

Molecular Seal



Description

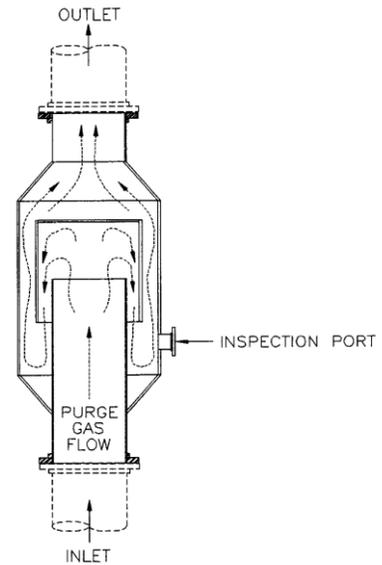
Flashback. This phenomenon occurs when ambient air penetrates the flare stack and mixes with waste gas, creating a combustible mixture. An ignition source can then create an explosion inside the flare stack which could “flashback” through the flare header. This flashback, or flame propagation, can travel through the flare header piping and propagate back to the source, thus causing an industrial disaster. The Flare Industries’ Molecular Seal is used in conjunction with purge gas in order to avoid this unpleasant occurrence.

The most common and most acceptable safety measure is to continuously purge the flare system with a gas that does not contain oxygen and will not reach dew point at ambient conditions (fuel gas and nitrogen are the most commonly used fluids). Purge gas constantly flows through the flare header piping and flare stack insuring that air infiltration does not take place. Sweeping a stack with purge gas twenty four hours per day without employing a purge gas seal can result in exorbitant operating expenses over time; especially for large diameter stacks.

The Molecular Seal is a purge reduction device which allows the flare system operator to use 98% less purge gas while continually sweeping the system. The savings in daily purge gas consumption over the long run makes for a short payback period on the initial capital investment of the molecular seal. Also referred to as labyrinth or density seal.

Advantages

- Prevents flashback
- Less purge gas required (98% less)
- Significant cost savings over time
- Maintains gas seal for up to 8 hours if purge gas is lost
- No moving parts (will not bind, wear out, or fail)
- Functions with wide range of gases (heavy and light)



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Specifications

MATERIALS

Carbon or stainless steel

CONNECTIONS

150# ANSI RFSO flanges

DIAMETER (nominal)

4" - 84"

DIAMETER (actual)

12" - 190"

LENGTH

6' - 0" - 20' - 0"

Design Features

- Drain connection
- Lifting lugs
- Inspection opening
- Optional component for all Flare Industries elevated flare systems