



CENTRIFUGAL DIESEL ENGINE SPARK ARRESTOR



ATEX
APPROVED



DESCRIPTION

The Arresto Spark Arrestor is a high-performance safety device meticulously designed for seamless integration into exhaust systems, capable of either complementing or replacing conventional mufflers. It features an innovative dual centrifuge mechanism that optimizes internal gas flow dynamics.

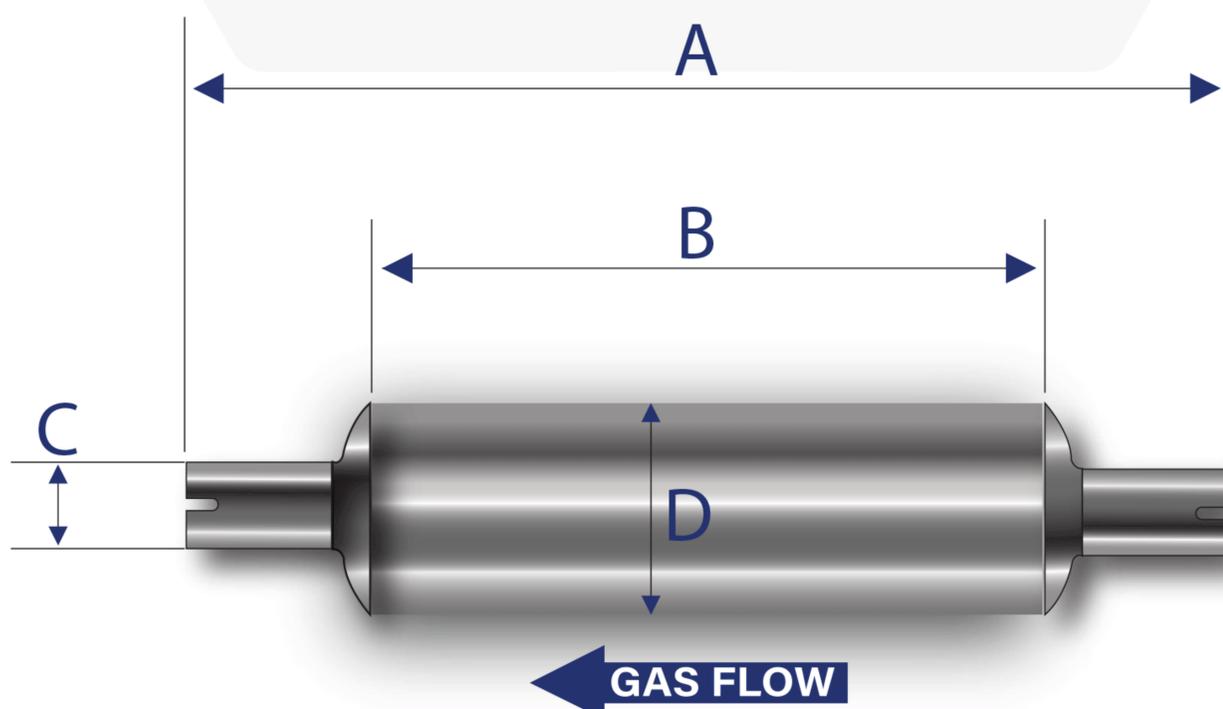
This twin-centrifuge configuration enhances spark arresting efficiency by effectively capturing and containing sparks before they can exit the exhaust system. At the same time, it ensures minimal back pressure, preserving optimal engine performance. Additionally, the improved gas flow pattern contributes to superior noise suppression, significantly reducing exhaust noise levels and ensuring a quieter, more efficient, and safer operating environment.

PRODUCT SELECTION

Selecting the appropriate Arresto Spark Arrestor requires a thorough evaluation of both the engine's power output and the exhaust pipe dimensions. To simplify this process, a comprehensive selection table is provided below, correlating engine power—measured in horsepower (HP) or kilowatts (kW)—with the corresponding exhaust pipe sizes in inches. This ensures accurate sizing, a secure fit, and optimal performance.

