**Step-by-Step Instructions for Filling a High-Pressure Drum-Type Gas Meter with HPLI using Distilled Water**

**Required Tools and Materials:**

Distilled water

Small amount of detergent (optional, for reducing surface tension)

Adjustable Wrench (for sealing screws)

Level (integrated in the gas meter)

Sealing screw (for filling nozzle and filling-level indicator)

**Procedure:**

**1. Prepare the Gas Meter**

Depressurize the Meter: Ensure the gas meter is completely depressurized before starting the filling process to avoid forceful ejection of the packing liquid.

Positioning: Place the gas meter on a solid, vibration-free surface. Align it horizontally using the integrated level on the casing. Adjust the feet of the gas meter until the bubble in the level is centered within the circle.

**2. Open the Filling-Level Indicator**

Locate the Indicator: Find the filling-level indicator on the rear plate of the gas meter.

Open the Ball Valve

**3. Open the Filling Nozzle**

Locate the Nozzle: The filling nozzle is also located on the rear plate.

Remove the Sealing Screw: Loosen and remove the sealing screw using the adjustable wrench.

**4. Pour the Packing Liquid (Distilled Water)**

Pour Distilled Water: Carefully pour the distilled water into the gas meter through the filling nozzle.

Optional Step: Add a XX ounces of detergent to the distilled water to reduce surface tension for better reading of the liquid column.

**5. Adjust the Packing Liquid Level (Using HPLI)**

Initial Filling: As you fill, the liquid column in the High Precision Packing Liquid Level Indicator (HPLI) will rise.

Set to Calibration Level: Adjust the HPLI to the level specified in the calibration documentation. The bottom of the meniscus should align with the graduation marks on the level indicator. In our case, the correct level is -1.3. Therefore, the bottom of the meniscus should align with the -1.3 mark on the scale.

Fine Adjustment: If too much liquid is added, it will overflow through the indicator. Adjust the level by draining excess liquid via the drainage nozzles.

**6. Run Gas Through the Meter**

Initial Operation: After the initial filling and adjusting of the packing liquid level, connect the gas pipe to the inlet nozzle marked "gas inlet" at the rear plate.

Remove Air Bubbles: Run a full heat up on a water heater. Fill the water tank with 58F water, turn the water heater to maximum temperature, and allow the water heater to heat until cutout. Verify liquid level after.

HPLI: Double check all air bubbles are removed from the HPLI indicator.

Rechecking Levels: Disconnect the gas pipe again and repeat the steps from filling the packing liquid and adjusting the packing liquid level as needed.

**7. Close the Indicators and Nozzles**

Close the Filling-Level Indicator Ball Valve:

Close the Filling Nozzle: Secure the filling nozzle by replacing and tightening the sealing screw with an adjustable wrench.

**8. Grounding the Gas Meter**

Electrical Safety: For gas meters with a stainless steel casing, grounding is required to discharge any potential static charge. Connect the feeder clamp at a flange screw on the rear plate to the ground.

**9. Tilting the Meter (if necessary)**

Horizontal Movement: If the meter needs to be moved, it should be kept in a horizontal position to prevent water from entering the gas inlet.

Draining Excess Water: If water enters the gas inlet, the gas meter should be tipped 90° forward until the dial faces the floor to allow the water to drain back into the meter.

**10. Post-Filling Checks**

Check Liquid Level: Ensure the liquid level remains correct after moving or during any subsequent operations.

Final Inspection: Verify all connections are secure and the meter is functioning correctly.