



APPLICATION NOTE 364026: **HIGH LEVEL DETECTION IN A HOLDING TANK**

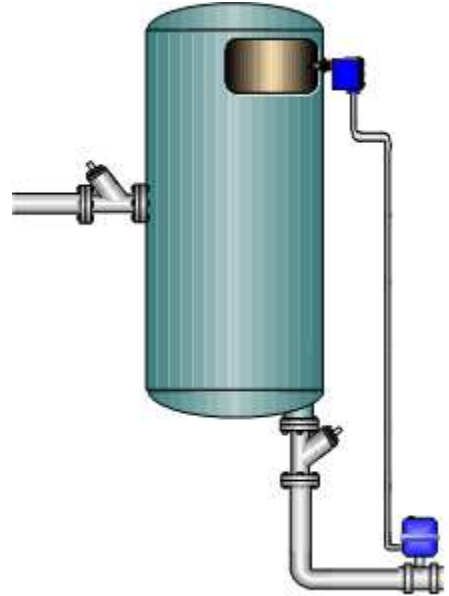
Chemical (and related) Industries

**Application:** Detect and react to High Level in a Chemical or Condensate Holding Tank.

**Product Used:** Kurz 6500 or 6300 Series Flow/Level Switch

**Notes:**

1. This diagram shows the Kurz switch mounted horizontally via a Thredolet in 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 function.
3. For applications where temperature exceeds 160°F and/or physical access is limited, a remote electronics configuration may be used.



**Description:** The Kurz switch is used to detect the (high) level in a *hydrogen toluene* holding tank to prevent overflows. The Kurz 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 Kurz switch may also accomplish the same result via the 4-20 mA analog output, or the 4-20 mA 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:** Kurz probes are all-welded and minimally affected by coating, vibration, or the dielectric properties of the media. **The electronics are easily adjusted without tools** via the front panel keypad or remotely via the free RCM Software. Features include:

- Response time (range, heater power, and set point(s) may be incrementally adjusted).
- 4-20 mA analog output is available (Kurz Series 6500 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.