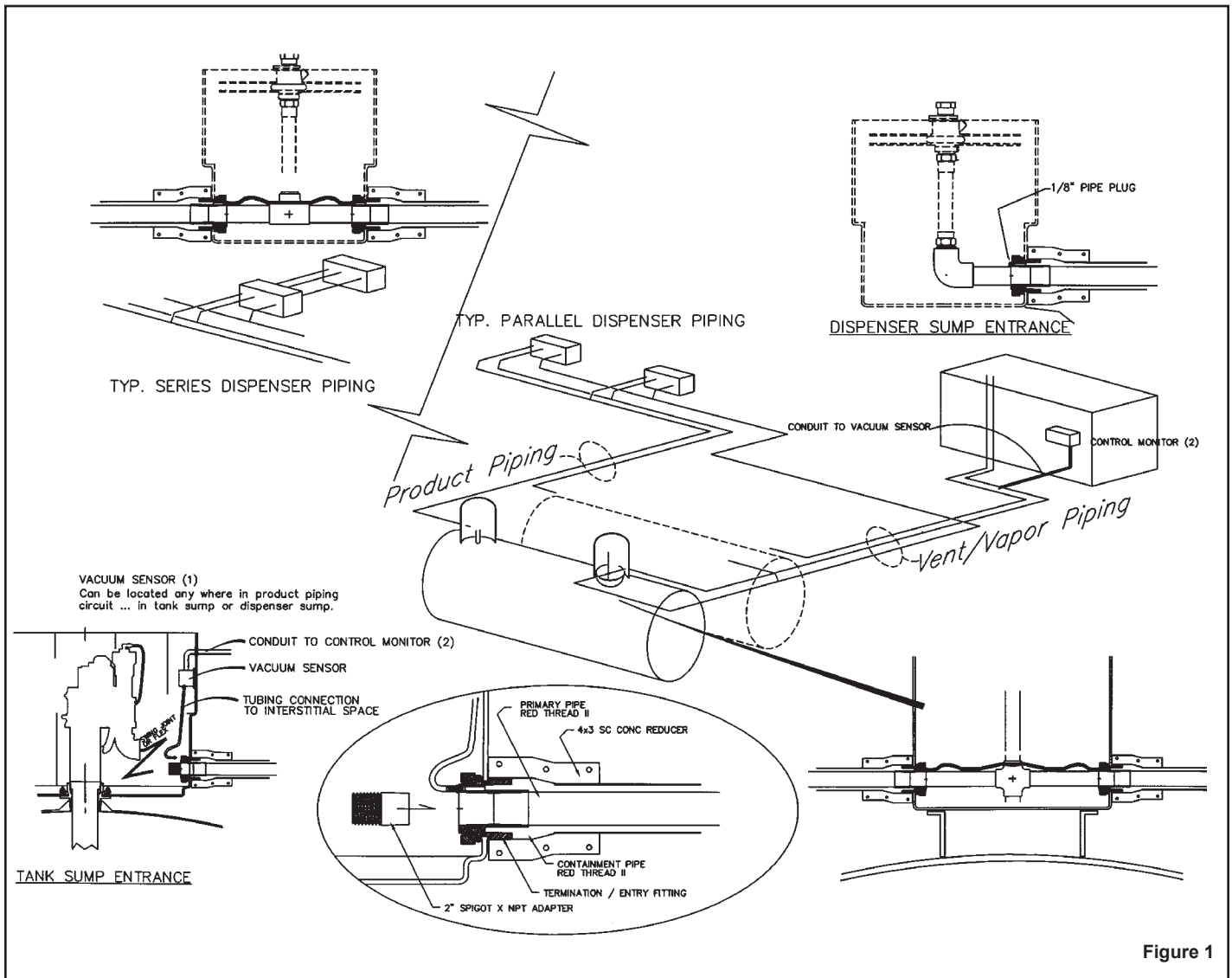


# SMITH Fibercast™

A Varco Company

## Vacuum Monitoring System

Smith Fibercast recommends a constant vacuum system to continuously monitor the secondary containment space of our 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 the requirement of AB 2481 that “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.”

