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Model C- Detonation Flame Arrestor

The Paradox Detonation Flame Arrestor represents the best technology for value in flame arrestor protection. They prevent flame propagation by absorbing heat and dissipating supersonic pressure waves, using multiple spiral wound crimped ribbon flame cells staged with turbulent creating screen sections. These screen sections allow for much larger cells than that of competitive crimped ribbon arresters, allowing maximum flow with maximum protection. They provide protection against flame propagation in piping systems that are manifolded or have long run-up distances. Paradox's detonation flame arrester element technology dampens the high velocities and pressures associated with deflagrations and detonations while quenching the flame front and providing larger flame channels which require less frequent maintenance due to clogging and greater ease in cleaning when service is required. This translates to less downtime. Our element offers maximum flow to pressure drop characteristics enhancing the value of our product in any system.

They are typically used for extended pipe length or multiple pipe bend configurations to stop high pressures and flame velocities associated with detonations and overdriven detonations. In addition, it stops confined and unconfined, low, and high-pressure deflagrations. All Paradox units are bi-directional and are proven to stop an ignited flammable vapor mixture approaching from either direction that can be traveling at subsonic or supersonic velocities. Designed with flanged connections, this Arrestor provides the option of removal of the flame cell (element) for easy cleaning and replacement without disconnection of the pipe connection flanges. Standard housing construction is carbon steel and is available in stainless steel or Hastelloy. The element is available in 304 SS, 316 SS, and Hastelloy. Special materials and protective coatings are available on request.

- **U.S. Coast Guard Approved 2" (50mm) - 22" (559mm) IIA (D) and IIB3 (C) Concentric and Eccentric design.**
- **USCG Tested to 36" (72") Concentric in IIA (D).**
- **IIC (B) U.S. Coast Guard, Approved 2" only Other sizes tested, but not approved.**
- ATEX (EN 12874 Tested Only) 2" (50mm) - 24" (500mm) IIA and IIB Concentric and Eccentric design.

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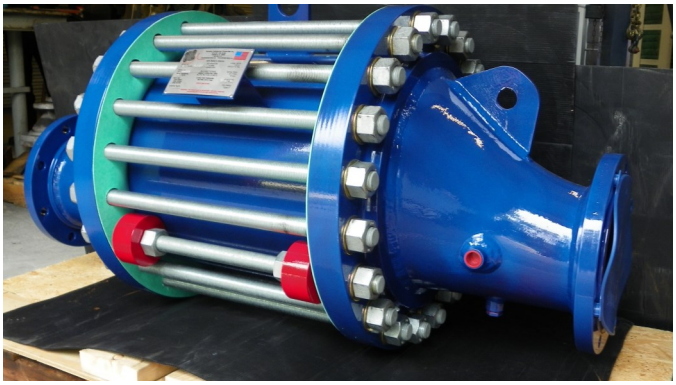
Features and Benefits

- **USCG Approvals** on Groups D & C only.
- ***All Paradox Detonation Flame Arrestors*** are designed for stable, over-driven & unstable detonations as well as deflagrations.
- ***Removable Element*** design allows for easy replacement.
- **Outstanding corrosion** and chemical resistance.
- ***Instrument/drain ports*** are optional and available in 1.2", 3/4" or 1" sizes



Paradox's Large Crimp Opening Provide:

- Maximum flow
- Less Pressure Drop
- Easy Cleaning
- Less Clogging
- Less Maintenance
- Bi-directional Design
- Available in ANSI, DIN and JIS flanges.

