

Steam Assist Flares



**Description**

Steam assisted flares are designed to dispose of heavier waste gases which have a greater tendency to smoke. In order to prevent incomplete combustion, steam is injected into the waste stream using peripheral steam rings, center steam spargers, and/or inner induction tubes. The injection of steam has two principal effects:

- High-pressure steam flow causes turbulence in the waste stream which improves mixing and therefore improves combustion efficiency.
- Additional air is induced into the waste gas providing the oxygen necessary for augmented smokeless capacity.

Steam flares are typically used in applications where the customer has high-pressure steam available on site.

**Advantages**

- Low maintenance costs
- High smokeless capacity due to steam injection
- Stable, reliable combustion due to flame retention ring
- High smokeless flow rate
- Longer tip life due to steam cooling effect

**SA MODEL**

- External steam injection stabilizes the flame and entrains air, ensuring efficient combustion

**SAI MODEL**

- Internal induction tubes with venturi inlets for improved air inspiration
- Higher smokeless capacity
- Reduced noise at a given capacity

Steam Assist Flares

Principal Applications

- Petrochemical processing
- Petroleum refining

Design Features

- High pressure steam must be available
- High alloy material construction in the heat affected zone prevents induction tubes, rings, and spargers from warping and cracking

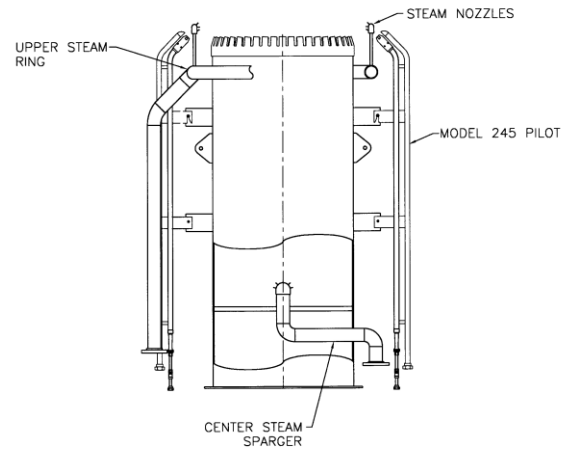
Primary or secondary steam injection through:

- Peripheral ring (SA Model)
- Center sparger (SA & SAI Models)
- Internal induction tubes (SAI Model)

Flame Retention Ring to stabilize combustion

- Low noise design with the use of external noise muffler (SAI Model)

External Steam Assisted Flare Tip  
SA Model



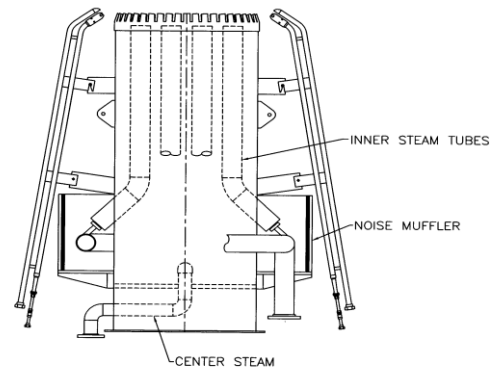
Specifications

DIMENSIONS

Length:	10'-0" (3)
Diameter:	4"-84" (0.1-2.13m)
Upper Section:	304,316,310 SS, Incolloy 800H (options)

MATERIALS

Lower Section:	Carbon Steel
Retention Ring:	304.316.310SS
Dynamic Seal:	304SS
Steam Ring:	321SS
Center Sparger:	321SS
Internal induction Tubes:	304.316.310SS



Internal Steam Assisted Flare Tip  
SAI Model