LISK

Safety

FLAME ARRESTORS

Deflagration Type

In-line & End-of-Line Versions

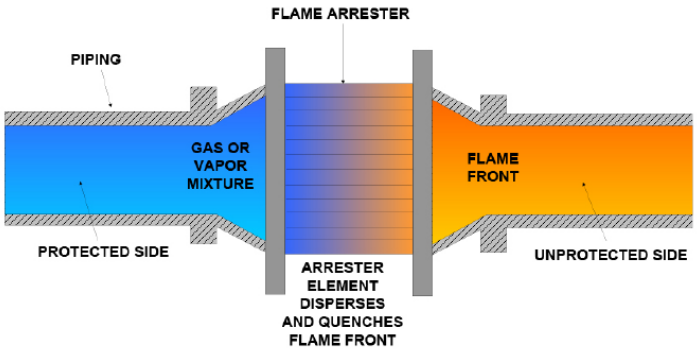
FLAME ARRESTORS, BREATHERS AND VENT PLUGS

Flame Arrestors to Meet your Exact Level of Safety and Compliance.

A flame arrestors is designed to stop the propagation of a flame or explosion to areas where it would cause damage or injury. In some cases, the resulting pressure wave from a detonation situation can be more destructive than the flame itself. A flame arrestor stops the flame and helps disperse the pressure wave.

HOW IT WORKS

LISK utilizes a crimped metal ribbon element to arrest the flame and stop it from propagating to the protected environment. The crimped metal ribbon works as a "heat sink", designed to provide maximum surface area and thermal mass for absorption and dissipation of heat from the hot gas/flame to the element and ultimately to the atmosphere. In contrast to other types of flame arrestor designs such as wire mesh or sintered metal, the crimped metal ribbon design provides a direct flow path which helps to minimize pressure drop across the element.



FLAME ARRESTOR DESIGN INTENT

LISK flame arrestors are designed for applications that are intended for use in Class I Division I & Class I Division II environments as defined by, NEC, NFPA, IEC (as requested). As part of the design process, LISK will utilize the information provided in a customer specification and work with the customer to identify a design that would meet their requirements.

TYPICAL INFORMATION REQUIRED

- Flammable Media
- Volume of Flammable Media
- Flow Rate
- Allowable Pressure Drop
- Operating Temperature
- Distance from Ignition/Ignition Location.

CLASSIFICATIONS OF A FLAME ARRESTOR

Deflagration Arrestor
A device designed to stop the propagation of a flame traveling below the speed of sound (approximately 1063 feet/second).

Detonation Arrestor
A device designed to stop the propagation of a flame traveling above the speed of sound.

Spark Arrestor
A device designed to prevent the passage of sparks or embers.

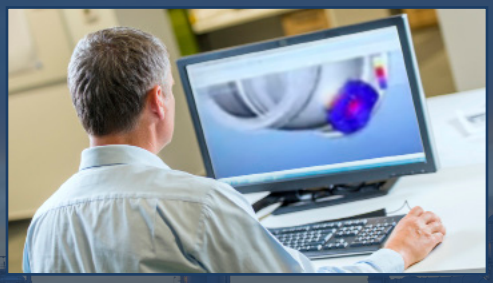
Breather Plus
A device designed to act as a pressure equalizer or vent. A breather may or may not be designed to act as a flame arrestor as well.

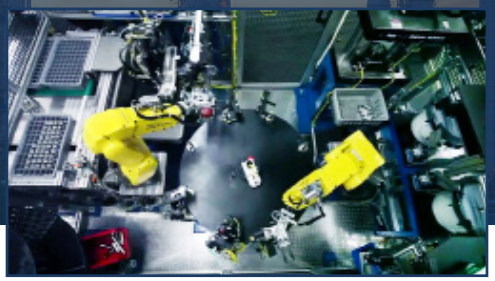
End of Line Type I Arrestors
Located at the end of a pipeline or exit vent where the ignition source is external.

In-Line Type II Arrestors
Prevent the propagation of flames in piping systems by positioning it in proximity to the potential source of ignition so flames or explosions are confined to the immediate area.

TOTAL IN-HOUSE CAPABILITY FOR DESIGN DEVELOPMENT AND MANUFACTURE

Our philosophy of maintaining complete control of the design, manufacture, and quality of LISK products has led to a substantial investment in equipment, facilities, and training. This enables delivery of every order to specification, on time and on budget.

