



ANDERSON GREENWOOD AMAL LSFE SERIES LIQUID SEAL FLAME ARRESTERS INSTALLATION & MAINTENANCE INSTRUCTIONS

1. GENERAL

The LSFE liquid seal in-line flame arrester is designed to protect tank systems and equipment from detonations that can occur on tank filling lines. They are one directional and are fitted external to the tank. They are for use under atmospheric pressure conditions only.

2. GUIDANCE

1. Maximum temperature limits -20° to +60°C. Maximum flange pressure limit is PN 25.
2. ONLY install for applications for which they have been designed and specified and within their tested/certified limitations - refer to product data sheet for guidance. It is potentially dangerous to use in other applications.
3. Mounting of all monitoring devices shall be in accordance with EN 50018.
4. Flame arresters should not be positioned near hot equipment unless certified for the elevated temperature as heat transfer to the flame arrester will reduce its performance and may cause it to fail.
5. Shut-off devices should be fully open during normal operation.
6. Continuous monitoring of pressure drop is advised if the process is known to contain particulate or substances which can block the internal flow path and over-pressurize the system.
7. Metal parts insulated by gaskets should be earthed where necessary.
8. Flame velocities and pressures of flammable mixtures can be enhanced by upstream turbulence, which can be caused by bends, valves or any change in section of the pipework. The flame arrester should only be used for the process application; if the process conditions or the pipework configuration change, the flame arrester should be checked with the manufacturer.

3. INSTALLATION

1. No special tools are required in order to fit these flame arresters. Only standard sized spanners as appropriate and lifting gear for larger units, where applicable, are required.

2. Remove all packaging from the flame arrester prior to installation, paying particular attention to the inlet and outlet flange connections.
3. Mount the flame arrester into the pipeline in the horizontal position - they are one directional and the 'protected side' will have a plate clearly showing this.
Flanged connection - bolt to a flange of the same specification as that fitted to the flame arrester itself, with an intermediate gasket of a type appropriate to the service conditions. Tighten the bolting uniformly to give a good seal.
4. When appropriate, it is recommended that a protective cage be installed to guard the flame arrester against accidental impact from vehicles or heavy falling objects.

4. MAINTENANCE

Maintenance should only be carried out by suitably qualified personnel.

1. It is recommended that the flame arrester be inspected at each scheduled plant maintenance period. Particles within the process may cause blockage to the flow passage, impairing the free flow of liquids.
2. Where a process is known to be 'dirty', a pressure-limiting device installed within the associated pipeline is strongly recommended.
3. There are no maintainable or moving parts within the unit, it is an entirely welded construction. At each scheduled plant maintenance period remove the drain plug at the bottom of the unit to flush out any sediment or oxide particles which have accumulated. Ensure that there is NO pressure in the system when this is carried out. The flushed fluid should be taken to a safe area for disposal.

Note: please observe all health and safety data sheets which are applicable to the particular fluid which is being used in the system. Always wear appropriate safety equipment, with eye protection, when working on or near flame arresters. See over for checking minimum liquid level.

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4. Check the gaskets which connect the unit to the pipework and change if damaged.
5. The pipe immersion depth inside the flame arrester is 425 mm; the liquid level should be maintained at this height where practicable but should not be allowed to reduce below 225 mm. This can be checked by either reference to the level indicator, where fitted, or use of the 'dip stick' provided. Do not use the 'dip stick' if the system contains poisonous / dangerous fluids. Always check before using.

5. SPARE PARTS

There are no recommended spare parts..

6. AFTER SALES SERVICE

Available through the relevant Emerson office in the United Kingdom or through our worldwide network of regional offices and agents.

7. SPECIAL CONDITIONS FOR SAFE USE

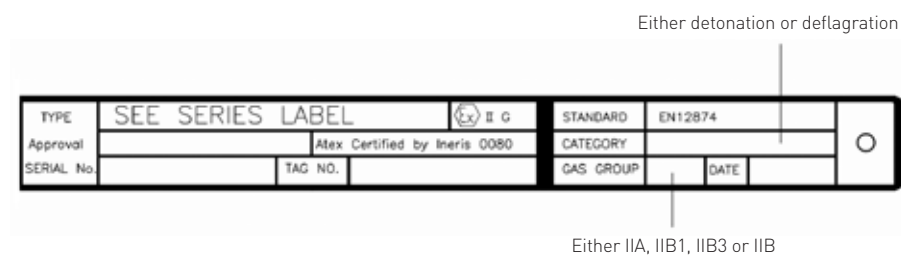
For IIA, IIB1, IIB3, IIB the manufacturing is intended for sizes DN 80 (3")

8. MARKING ON THE FLAME ARRESTER (CE PLATE)



9. MARKING ON THE FLAME ARRESTER (NAMEPLATE)

Nameplate can be marked for gas groups IIA, IIB1, IIB3 and IIB only.



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