

Rosemount 4600 Eliminates the Need for Methods of Additional Process Sealing

Product

Rosemount 4600 Oil & Gas Panel Pressure Transmitter

Industry

Offshore Oil & Gas

Application

Panel applications such as wellhead control, chemical injection, and emergency shutdown systems

Problem

Single process sealing pressure transmitters require methods of additional sealing

Solution

The Rosemount 4600 provides dual process seals, eliminating the need for additional sealing

To complicate matters even further, numerous panel transmitter manufacturers claim to incorporate “dual” process sealing. However, not all seals are necessarily reliable seals when exposed to full process pressure and temperature conditions. For example, should the primary seal of a device fail, a secondary seal constructed of potting, ferrule, or o-ring may not prevent a high pressure, high temperature process fluid from entering the external electrical system. Only fused seals, such as welds and glassed headers, are proven to provide the type of protection required for hazardous location installations.

SOLUTION

Not only does the Rosemount 4600 provide multiple, independent process seals, it also features a highly reliable, glassed, hermetic seal to provide the highest level of safety and reliability. This eliminates the need for all additional methods of sealing, saving oil & gas customer’s time and money.

PROBLEM

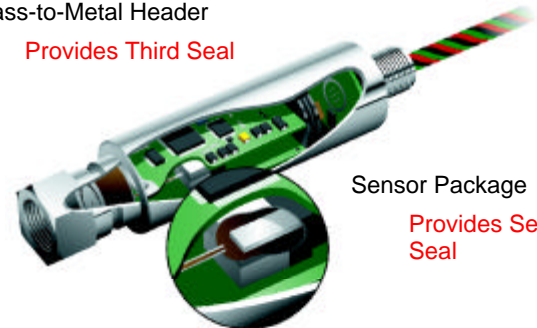
According to installation code found in both NEC 501.5(f)(3) and API 14F, process connected devices installed in hazardous locations are required to have dual process seals in order to prevent flammable or combustible process fluids from entering the external electrical system. If the device in use does not provide multiple seals, the installer must supply an additional method of sealing, such as a drain/breather and conduit seal

Additionally, a new equipment standard, ANSI/ISA 12.27.01, has been released which includes new requirements for sealing of process connected electrical equipment designed for installation in hazardous locations. The standard requires that devices provide two or more reliable seals capable of withstanding full process pressure at operating conditions (including the temperature and corrosion conditions present in the process) or pass a series of severe tests to prove reliability.

Many panel transmitters on the market today do not provide reliable dual sealing options for the process conditions found in the oil & gas industry and require additional seals to be installed according to code. The extra equipment not only costs more and adds extra installation time, but also can expand the size of the panel and complicate the bulkhead mounting method utilized in panels.

Glass-to-Metal Header

Provides Third Seal



Sensor Package

Provides Secondary Seal

Isolating Diaphragm

Provides Primary Seal

Figure 1: The Rosemount 4600 provides three independent process seals to prevent process fluid from migrating into the external electrical system. Other panel transmitters provide only one seal.

VALUE SAVINGS

Installation of a single seal device is not possible in a **Class I, Division 1** area due a lack of approved equipment.

Installation Savings in a **Class I, Division 2** area:

- Electrical Enclosure Designed to Drain/Vent Under Dynamic Conditions including installation - \$75
- Conduit Seal including installation - \$46

SAVINGS OF \$121 PER POINT

Rosemount 4600

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