Material Specifications

Housing	Cell	Gas Group
Carbon Steel 304 SS 316L SS Hastelloy	304 SS 316 SS Hastelloy	IIA (D) IIB3 (C) IIC (B)

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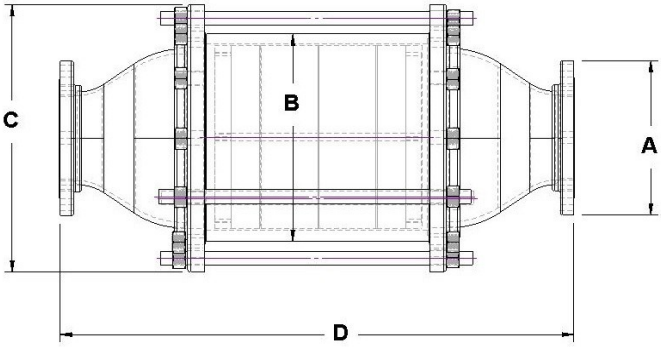
Series C-Detonation Flame arrester Specifications



USCG Approved

Model	A 150# AN-SIConn. Size in. (mm)	B Housing Size In. (mm)	C Outside Diameter In. (mm)	D Overall Length In. (mm)	Initial Pressure Rating Group D (-2 psia for Group C)	Approx. Weight Lb. (Kg.) Grp D (Grp C&B +15% to 20%)
C-2C	2 (50)	6 (150)	11 (279)	28.00 (711)	22.7 psia (1.54 bar)	175 (79.4)
C-3C	3 (75)	8 (200)	13.50 (343)	30.00 (762)	22.7 psia (1.54 bar)	220 (99.8)
C-4C	4 (100)	10 (250)	16.00 (406)	32.00 (813)	22.7 psia (1.54 bar)	400 (181.4)
C-6C	6 (150)	12 (300)	19.00 (483)	36.00 (914)	22.7 psia (1.54 bar)	500 (226.8)
C-8C	8 (200)	16 (400)	25.50 (648)	51.25 (1302)	22.7 psia (1.54 bar)	1360 (616.9)
C-10C	10 (250)	200 (50)	30.50 (775)	62.75 (1594)	22.7 psia (1.54 bar)	1945 (882.2)
C-12C	12 (300)	24 (600)	36.00 (914)	64.50 (1638)	22.7 psia (1.54 bar)	3000 (1360.8)
C-14C	14 (350)	28 (700)	40.75 (1035)	70.00 (1778)	22.7 psia (1.54 bar)	3400 (1542.2)
C-16C	16 (400)	30 (750)	43.00 (1092)	79.00 (2007)	22.7 psia (1.54 bar)	3800 (1723.7)
C-18C	18 (450)	34 (850)	47.50 (1207)	89.00 (2261)	22.7 psia (1.54 bar)	4800 (2177.2)
C-20C *C-20C-1200	20 (500)	36 (900) 48 (1200)	50.00 (1270)	89.00 (2261)	22.7 psia (1.54 bar)	5600 (2540.1) 8700 (3810)
C-22C *C-22C-1200	22 (560)	36 (900) 48 (1200)	50.00 (1270) 59.90 (1511)	89.00 (2261)	22.7 psia (1.54 bar)	5600 (2540.1) 8700 (3810)
*C-24C	24 (600)	48 (1200)	59.50 (1511)	101.00 (2565)	22.7 psia (1.54 bar)	8400 (3810)

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Model Series "C Detonation Flame Arrester for Group D, C, or B Gas
Specification Data Sheet

Flame Arrester Type	**In-line Bi- Directional Flame Arrester**
Recommended installation /use	Vertically or Horizontally anywhere in a Piping systems.
Design/Test Standard/Test Gas	USCG 33 cfr/Propane/Ethylene/Hydrogen
Connection sizes	2" through 22" Pipe sizes (24" & 30" Special order).
Type of connection	Flanged connection.
Flange ratings	Available in ASME 150# Raised Faced Flange
Housing Materials	Standard Model; Carbon Steel, also available in 304, 316L & most other Austenitic metal or hastelloy.
Element Type/Material	The element is crimped metal ribbon made from 304 Stainless Steel and is also available in 316L or hastelloy.
Maximum Initial pressure (Psia.)	22.7(Grp D), 20.7,(Grp C), 19.7 (Grp B)
Operating temperature range	-17ºC to +60ºC
Hydrostatic Test Pressure	350 Psig.
Gas Group Application Rating	NEC Group D,C, B(IEC Group IIA, IIB, IIC)

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