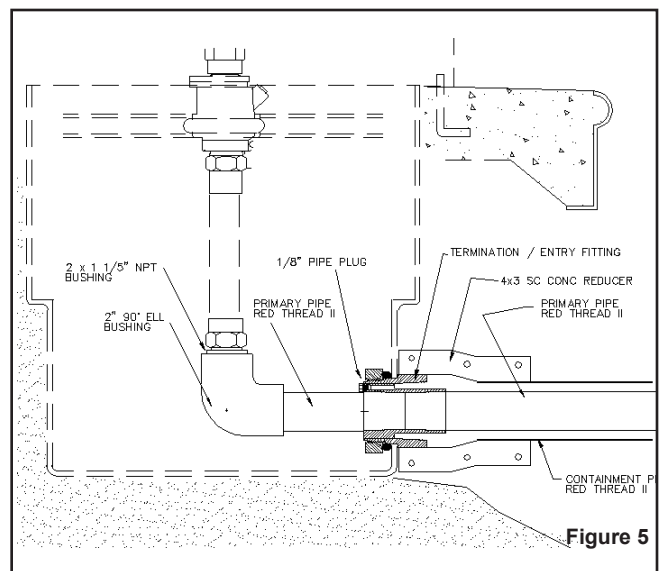
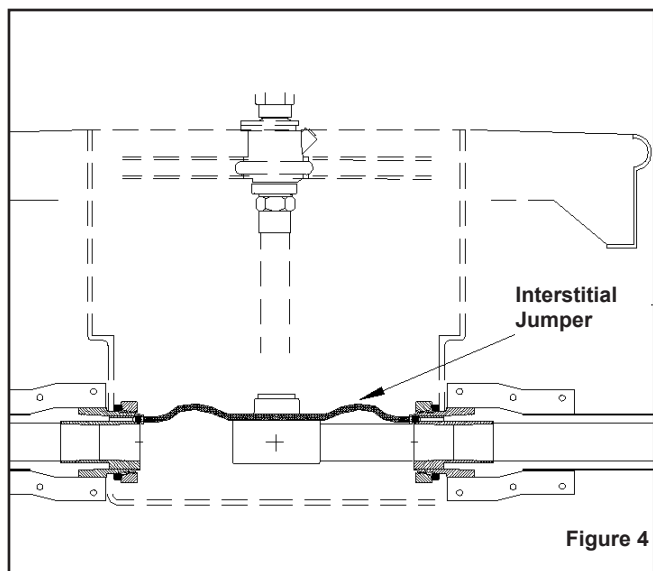
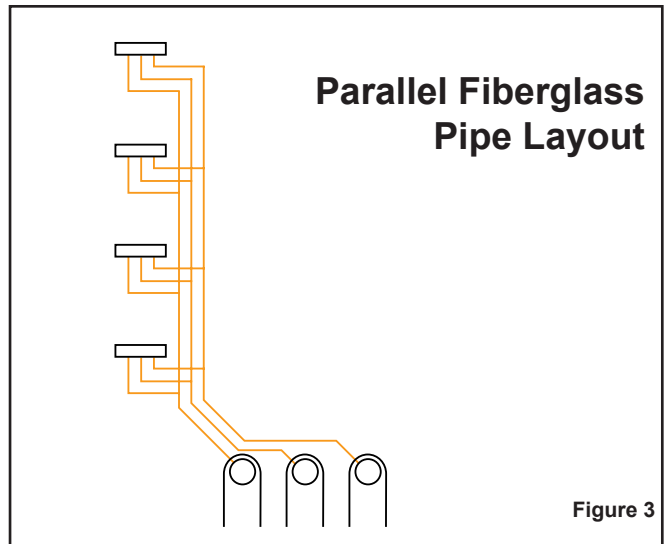
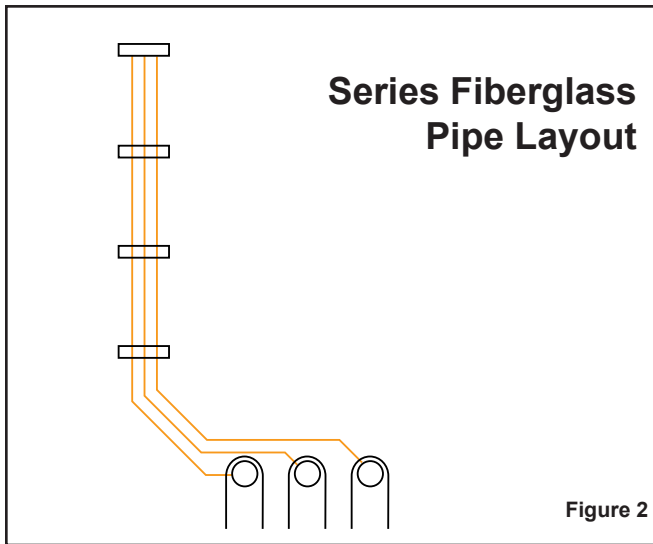


# Vacuum Monitoring System

## Piping System Installation

The incorporation of a vacuum monitoring system into Red Thread IIA does not alter the basic installation procedure covered in Smith Fibercast Manual No. B2160. Please note that either series or parallel piping layout may be used (Figures 2 and 3). In series piping systems the dispenser sumps will require small, unobtrusive vacuum "jumpers" for system continuity (Figure 4).

A new and improved sump penetration/termination fitting is a key component of the vacuum monitoring system to meet AB 2481. This fitting reduces the space required in the sump and allows adaptation to fiberglass, steel and/or flexible connectors (Figure 5). This fitting also allows the capability to "jump" series piping systems in the sumps.



