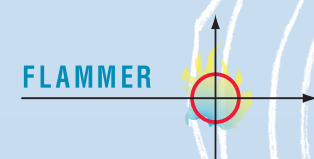
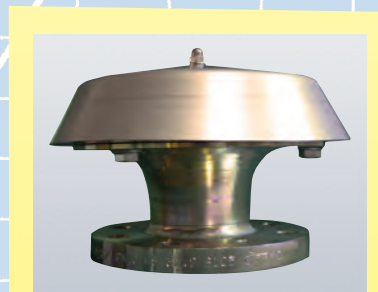
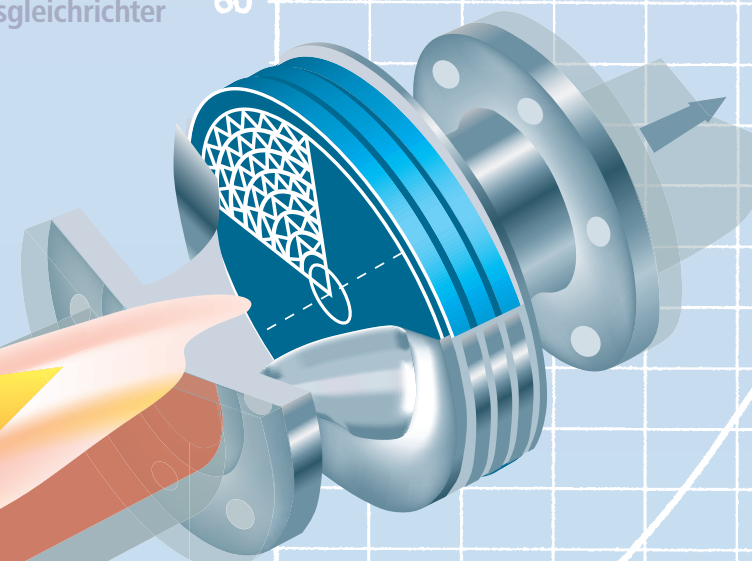
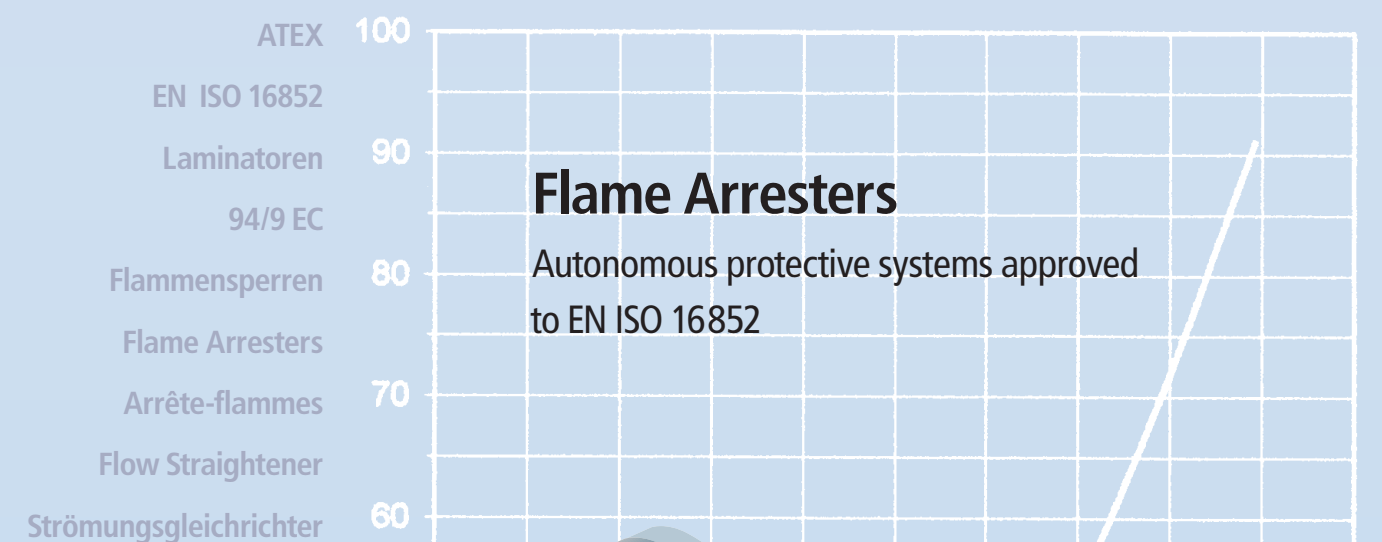


Flammer GmbH – DIN EN ISO 9001:2008 certified – is based in Southern Germany and produces flame arrester elements, flame arresters and flow laminators.



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Flame arresters  
Flame arrester elements  
Inline detonation flame arresters  
Inline deflagration flame arresters



## Flame Arresters

A flame arrester is an autonomous protective system fitted to the opening of enclosures or to the connecting pipe work. The aim of a flame arrester is to allow flow but to prevent the transmission of flame. In accordance to directive 94/9 EC all autonomous protective systems (flame arresters) need a third party certificate. Approved and certified flame arresters have to be marked to directive 94/9 EC. To choose the right flame arrester depends on certain conditions e.g. temperature, operating pressure, pipe size, composition of used gas (explosion group), distance between potential source of ignition and the flame arrester. Therefore it is crucial to use flame arresters only for the conditions they have been designed and certified for.

