INSTALLATION AND MAINTENANCE INSTRUCTIONS

INTRODUCTION

Flame arresters and their replaceable elements are fitted with nameplates (refer to figure 1), stating the following information: -

- Full name, address, telephone, and fax numbers of manufacturer.
- Burn rating group (BC) and short time burn duration.
- The specific marking of explosion protection.
- Notified body number.
- Nominal bore size of arrestor/element.
- Maximum operating pressure.
- Maximum run-up distance (Lu/D) – Not applicable to this product.
- Model number of flame arrester/element.
- Maximum operating temperature.
- Explosion group for which the arrester/element may safely be used.
- Year of construction.
- Elmac serial number of flame arrester/element (quote when requesting spare parts).
- The ATEX certificate number.

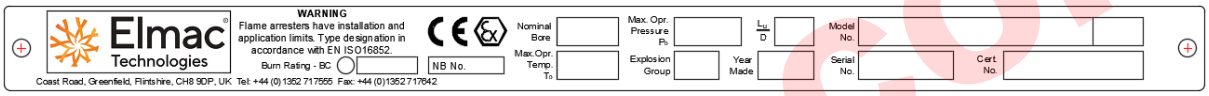

Figure 1 – Nameplate General Layout

Caution! Always ensure that the system is at atmospheric pressure and there is no hazardous gas present including any flammable gas or vapor that could flash when either installing or maintaining a unit.

Elmac ERB end-of-line deflagration flame arresters can prevent flashback only within a limited time duration. An emergency system is always required in case of stabilized burning on or near the surface of the flame arrester element.

INSTALLATION

Warning: Flame arresters have installation and application limits.

Flame arresters must be installed in accordance with this IOM. If there is any doubt, please contact Elmac Technologies Limited.

Caution!

1. Please inspect the equipment when it is received and report any damage (if any).

2. Connection flanges are generally protected where possible. The customer must check and remove any 'Transport Protection' and 'Flange Protectors' prior to installation.

3. Inspect the equipment for physical damage or internal contamination before installation and use of the equipment.

1. It is essential that Elmac end of line deflagration flame arresters are only used in the application and with the explosion group for which they were supplied (as stated within our written quotation). Materials of construction must be compatible with the gas mixture and the environment in which the unit is to operate. This is particularly important if the flame arrester is to be used in corrosive applications. Contact the Elmac technical sales department for advice.

2. Always ensure that the fixings available on the pipe work (e.g. flange type, screw thread) are compatible with that on the flame arrester.

3. End-of-line deflagration flame arresters should be positioned so that the element is accessible for removal.

4. **SPECIAL CONDITIONS FOR SAFE USE:**
   The user/installer shall be cognisant of the critical parameters which will be detailed on the fitted nameplates (refer to figure 1 - Nameplate General Layout).

MAINTENANCE

1. **Maintenance and inspection is the responsibility of the end user and not of Elmac Technologies Limited.**

2. Flame arresters shall be inspected on a regular basis to ensure that no build-up of solids or liquids occurs in the element as this will adversely affect the performance of the unit during process flow conditions. The maintenance interval is mainly governed by the amount and type of particulates in the system in which the unit is installed and must be determined by the user. The user should check the element in the first few months of operation to find out how quickly particulates accumulate. After cleaning, the element should be thoroughly inspected for damage. Flame arrester shall also be inspected if a flashback is known or suspected to have occurred. If the flame arrester element is damaged, it must be replaced.

   Refer to Figure 2 - Element Inspection Methods (Pipe Cap Models).

3. Arrester elements may be cleaned with any suitable solvent. Steam cleaning may also be effective. After cleaning, the element needs to be dried by compressed air blow. If the arrester element cannot be cleaned satisfactorily, it shall be replaced. If any deformation is observed, then the arrester must be replaced. It is advisable to hold spares in stock in site stores.

4. For installations that require frequent maintenance and minimum downtime, it is recommended that the user should purchase a spare arrester. This spare arrester can be installed immediately, and the dirty arrester can then be cleaned and stored as a spare ready for the next maintenance interval.

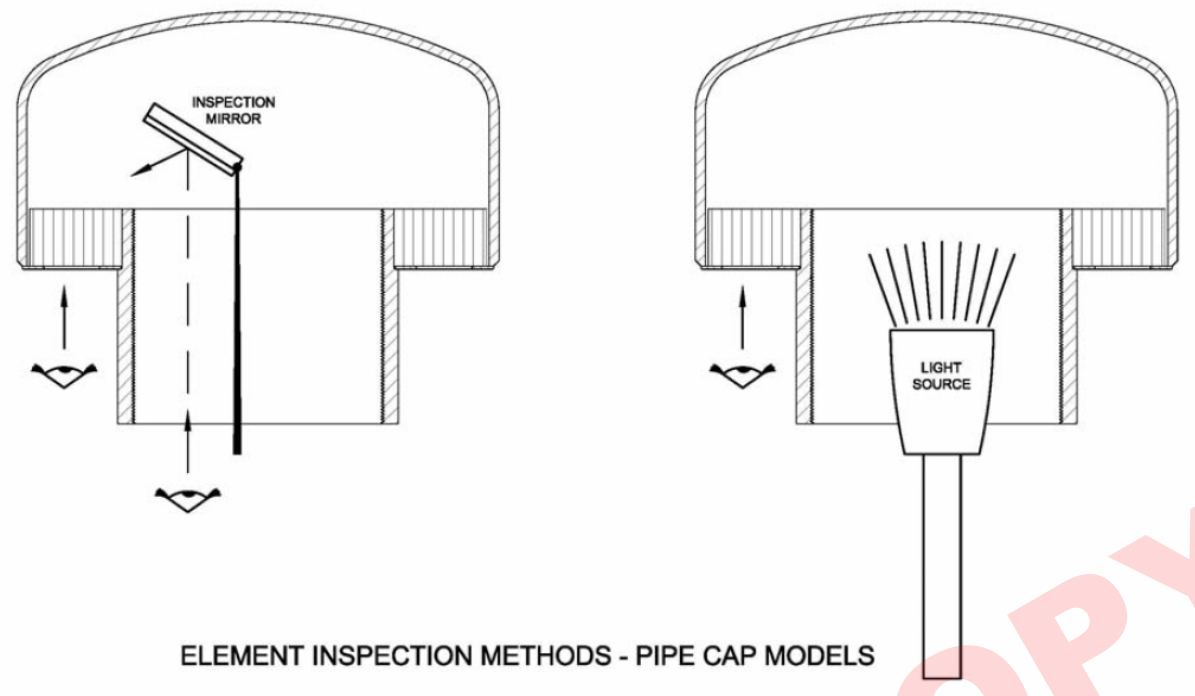

Figure 2

IN THE EVENT OF ANY QUERY PLEASE CONTACT OUR TECHNICAL SALES DEPARTMENT

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