

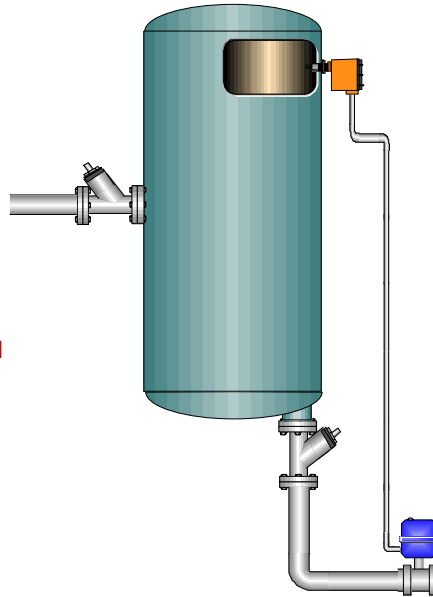
APPLICATION NOTE 070706: HIGH-LEVEL DETECTION in a HOLDING TANK
Chemical (and related) Industries

Application: Detect and React to High Level in a Chemical Holding Tank.

Product Used: Kayden Classic 800 or Kayden Basic+ 400 Series Flow / Level Switch

Notes:

1. This diagram shows the Kayden switch mounted horizontally via a threaded connection on the side of the tank. A flanged connection, or top mount installation may also be used as long as the probe is correctly sized to extend to the high-level point in the tank.
2. This same application may be used for a low-level alarm function.
3. For applications where temperature exceeds 160 deg. F and / or physical access is limited a remote electronics configuration may be used.



Description: The Kayden switch is used to detect the (high) level in a *hydrogen toluene* holding tank to prevent overflows. The Kayden switch is set to respond to the tank level and either energize or de-energize the relay contact(s) to control the feed or drain valve. The Kayden switch may also accomplish the same result via the 4-20mA analog output, or the 4-20mA output may be used in conjunction with the relay contact(s) to provide a back up alarm function.

Problem: Finding a level switch that operates with high repeatability, is easy to install, and does not require constant maintenance and / or adjustment.

- **Mechanical switches** such as *paddles* or *floats* fail due to corrosion or coating.
- **Electronic instruments** such as *capacitance probes*, *ultrasonic*, and *radar level controllers* are bothered by vapors, bubbles, coating, require constant attention, are more expensive, and are often difficult to install.
- **Other thermal switches** feature either analog or hybrid designs and do not provide full temperature compensation, allow for variable response without losing sensitivity, and have limited diagnostic functions.

Solution: Kayden probes are all-welded, pressure tested, and not affected by coating, vibration, or the di-electric properties of the material. **The electronics are easily adjusted without tools** via the front panel keypad or remotely via the free RCM Software. Features include:

- Response time (the range, heater power, and set point(s) may be incrementally adjusted)
- 4-20mA analog output is available (Classic 800 Series only)
- Relays may be wired NO or NC and set to energize above or below set point.
- Continuous, automatic self-diagnostics with redundant FAULT alarms.
- Visit www.kayden.com for more information and detailed specifications.