The Gas Flame Retention Nozzles are designed for using premixed gas/air from a suitable mixer to provide a stable, controllable flame for a wide variety of industrial heating applications. They are ideal for firing all types of small furnaces, including Bale out furnaces, launder heating, ladle drying/preheating, immersion tubes and many more. Stable flame conditions are achieved even under severe operating conditions as the design of the nozzle prevents ‘lift-off’, a feature of many other types of flame retaining nozzles. The flame pattern can be altered, depending on application, from a short to a long cylindrical flame.

**Available Options**

The standard nozzle is constructed from cast iron, however for higher process temperatures (above 1000°C) a heat resisting alloy option is available.

In addition, nozzles can be provided with a spark igniter and flame detector safeguard. Furnace mounting brackets and refractory tiles are available. The brackets incorporate a manually operated protective shutter to protect the nozzle from furnace radiation when the nozzle is not in use. The bracket also incorporates slots to entrain atmospheric air around the outside of the nozzle to provide excess air operation. Spark ignition or ionisation probe/spark ignition (as a single probe) is only available for the SGRN-32 and above.

The SGRN nozzle size must be chosen to meet the maximum capacity requirements of the application. An oversized nozzle will reduce the degree of turn-down available and increase the likelihood of light-back. The nozzle is supplied with air/gas mixture and light-back may occur if the exit flow velocity of the mixture is too low. This will cause ignition of the mixture in the pipe-work upstream of the SGRN and is hazardous to both equipment and personnel.

It is therefore recommended that a flame arrester be installed to prevent damage to ancillary components.

It is recommended that an FNAC High Pressure Gas, High Pressure Air Mixer or Proportional Gas Mixer should be used in conjunction with the SGRN nozzle – see leaflet No’s 3.1, 3.1A and 3.2.

**Maintenance**

The SGRN nozzles are accurately machined to ensure proper flame and ignition characteristics. Under normal conditions and temperatures no servicing should be required. If fitted with a spark igniter, a visual inspection of the igniter tip should be carried out once per month.
WARNING: The data outlined is for information only and does not form part of any contract. Our policy is one of continuous improvement and we therefore reserve the right to modify specifications or dimensions without prior warning. Situations dangerous to personnel and property can develop from incorrect installation and operation of combustion equipment. Fives North American Combustion UK, Ltd urges compliance with International, National and Local Safety Standards and that installation is carried out by properly qualified personnel.