

PARADOX INTELLECTUAL PROPERTIES INC.

Flame Arrestor Design and Application Data

Please print it, fill it out and fax it to 1-352-493-2111 or scan & email to info@paradoxintellectual.com

Items marked with an asterisk (*) are required fields.

*Company:	<input type="text"/>	*Email:	<input type="text"/>
*Contact Name:	<input type="text"/>	Project Reference:	<input type="text"/>
*Street Address:	<input type="text"/>	*Fax:	<input type="text"/>
*City/State/Country:	<input type="text"/>	Quote No./P.O. No.:	<input type="text"/>
*Zip:	<input type="text"/>		
*Telephone (Please include area code/country & city codes):	<input type="text"/>		

Design Data

Type	Qty	
_____	_____	Detonation Flame Arrestor
_____	_____	In-line Flame Arrestor
_____	_____	End of Line Flame Arrestor

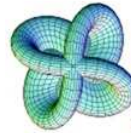
Installation:

Horizontal _____ Vertical _____ Other _____

Pipe:

Size:

Flange Pressure Rating: (ANSI 150lb. R.F. Standard)



Materials:

Housing & Element Housing:
Flame Cell: Element:

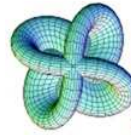
Options:

Pressure Tap: Temperature Probe Fitting:
Drain Plug: Coating/Special Paint:
Other Options: Additional Information:

Operational System Data

- 1.) Max. Flow Rate: Inlet Press. @ Max Flow:
- 2.) Normal Operating Flow: Normal Inlet Press:
- 3.) Max. Temp: C F
Normal Operating Temp: C F
- 4.) Molecular Weight/Specific Gravity
- 5.) Gas Group: A B C D or Other:
- 6.) Gas/Vapor Composition:
- 7.) Desired Pressure Drop:
- 8.) Continuous Burning Possible on Flame Element?:
- 9.) Distance to be installed from potential flame source Bends?

10.) Additional Information:



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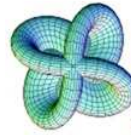
Flame Arrestor Selection Guide

Choosing the proper flame arrestor is critical to the safety of equipment and personnel. Consult the table below to select the product which best fits your needs, taking into account vent/piping layout and gas group. For gas group classifications, see the table at the bottom of this page.

Paradox Standard Flame Arrestor Selection Criteria

Including [US Coast Guard](#) certified detonation arrestors

NEC Group "D" or IEC Group IIA Gases				
Parameters	End-of-Line	In-Line (Standard)	In-Line HP Deflagration	Detonation Arrestor DFA
Length of pipe between the arrestor and the ignition source without bends	(Mounted on end of pipe)	20 feet (6 meters)	60 feet (18 meters)	Unlimited
Length of pipe between the arrestor and the ignition source with one 90° bend	(Mounted on end of pipe)	20 feet (6 meters)	60 feet (18 meters)	Unlimited
Length of pipe between the arrestor and the ignition source with multiple bends	(Mounted on end of pipe)	Not recommended with multiple bends	Not recommended with multiple bends	Unlimited
Flame stabilization at stoichiometric mixture and ambient temperature not to exceed 140°F (60°C) *	5 minutes (minimum)	5 minutes (minimum) 30 minutes (Factory Mutual Approved units)	15 minutes (minimum)	2 hours (concentric) (15 minutes using 316L)
Operating Pressure	Atmospheric	15.4 psia (106 kPa)	19.7 psia (134 kPa)	Conc. 3"-12" (22.7 psia) (75-300mm) 157 kPa Conc. 2", 14"-20" (20.7 psia) (50, 350-500mm) 143 kPa

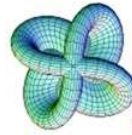


NEC Group "C" or IEC Group IIB3 Gases

Parameters	End-of-Line	In-Line (Standard)	In-Line HP	Detonation Arrestor DFA
Length of pipe between the arrestor and the ignition source without bends	(Mounted on end of pipe)	6 feet (2 meters) (open-ended pipe)	35 feet (10.6 meters)	Unlimited
Length of pipe between the arrestor and the ignition source with one 90° bend	(Mounted on end of pipe)	6 feet (2 meters) (open-ended pipe)	35 feet (10.6 meters)	Unlimited
Length of pipe between the arrestor and the ignition source with multiple bends	(Mounted on end of pipe)	Not recommended with multiple bends	Not recommended with multiple bends	Unlimited
Flame stabilization at stoichiometric mixture and ambient temperature not to exceed 140°F (60°C) *	5 minutes (minimum)	5 minutes (minimum)	15 minutes (minimum)	15 minutes (minimum)
Operating Pressure	Atmospheric	15.4 psia (106 kPa)	16.7 psia (115 kPa)	Conc. (2"-20") 20.7 psia (50-500mm) 143 kPa Ecc. (3"-20") 18.7 psia (75-500mm) 129 kPa

NEC Group "B" or IEC Group IIC Gases (Except Acetylene)

Parameters	End-of-Line	In-Line (Standard)	In-Line HP	Detonation Arrestor DFA
Length of pipe between the arrestor and the ignition source without bends	(Mounted on end of pipe)	4 feet (1.2 meters) (open-ended pipe)	15 feet (4.5 meters)	Unlimited
Length of pipe between the arrestor and the ignition source with one 90° bend	(Mounted on end of pipe)	Not recommended with a bend	15 feet (4.5 meters)	Unlimited



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Length of pipe between the arrestor and the ignition source with multiple bends	(Mounted on end of pipe)	Not recommended with multiple bends	Not recommended with multiple bends	Unlimited
Flame stabilization at stoichiometric mixture and ambient temperature not to exceed 140°F (60°C) *	2 minutes (minimum)	2 minutes (minimum)	15 minutes (minimum)	15 minutes (minimum)
Operating Pressure	Atmospheric	15.4 psia (106 kPa)	16.7 psia (115 kPa)	Conc. 2"-6" (17.7 psia) (50mm-150mm) 122 kPa

* Unlimited burning should not be allowed in any flame arrestor regardless of its burn time rating. We recommend the use of flame sensors, along with an appropriate means of extinguishing the fire, in any situation where a stabilized burn may occur.