The selection table typically outlines key parameters such as:

- Engine Power Range (HP/kW)
- Exhaust Pipe Diameter (inches/mm)
- Recommended Arrestor Model
- Overall Dimensions





DESIGN

Arresto Spark Arrestors are engineered to align with specific horsepower (HP) ranges, ensuring reliable performance across diverse operating conditions. During the design phase, several boundary conditions are established, and key parameters such as gas velocity, pressure drop, back pressure, noise attenuation, exhaust temperature, and air-fuel ratio (AFR) are analyzed in detail. This comprehensive evaluation guarantees that each model operates safely and efficiently within its designated HP range.

ARRESTO SPART ARRESTOR - CATALOG DATA

No.	Model Name	Type Code	Length A (mm)	Length B (mm)	Diameter C (inches)	Diameter D (mm)	Capacity (Hp)	Max flow Rate (m ³ /s)	Max Velocity (m/s)
1	1.25" Arresto	ENX AR 65 32	310	140	1.25	94	10-45 hp	0.105	63
2	1.5" Arresto	ENX AR 75 38	310	140	1.5	94	10-62 hp	0.105	58
3	1.75" Arresto	ENX AR 90 45	310	140	1.75	94	10-75 hp	0.105	67
4	2" Arresto	ENX AR 100 51	470	280	2	156	30-85 hp	0.147	72
5	2.5" Arresto	ENX AR 125 63	470	280	2.5	156	30-130 hp	0.168	53
6	2.75" Arresto	ENX AR 140 70	645	450	2.75	176	25-220 hp	0.441	51
7	3" Arresto	ENX AR 150 76	975	750	3	180	50-245 hp	0.42	67
8	3" Arresto-CHHP	ENX AR 160 80	880	690	3	200	100-310 hp	0.65	55
9	3.5" Arresto	ENX AR 175 89	975	750	3.5	180	80-300 hp	0.535	66
10	4" Arresto	ENX AR 200 102	1140	910	4	203	150-360 hp	0.504	62
11	5" Arresto	ENX AR 250 127	1340	1100	5	232	300-560 hp	1.1552	51
12	5" Arresto-Turbine	ENX AR 250 150	1025	790	5	232	240-480 hp	1.01	62
13	6" Arresto	ENX AR 300 252	1340	1100	6	232	300-600 hp	1.157	63
14	8" Arresto	ENX AR 400 203	1750	1440	8	300	400-925 hp	1.886	58

This approach ensures that the selected spark arrestor matches the engine's specifications, providing effective spark arresting while maintaining optimal engine performance.



CONSTRUCTION

Arresto Spark Arrestors are designed to fully comply with ATEX standards for use in explosive environments. Built from high-grade stainless steel (SS 316), they offer outstanding corrosion resistance, heat tolerance, and long-term reliability.

Each unit is manufactured through precision engineering, ensuring excellent structural strength and dimensional accuracy to withstand continuous operation in harsh conditions. The combination of superior materials and meticulous craftsmanship makes the Arresto Spark Arrestor a durable and dependable solution for demanding exhaust applications.

MAINTENANCE

A key advantage of the Arresto Spark Arrestor is its maintenance-free construction. Designed with a non-blocking mechanism and no moving parts, it eliminates wear and the need for periodic servicing. This not only minimizes maintenance costs and downtime but also ensures continuous, reliable performance.

The open-flow design prevents clogging while maintaining high spark-trapping efficiency, removing the need for frequent cleaning or adjustments. Its dependability and low-maintenance nature make it an ideal choice for operators who prioritize uninterrupted safety, performance, and cost efficiency in their exhaust systems.

INSTALLATION

Once the appropriate Arresto Spark Arrestor model is selected based on the engine's horsepower, the installation process is carried out following precise guidelines to ensure performance and safety.