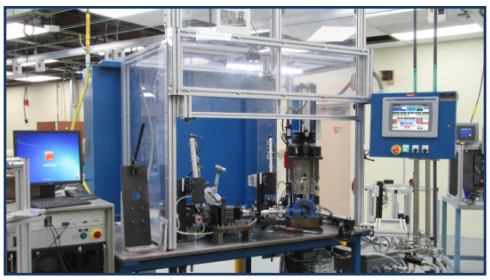




COMPUTER AIDED DESIGN (CAD) featuring 3D capabilities.

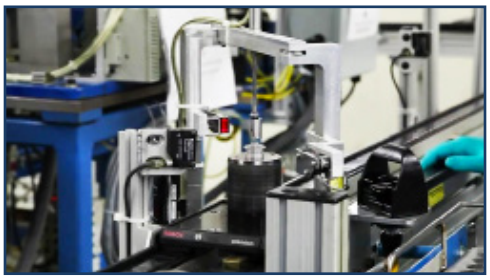
CAM: CNC PROGRAMMING Pro E, Master Cam, Partmaker.

R&D LABORATORY Electrical characteristics, operational performance including pneumatic and hydraulic pressure/flow stands, response time, life cycling, evaluation of new processes, features, and new product development are just a few of the many in-house capabilities.



NDT TESTING & MATERIAL ANALYSIS Non-Destructive Testing services that includes x-ray, visual, and Dye Penetrant inspection.

ENVIRONMENTAL TESTING Including, but not limited to shock, vibration, salt spray, humidity, high (1000F) and low (-150F) temperatures, altitude to 100,000 feet, and other testing as required.



HYDRAULIC TESTING Up to 75HP, 60,000 PSI, with a multitude of fluids.

INTERNATIONAL STANDARDS Meets or exceeds many international certification standards.

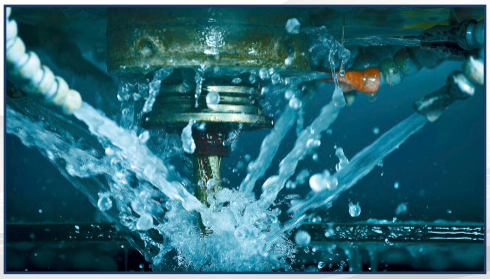
PACKAGING Commercial, military, environmental storage, custom, VPCI, and returnable packaging and cleaning.

MANUFACTURING ENGINEERING In-house Tool/Machine design and build capabilities. Fully trained technical staff for troubleshooting/repair of machinery and automated equipment to minimize downtime.

CNC WINDING MACHINES, COMPUTER AUTOMATED TEST STANDS Reduces time and costs associated with manual testing and eliminates operator error.

OVER 100 CNC MACHINES Multi-axis, vertical and horizontal turning / milling, automatic 3D manufacturing cells, and Swiss turning capabilities.

CNC SCREW MACHINES Six spindle and eight spindle bar machines.



WELDING/BRAZING Electron beam, gas tungsten arc welding, laser, induction, heliarc, spot welding, and brazing.

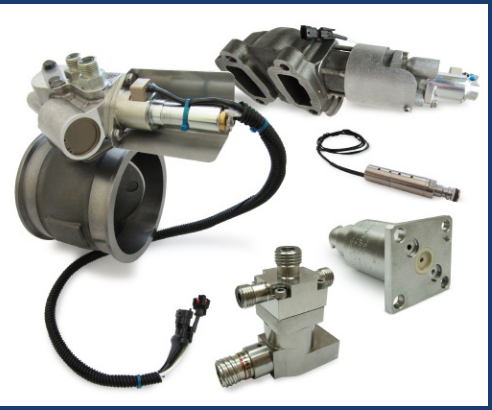
PLATING Cadmium, zinc, electroless nickel, zinc phosphate, chemical film on aluminum, anodize, passivate, Zinc Nickel and others.

PRESSURE MOLDING Transfer and injection coil overmolding.

MISCELLANEOUS Blanking and forming presses up to 55 ton 2, 4 and 20 ton machines. Surface, center-less, cylindrical, and on-center grinding. Pinch and peel grinding and broaching.

PRODUCTS

Solenoids



Solenoid Valves

Sensors

Flame Arrestors

DEDICATED TO CONTINUOUS IMPROVEMENT AND TOTAL CUSTOMER SATISFACTION.

Our investment in equipment and facilities is just part of our commitment to customer satisfaction. We also demonstrate it through the use of statistical process controls, Lean Manufacturing programs and continuous personnel and supplier training. It is this level of dedication and investment that makes LISK a global leader in the design and manufacture of Solenoids, Solenoid Valves, Sensors, Flame Arrestors and Intelligent Integrated Sub-Systems.

LISK. ACTIVATING THE WORLD.

MARKETS

Aerospace

Defense

Engine Management

Off Highway

Oil & Gas

Industrial

Power Generation

Medical

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Rev. 5