

DATASHEET



Flare Tips Smokeless, Low Noise, FSX Series

The FSX flare tip is used where stringent low noise specifications apply and savings achieved. The major advancement of the FSX series over other tip designs is that it can use low pressure wet waste steam to produce smokeless conditions. The FSX series has been designed to operate with all available pilot and ignition systems. The FSX Series tip thoroughly mixes gas, air and steam prior to combustion. Steam is used to inspire the air through the steam injector units. The steam is evenly distributed through a number of steam injector units, angled in the side of the conical section of the tip, to achieve optimum flame characteristics. As the steam is forced through the steam injector throat, large quantities of air are inspired and the resulting steam and air is thoroughly mixed with the gas in the protected mixing chamber prior to combustion. The Inclined angle and swirl angle settings of the steam injectors, coupled with the centre steam nozzle, have been designed to minimize burn-back and inspired high secondary air entrainment.

DESIGN ADVANTAGES

- Low noise emissions
- Can use low cost wet steam
- Low luminosity
- Low gas consumption pilots
- Unique refractory lining system
- Low purge gas rate
- Good flame retention
- Heat shield supplied as standard
- Burnback minimized



LOW NOISE DESIGN FEATURES

The design of the mixing chamber contains and minimizes the break out noise associated with the turbulence of mixing the gas, steam and air. By utilizing the release of steam through annuli rather than orifices, the noise generated is reduced. Since steam is injected upwards through annuli into the tip throat, the noise source is directed away from the ground. The refractory lined chamber suppresses noise emission by reducing the lower frequencies generated as part of the combustion process.

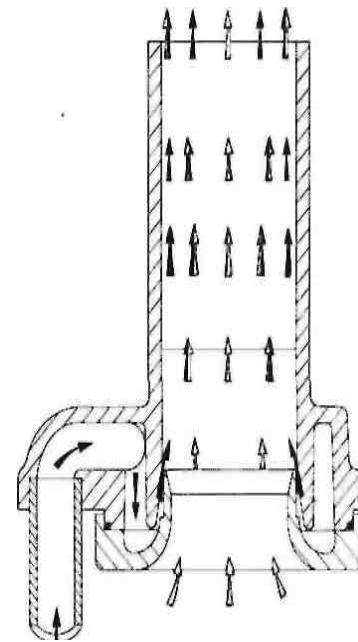
REFRACTORY SYSTEM

A heat shield lined with cast able low alumina refractory at the top of the flare tip protects the upper section from being directly exposed to the flame, thereby extending the tip operational life. The heat shield prevents downward flame lick under low flaring rates and the abnormal wind conditions which prevail at some sites.

The flare tip is also refractory lined internally to minimize the effects of bun-back. The depth of the lining depends on the tip diameter. The unique refractory lining system is secured to the tip by heat resistant steel bull horn sprags. Many thousands of fine stainless steel

needles are mixed thoroughly with the refractory to reinforce the material evenly over its full depth without producing expansion/contraction shear plates. This refractory insulation procedure has been developed and proven over many years to give the longest possible operating life, even in the most arduous conditions. In order to prevent flame lift off from the tip, the FSX series have bluff bodies positioned above the refractory lined upper section of the flare tip.

SPECIFICATION	
Tip sizes:	12 in. dia. To 60 in dia.
Tip connection:	12 in. dia. To 60 in. dia (flanged)
No. of steam injectors:	60to 180
Steam pressure:	low 30 psig : (2.07 bar g) High 80 psig : (5.52 bar g).
Main steam connection:	3. to 12 in. dia. flanges connection
Centre stream connection:	1 in. to 4 in. flanged.
No. of pilots:	12 " . to 30 " dia : 3 pilots 36" to 60" dia: 4 pilots
Pilot gas Connection:	1 in. dia
Flame front connection :	Cromel/Alumel.
Lifting lugs:	provided as standard



STEAM INJECTION NOZZLE

The FSX flare tip individually sized for each installation

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Incorporating:

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Flares/FSX Flare Tips/July 2008/Rev. 2

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