## CAUTION

**The WellMark ITT In-Service Test Tool is not an ASME Certified device. It should be used accordingly.**

**NEVER USE OXYGEN**

*Note: This IOM is to be used in conjunction with WellMark Catalog Document, Section 16.1, In-Service Test Tool, page 2.*

## Application

An in-line device installed between a safety relief valve and a pressure vessel for in-field testing of pressure settings and/or seat leakage.

## Specifications

| | |
|---|---|
| Connections | 2" x 2" NPT |
| | 1-1/2" x 1-1/2 NPT, 1" x 1" NPT |

## Materials

| | |
|---|---|
| Body | Carbon or Stainless Steel (specify) |
| Seat | Durable Plastic |
| Ball | Stainless |
| Connector Nipple | Stainless |

## Installation

## WARNING!

**Over-pressure of this valve or installation of the valve in applications which may see pressure levels beyond those for which the valve is designed may result in leakage and/or catastrophic failure. This failure could result in leaking gas, or produced liquid, damage to surrounding equipment and/or environment, personal injury or death.**

**Suitable pressure-relieving devices, as recommended by appropriate codes or standards, should be installed in your system to assure the maximum rated pressures are not exceeded.**

**Prior to installation, system must be isolated from pressure. Failure to do so may result in personal injury, environmental spill concerns and/or damage to equipment.**

Insure that threaded connections on both the valve and the vessel are clean, free of debris and undamaged prior to installing. Install the valve into appropriately-sized mating female threaded connection with flow direction as indicated: male NPT = inlet, female NPT = outlet. Attach a needle valve to the connector nipple. Utilize a suitable thread sealant to assure leak-tight makeup and to avoid thread galling.

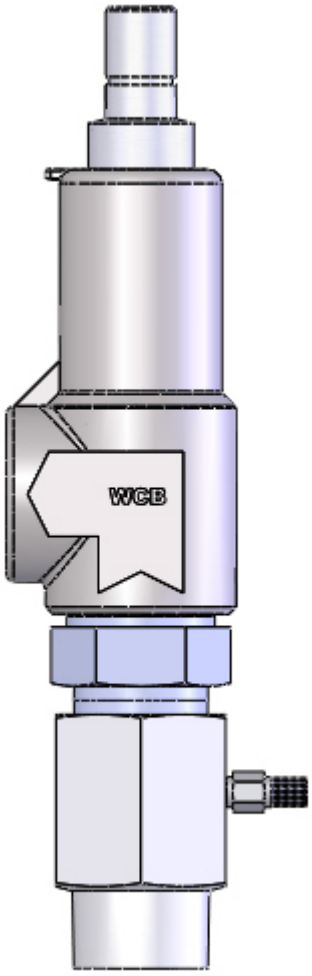
## Operation

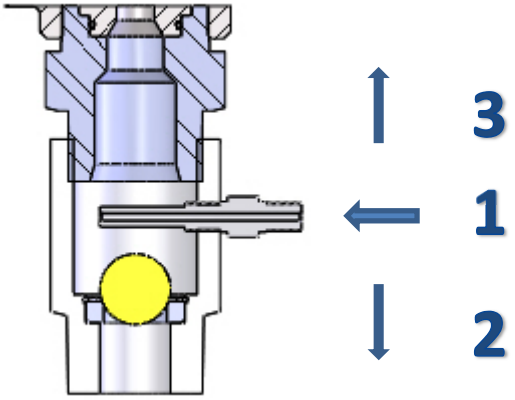
A hydraulic pump or Nitrogen bottle, with a flexible hose, gauges and needle valves can be attached to the connector nipple, and the relief valve can be tested to determine if the set pressure is correct without taking the valve out of service or removing it from the process application.

Principle of operation: Connect nitrogen bottle (hose and gauges) to pre-installed needle valve. Slowly introduce nitrogen pressure to ITT. Once nitrogen pressure overcomes application pressure, the ball will be forced downward and seated. The remaining nitrogen pressure can now be brought up to PSV pressure setting to check for accuracy and consistency.

## Maintenance

The In-Service Test Tool requires no specific maintenance. However, a periodic inspection is advisable to assure the ITT is connected properly and the needle valve is in good working condition.




1. Pressured Nitrogen is introduced to ITT.
2. Nitrogen Pressure overcomes application pressure and forces ball downward onto ITT seat.
3. Nitrogen pressure is slowly raised to PSV set pressure checking for accuracy and consistency.