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Retesting RegO Pressure Relief Valves for ASME Containers

Warning:

Simply retesting pressure relief valves manufactured by RegO that have been in service for a number of years to confirm conformance with start-to-discharge and reseal ranges does not guarantee that the valve is suitable for continued service. Or that the valve will perform as designed at nominal pressures or in emergency conditions. The environment in which the pressure relief valve has been exposed, the age and the physical condition of the valve body, seat disc, and components; all play a critical role in the life of a relief valve and its ability to perform as designed. Please see the attached inspection, replacement, warning guidelines from us.

Terms:

- Start-to-discharge: this is defined as the point when applying pressure to the relief valve inlet, the first bubbles through a water seal are observed.
- Start-to-discharge range: -0/+10% of the marked set pressure on the pressure relief valve. For a 250-set pressure valve: 250 –275 PSI.
- Reseal: this is defined at the point where the observed bubbles through a water seal stop as the inlet pressure is decreased.
- Reseal range: Reseal cannot exceed 90% of the observed start-to-discharge pressure of the subject valve being tested. For a 250-set pressure valve 225-247 PSI.

Retest Protocol for RegO Pressure Relief Valves

Test Set Up: (From UL 132)

The pressure relief valve apparatus must be capable of supplying a pressure of at least 50 PSI or 20% above the marked pressure of the valve to be tested. A positive shutoff valve and pressure gauge having a pressure range such that the test pressure is between 30 and 70 percent of the maximum scale reading of the gauge need to be installed in the pressure supply piping. The pressure gauge should be installed in the piping between the valve being tested and the shut off valve. Start-to-discharge and resealing pressures are to be observed though a water seal not to exceed 4 inches deep.

Pressure Gauges: Should be certified and calibrated.

Test personnel: must be trained to safely perform the retest operations this training should be documented.

Retest Procedures:
To avoid injury to the face and eyes, NEVER LOOK DIRECTLY INTO THE OUTLET OF A PRESSRUE RELEF VALVE. WHEN IN INSTALLING, INSPECTING OR TESTING PRESSRUE RELIEF VALVES ALWAYS WEAR EYE PROTECTION.

Prior to conducting retest procedures refer to the attached inspection guidelines supplied by us.

1. Install the Pressure Relief Valve into test fixture.
2. Plug the drain hole with tape so the water introduced in the outlet will not drain out.
3. Fill the Pressure Relief Valve outlet with water not deeper than 4 inches.
4. Open shutoff valve to permit gas to flow to the test PRV, the pressure should be increased to within 25 PSI of the marked set pressure on the Pressure Relief Valve

Note: This test is for start-to-discharge (where the first bubbles appear through a water seal. **The valve should not be popped** as it may not reflect the true calibration of the relief valve under test; it can also incorrectly affect the reseal values recoded in #6.

5. Increase the pressure slowly at a rate not greater than 2 PSI per second until the first bubbles in the water seal are observed. The observed the pressure as indicated on the pressure gauge is the start-to-discharge pressure of the Pressure Relief Valve. Record it.
6. Close the shutoff valve tightly and observe the water seal and pressure gauge, when the bubble flow through the water seal stops, record the reading indicated by the pressure gauge, this is the reseal pressure. Remove the pressure from the valve. Record it.
7. Repeat steps 4,5 and 6 two more times; use an average of the three readings for start-to-discharge and reseal for the test results.
8. Depressurize the test fixture and remove the Pressure Relief Valve, remove the tape from the drain hole, drain the water from the body.