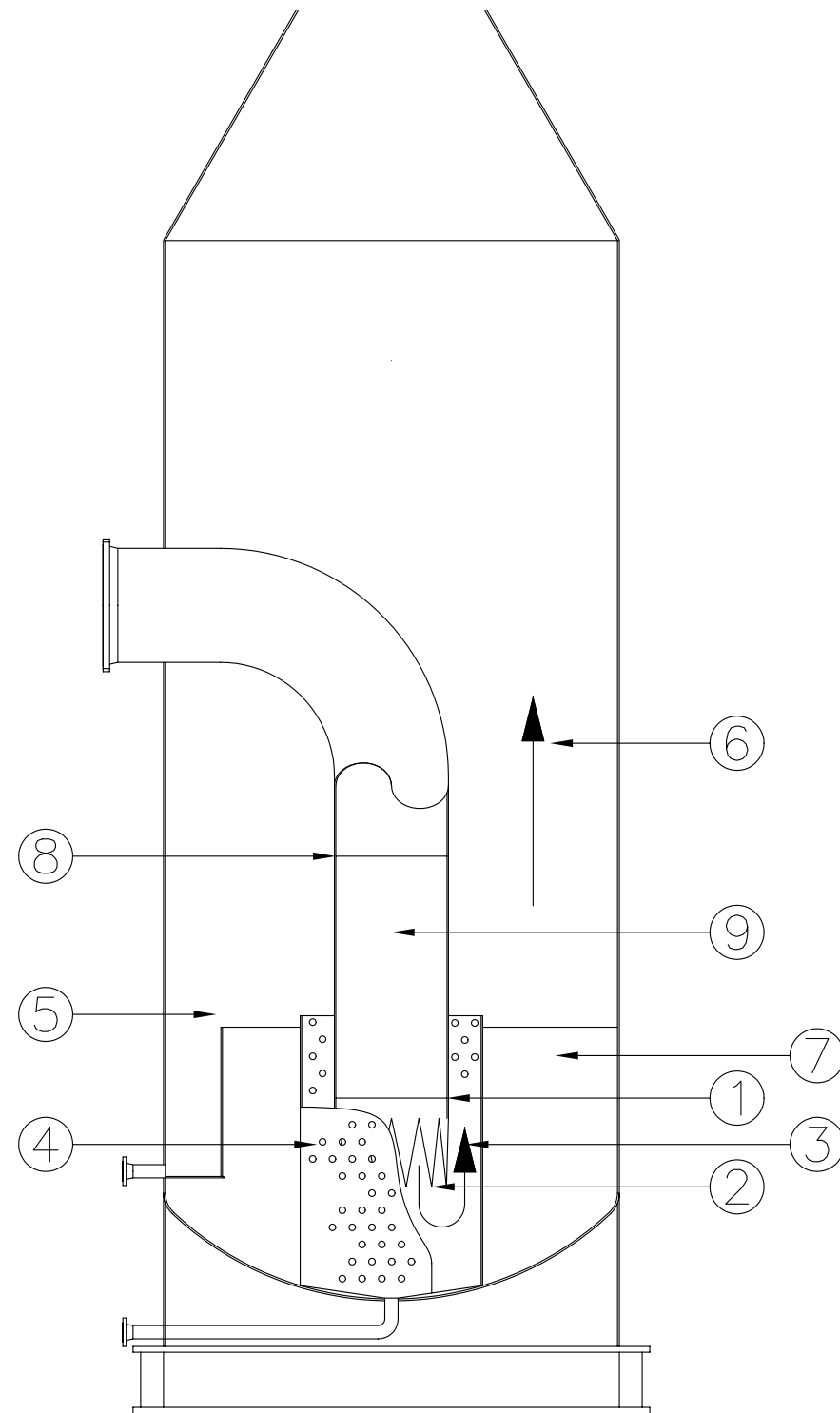


Flare Water Seals



1. Gas entering the vessel depresses Water Level in the Dip-Leg.

2. Shaped Discharge ports impose graduated control of gas flow with increasing gas pressure and water depression.

3. Relieved gas displaces liquid contained within the defined flow path.

4. Perforated shroud controls rate of water flow back into shrouded area and aids in damping oscillations.

5. Displaced Water flows over level control Weir carrying floating hydrocarbons out of the vapor space. Weir volume and drain need to be sufficient size to accommodate anticipated water flow rate.

6. Gas flows into upper vessel where entrained droplets can disengage and fall back into liquid reservoir.

7. Stored Water around shroud recycles through perforated shroud and upper disengaging space. Residual stored volume, after losing displaced water, must be sufficient to completely cover the shaped discharge ports if gas flow stops and overall water level restabilizes below normal level. (see also 9)

8. Water is "sucked" up into dip leg by any negative pressures in the incoming flare header, and supports a negative less than the water column between the bottom of the inlet line and the top of the discharge ports.

9. Stored water additional requirement (see also 7). Total stored volume must be sufficient to allow maximum desired water column in dip leg (see 8) without uncovering discharge ports.

TYPICAL CHARACTERISTICS OF WATER SEAL FOR A FLARE