# Vacuum Monitoring System

## Piping System Testing

The primary and secondary piping systems are tested using the same procedures found in Manual No. B2160 for non-vacuum monitored systems. Therefore installation personnel and inspectors will not require special training to validate the reliability of the piping installation.

## Sensor Equipment

The vacuum sensor is typically located in the tank sump, which allows easy serviceability (Figure 6). Multiple service lines are easily connected to a vacuum manifold containing a vacuum pressure sensor. The sensor is an intrinsically safe device and is connected via wiring to a monitoring system located outside the hazardous area.

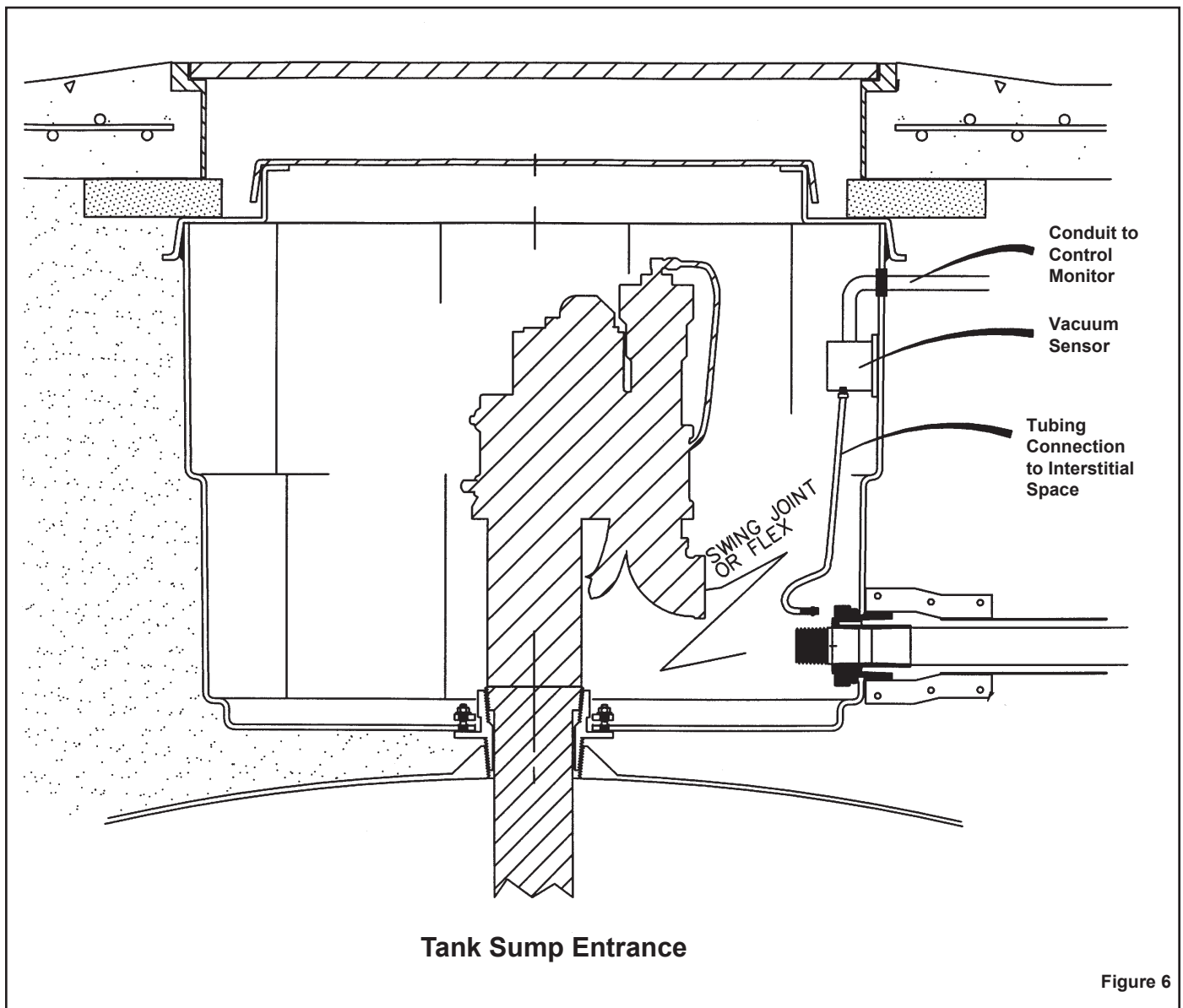


Figure 6

# Vacuum Monitoring System

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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
- More sensitive to small breaches than hydrostatic systems
- Minimizes false alarms due to temperature fluctuations
- System can be installed easily
- No need to purge air from system
- No need for installation, 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

It is the policy of Smith Fibercast to improve its products continually. In accordance with that policy, the right is reserved to make changes in specifications, descriptions, and illustrative material contained in this bulletin as conditions warrant. The information contained herein is general in nature and is not intended to express any warranty of any type whatsoever, nor shall any be implied.

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