

**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

**GENERAL DESCRIPTION**

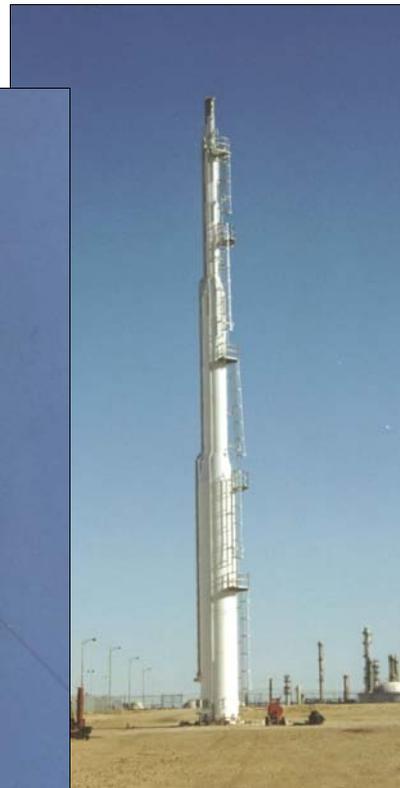
Steam assisted flares are designed to dispose of heavier waste gases which have a greater tendency to smoke. In order to prevent incomplete combustion, steam is injected into the waste stream using peripheral steam rings, center steam spargers, and/or inner induction tubes. The injection of steam has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



SA STEAM ASSIST FLARE



SAI STEAM ASSIST FLARE

## PRINCIPLE APPLICATIONS

Petrochemical processing  
Petroleum refining

## DESIGN FEATURES

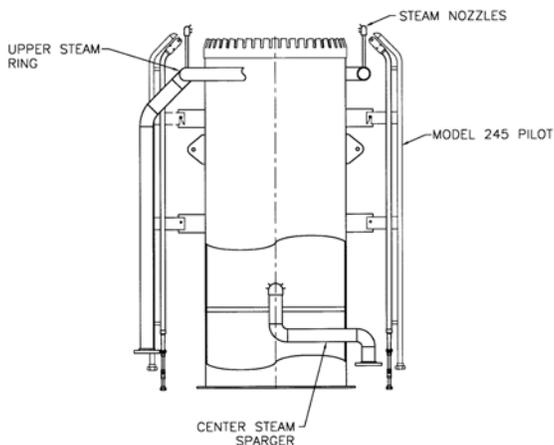
High pressure steam must be available  
High alloy material construction in the heat affected zone prevents induction tubes, rings, and spargers from warping and cracking  
Primary or secondary steam injection through:  

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

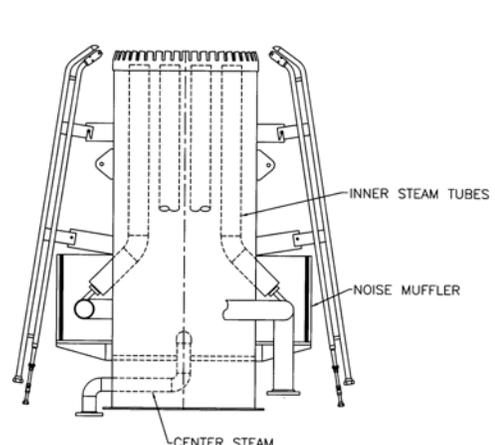
 Flame Retention Ring to stabilize combustion  
Low noise design with the use of external noise muffler (SAI Model)

## SPECIFICATIONS

<b>DIMENSIONS:</b>	Length:	10' - 0" (3m)
	Diameter:	4" - 84" (0.1-2.13m)
<b>MATERIALS:</b>	Upper Section:	304, 316, 310 SS Incolloy 800H (options)
	Lower Section:	Carbon Steel
	Retention Ring:	304, 316, 310 SS
	Dynamic seal:	304 SS
	Steam ring:	321 SS
	Center sparger:	321 SS
	Internal induction tubes:	304, 316, 310 SS



EXTERNAL STEAM ASSISTED FLARE TIP  
SA MODEL



INTERNAL STEAM ASSISTED FLARE TIP  
SAI MODEL