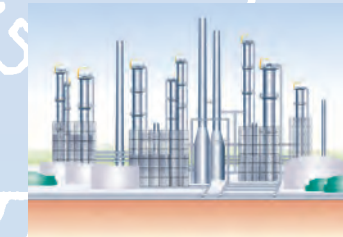
**We are offering a wide range of different flame arresters approved to EN ISO 16852:**

- Inline detonation flame arresters
- Inline deflagration flame arresters
- Inline deflagration flame arresters approved for
  - short time burning
  - endurance burning
- End of line deflagration flame arresters
- End of line deflagration flame arresters approved for endurance burning
- Liquid product end of line detonation flame arresters
- Pre-volume end of line flame arresters

Our flame arresters are especially designed for low pressure drop, simple to clean and they are small sized. This space saving device makes installation in new and old plants easy. You can choose from our range of inline deflagration flame arresters approved for short time burning and endurance burning or inline detonation-, liquid- and end of line flame arresters. All flame arresters are available in stainless steel V2A and V4A (AISI 304/AISI316) or in steel zinc plated and chromated.

## Plant Engineering

If an explosive atmosphere is ignited in a pipe, the flame propagates through it first with subsonic speed (deflagration). After a specific pipe length the velocity accelerates up to supersonic speed (detonation).



Therefore the use of the correct autonomous protective system such as flame arresters depends on certain conditions e.g. temperature, operating pressure, composition of used gas (explosion group) distance between potential source of ignition and the flame arrester. Consequently it is important to use flame arresters only for the conditions they have been designed and certified for. Our flame arresters are approved to EN ISO 16852 and ATEX directive 94/9/EC.

## Products for Biogas Plant

During the fermentation of biomass mainly methane is produced. Methane together with atmospheric oxygen is explosive. This explosive gas mixture is used as working gas. To stop an accidental flame propagation e.g. from outside into gas storage and supply chain a flame arrester is required e.g. for flare, cogeneration unit (CHP), gas analyses, gas blower and heater.



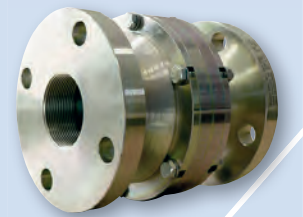
Flame arresters are autonomous protective systems and are preventing transmission of flame in case of uncontrolled ignition. A wide range of our flame arresters (e.g. short and endurance burning type) are specially developed for bio-, sewage- and landfill-gas applications and are approved to ATEX directive 94/9/EC and EN ISO 16852.

## Products for Petrol Stations

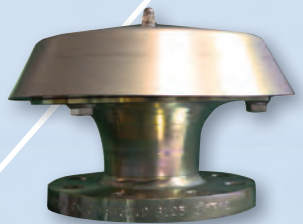
As producer of flame arresters we are supplying the petro chemical branch with our high quality products. One of the most common bio fuels is Ethyl alcohol (Ethanol). Ethanol/petrol blends and Ethanol/Diesel blends are worldwide in use. New fuels and fuel blends don't have the same characteristic as pure petrol. For that reason the safety concept of the storage, transport and distribution of bio fuels has to be reconsidered.



In general storage systems for inflammable liquids (e.g. petrol) have to be equipped with flame arresters at all openings. A flame arrester is a device to stop a flame entering a pipe in case of ignition and is designed to protect the safety of workers, the public, the property and the environment. We are offering a wide range of safety products for forecourt business. Among flame arresters we also have pressure vacuum valve and camlock vapour recovery stage I adapter with an integrated flame arrester approved to EN ISO 16852.



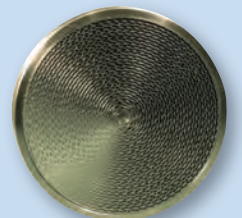
Inline Deflagration Flame Arrester



End of Line Deflagration Flame Arrester



Inline Detonation Flame Arrester



Flame Arrester Element



Inline Deflagration Flame Arrester Approved for Short Time Burning

## The Company

Flammer GmbH is DIN EN ISO 9001: 2008 certified. The company is based in Southern Germany and produces flame arrester elements, flame arresters, fittings protected against light-back and flow laminators. Our products are used for the analysis, storage, gauging and transportation of gases. We have been supplying high-quality products to our customers in Germany and throughout the world since 1996, when our company was founded. We are an OEM supplier of flame arresters and flow straighteners, and we have successfully developed cost-efficient solutions that meet the high safety and engineering standards of our customers. Our goal is to find the best possible technical and cost-efficient solution, in close cooperation with our customers. Since July 2003 the new EU ATEX directive (94/9/EC) requires most products used in a potential explosive environment to be ATEX approved. If you need support for certification in Europe in accordance with directive 94/9 EC (ATEX) do not hesitate to contact us.

## Customer Specific Solutions

Installing standard products is not always feasible - due to technical requirements, cost-efficiency or the lack of space. Customized system solutions require know-how, experience and flexibility. We have been supplying our products to many different countries worldwide since our company was founded in 1996. Throughout this period we have implemented extensive customized solutions in close cooperation with our customers. If you are interested in specific solutions for flame arresters or flow laminators for fluids or gases, feel free to contact us.