

Flare Pilots

Flare Ignition Systems

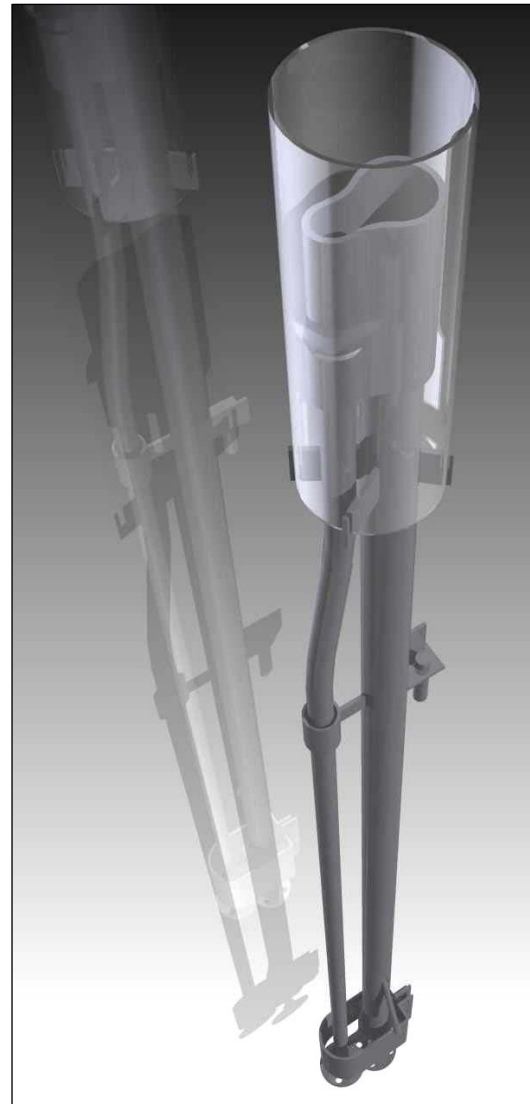
Hamworthy Combustion Flare Pilots are suitable for use on all types of Elevated Flare Tips, Ground Flares and Burn Pits, in the worst weather conditions which occur off-shore or on-shore, from sub zero ambient conditions of the Arctic to the sand/wind storms of Middle East and Africa. The pilots are suitable for operating with natural gas and a wide range of other fuel gases including 100% hydrogen.

Mode of Operation

The Hamworthy Combustion flare pilots are the inspiring type of varying length, depending on the application. On elevated Flare Tips the pilot is generally 2.7 metres long, whereas on Burn Pits the length could be 30 meters or more. The pilot nozzle is a pilot stabilized tunnel burner designed for a high inspiration rate, normally 80% to 85% primary air. The pilot nozzles have built-in flame retention and include a shield to ensure a stable flame and enable positive re-ignition in high winds. Ignition of the pilot can be by flame front generated at a remote panel and fed to the pilot nozzle via a 1 inch. igniter tube or by high energy ignition direct at the pilot tip.

Flame Indication

For flame indication, or flame failure, a heat resisting clad thermocouple is fitted internally in the nozzle and the gas mixture tube where it is protected from the main flame and cooled by the flow of gas passing over the thermocouple. Additionally an Ionisation detection system can be fitted to monitor the flame presence.



Design Features

- Low gas consumption
- Reliable ignition in all weather conditions
- Heat resisting nozzle casting
- Flame retention in all weather conditions
- Thermocouple housing facility supplied
- Natural draught, forced draught, semi-forced draught designs

Ignition Systems

Hamworthy Combustion can design and supply complete ignition systems suitable for the ignition of Hamworthy Combustion Flare Pilots.

The two most common types of pilot Ignition Systems that can be supplied for flares are Flame Front (FFG) or High Energy Ignition. The flame front system ignites a flammable mixture of air and fuel gas in a special mixing chamber located on the ignition panel. The flame front of the ignited mixture travels along an ignition pipe to the flare pilot, where it ignites the pilot flame.

The High Energy Ignition system utilizes a high energy ignition rod located in the pilot to directly ignite the pilot flame. Within the Hamworthy Combustion group we design and manufacture our own High Energy Ignition systems which provide unique features including a tip wear detection system.



Flame front Generator Ignition Panel

Dual ignition systems can be supplied if required to enable the flare pilot to be ignited by either flame front or High Energy Ignition for added reliability. The Ignition panels can be designed and supplied to provide manual or automatic Ignition of the flare. Replacement High Energy pilot/ignition systems can be retrofitted to existing flares.



TYPICAL PILOT / IGNITION OPERATING DATA	
Pilot Fuel Gas (Nm ³ /h)	2.5 @ 1.5 bar(g)
FFG Ignition (Nm ³ /h) (at Ignition only)	Fuel Gas: 5 @ 1.5 bar(g) Air: 60 @ 1.5 bar(g)
Pressures and flows vary dependent on fuel gas composition	

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COMBUSTION

Incorporating:

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