Installation can be done in two ways:

- **Clamped Installation:** The arrestor is secured using heavy-duty clamps, with all bolts torqued to the specified values to ensure a tight, vibration-resistant fit.
- **Welded Installation:** The arrestor is welded directly to the exhaust pipe, and the weld joints are coated with a zinc-rich spray of at least 100 microns thickness to prevent corrosion.

For longer models, additional central supports or cross stays made from ring-type flat bars are recommended. These supports, combined with dampers, help absorb dynamic vibrations and mechanical shocks during operation.

Note : Any damage arising due to Non compliance in installation will cause warrently void



FEATURES

- **Twin Centrifugal Design:** Incorporates a dual-centrifuge mechanism that efficiently captures and contains sparks within the exhaust system, providing superior spark-arresting efficiency and enhanced safety.
- **High Noise Attenuation:** Engineered for effective silencing, the internal design minimizes exhaust noise levels, creating a quieter and more comfortable operating environment.
- **Permanent Installation:** Developed for long-term integration into the exhaust system, ensuring consistent performance and minimal maintenance throughout the product's lifespan.
- **Versatile Application:** Can be installed in conjunction with existing mufflers or used as a direct replacement, providing flexibility to suit various engine and system configurations.
- **Optimized Gas Flow Dynamics:** Advanced internal geometry promotes smooth exhaust flow, resulting in low back pressure and maintaining optimal engine efficiency while ensuring complete spark suppression.
- **100% Stainless Steel Construction:** Manufactured from premium-grade SS 316, offering exceptional durability, corrosion resistance, and suitability for demanding industrial and marine environments.

TESTING AND CERTIFICATION

Arresto Spark Arrestors undergo an extensive testing and certification regime to verify compliance with the stringent requirements of ATEX standards for use in hazardous and explosive atmospheres. Each unit is certified under ATEX EN 1834 Parts 1, 2, and 3, and conforms to the ATEX Directive 2014/32/EU, ensuring adherence to the highest international safety benchmarks. During validation, every arrestor is tested on engines of varying power ratings at three operational stages—low, high, and progressively increasing RPM in accordance with ATEX testing protocols. These tests confirm the product's spark suppression efficiency, thermal stability, and overall reliability.

The certification is issued by the ATEX Notified Body No. 2336, Sca Belgelendirme Ve Özel Eğitim Hizmetleri Ltd. Şti., an internationally recognized EU based notify body authority in explosion protection assessment. This rigorous certification process underscores Arresto's commitment to safety, engineering excellence, and operational reliability, ensuring consistent performance and full compliance with global safety standards for explosive environments.



QUALITY

EnvisionX, the manufacturer of Arresto Spark Arrestors, is dedicated to delivering products that meet the highest standards of quality and reliability. Each unit is backed by a one-year guarantee, reflecting the company’s confidence in the durability, safety, and long-term performance of its products.

EnvisionX operates under a certified ISO 9001:2015 Quality Management System, demonstrating a strong commitment to continuous improvement and excellence in manufacturing practices. This globally recognized certification ensures that all processes—from design and production to inspection and delivery—are carried out with precision, consistency, and strict adherence to quality benchmarks.

Regular audits and performance evaluations reinforce the company’s dedication to maintaining its certification and meeting customer expectations. Through this unwavering focus on quality assurance, EnvisionX provides clients with the assurance of reliable, compliant, and high-performing spark arrestor solutions for critical industrial applications.



Arresto



Arresto SPARK ARRESTOR

**Spark Arrestors are a safety device.
The use of the correct product &
proper installation is critical &
should be treated seriously**

**MANUFACTURERS OF SPECIALIST EXHAUST
PRODUCTS & EMERGENCY SHUTDOWN VALVE**

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SPARK ARRESTERS | ENGINE SHUTDOWN VALVE**



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