



## SONIC FLARE TIP

The TCD Italia Sonic Flare Tip is designed to burn high pressure gas at high velocity promoting the entrainment of air for efficient combustion.

The turbulence created by the sonic nozzle entrains sufficient air prior to entering the combustion zone resulting in a clean aerated combustion, short and low radiation flame.

The stability of this sonic combustion is ensured by diverting a portion of the high pressure gas in a low pressure stream passing a fixed independent stabilizing jet located in proximity of the sonic nozzle.

The TCD Italia sonic tip offers the following benefits:

- Smokeless combustion of higher molecular weight gases.
- Ability to combust liquid droplets carried by the flaring gas.
- Possibility to burn high pressure and low pressure gases in a clean and efficient manner.
- Wide turn-down from purge rate to the maximum rate that can be achieved by the available pressure.
- Low radiation due to the clean flame and hence less flame emissivity.
- Short and rigid flame avoiding deflection caused by high wind speed.
- Special wind deflector peripheral to the sonic nozzle and limiting the flame lick when operating at low velocity.
- Long life design and performance are ensured utilizing heat resistant alloy and very thick wall of the critical parts.
- The sonic tip is equipped with stable and well proven pilot burners that provide a constant and reliable source of ignition.
- Sonic nozzles are simple and no mechanical inserts are foreseen in order to obtain sonic combustion hence eliminating the risk of blockage.
- The sonic tip is usually equipped with pinecone diode seal to prevent air ingress into flare stack.



TCD Italia can supply the following sonic flare designs:

- Single nozzle sonic flare
- Co-axial arms sonic flare
- Multi-nozzles sonic flare

TCD Italia Sonic Flares can be utilized by the oil and gas industry for off-shore and on-shore applications.

Sonic flares are manufactured in our own workshop located in Mantova (Italy) and subject to rigorous quality control procedures.

### TCD Italia srl

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