Enardo™ Flame and Detonation Arrestor Selection Guide

Standard Flame Arrestor Selection Criteria

PARAMETERS	END-OF-LINE FVFA AND VSFA	IN-LINE (STANDARD) ENARDO 7 SERIES, HP AND IL	IN-LINE HP DEFLAGRATION ENARDO 8 SERIES	DETONATION ARRESTOR DFA
NEC Group "D" or IEC Group IIA Gases				
Maximum length of pipe between the arrestor and the ignition source without turbulence causing device.	(Mounted on end of pipe)	20 ft / 6 m 10 L/D for FM Approved Models[4]	60 ft / 18 m	Unlimited
Maximum length of pipe between the arrestor and ignition source with no more than one (1) turbulence causing device.[3]	(Mounted on end of pipe)	20 ft / 6 m 10 L/D for FM Approved Models[4]	60 ft / 18 m	Unlimited
Maximum length of pipe between the arrestor and ignition source with more than one (1) turbulence causing device.[3]	(Mounted on end of pipe)	Not Recommended. Use Detonation Arrestor.	Not Recommended. Use Detonation Arrestor.	Unlimited
Flame Stabilization at stoichiometric mixture and ambient temperature not to exceed at 140°F / 60°C.[2]	5 minutes	5 minutes 30 minutes for FM Approved Models[4]	15 minutes	2 hours (concentric only)
Operating Pressure	Atmospheric	15.4 psia / 106 kPa	19.7 psia / 134 kPa	Concentric: 3 to 12 in. (22.7 psia) / 50 to 300 mm (157 kPa) Concentric: 2 and 14 to 20 in. (20.7 psia) / 350 to 500 mm (143 kPa)
NEC Group "C" or IEC Group IIB3 Gases				
Maximum length of pipe between the arrestor and the ignition source without turbulence causing device.	(Mounted on end of pipe)	6 ft / 2 m (open ended pipe)	35 ft / 10.6 m	Unlimited
Maximum length of pipe between the arrestor and ignition source with no more than one (1) turbulence causing device.[3]	(Mounted on end of pipe)	6 ft / 2 m (open ended pipe)	35 ft / 10.6 m	Unlimited
Maximum length of pipe between the arrestor and ignition source with more than one (1) turbulence causing device.[3]	(Mounted on end of pipe)	Not Recommended. Use Detonation Arrestor.	Not Recommended. Use Detonation Arrestor.	Unlimited
Flame Stabilization at stoichiometric mixture and ambient temperature not to exceed at 140°F / 60°C.[2]	5 minutes (minimum)	5 minutes (minimum)	15 minutes	15 minutes
Operating Pressure	Atmospheric	15.4 psia / 106 kPa	16.7 psia / 115 kPa	Concentric: 2 to 20 in. (20.7 psia) / 50 to 500 mm (143 kPa) Eccentric: 3 to 20 in. (18.7 psia) / 75 to 500 mm (129 kPa)
NEC Group "B" or IEC Group IIC Gases (Except Acetylene)				
Maximum length of pipe between the arrestor and the ignition source without turbulence causing device.	(Mounted on end of pipe)	4 ft / 1.2 m (open ended pipe)	15 ft / 4.5 m	Unlimited
Maximum length of pipe between the arrestor and ignition source with no more than one (1) turbulence causing device.[3]	(Mounted on end of pipe)	Not Recommended. Use Detonation Arrestor.	15 ft / 4.5 m	Unlimited
Maximum length of pipe between the arrestor and ignition source with more than one (1) turbulence causing device.[3]	(Mounted on end of pipe)	Not Recommended. Use Detonation Arrestor.	Not Recommended. Use Detonation Arrestor.	Unlimited
Flame Stabilization at stoichiometric mixture and ambient temperature not to exceed at 140°F / 60°C.[2]	2 minutes	2 minutes	15 minutes	15 minutes
Operating Pressure	Atmospheric	15.4 psia / 106 kPa	16.7 psia / 115 kPa	Concentric: 2 to 6 in. (17.7 psia) / 50 to 150 mm (122 kPa)

1. Installation parameters stated in this chart apply to Enardo brand arrestors only. They are not to be used as guidance for the safe installation of arrestors produced by other manufacturers.
2. Unlimited burning should not be allowed in any flame arrestor regardless of its burn time rating. We recommend the use of temperature sensors, along with an appropriate means of extinguishing the fire, in any situation where a stabilized burn may occur.
3. Turbulence causing devices can be but are not limited to pipe bends (45° , 90°), piping "T", valves, line expansions, orifices, flexible hose, etc.
4. FM Approved model applications are limited to installation at or within 10 pipe diameters of the end of vent pipes attached to flammable liquid storage tanks. For in-line deflagration applications follow the standard Series 7 guidelines and limitations.

Enardo™ Flame and Detonation Arrestor Selection Guide

BS EN 16852 ATEX Certified Flame Arrestor Selection Criteria

PARAMETERS	END-OF-LINE EN-FVFA	IN-LINE ENARDO EN-7 SERIES	DETONATION ARRESTOR EN-DFA
IEC Group IIA Gases or NEC Group "D"			
Maximum length of pipe between the arrestor and the ignition source.	(Mounted on end of pipe)	2 in. to 6.5 ft / 50 mm to 2 m 3 in. to 7.5 ft / 75 mm to 2.3 m 4 in. to 10 ft / 100 mm to 3 m 6 in. to 13.1 ft / 150 mm to 4 m 8 in. to 13.3 ft / 200 mm to 4 m 10 in. to 16.6 ft / 250 mm to 5 m 12 in. to 19.7 ft / 300 mm to 6 m	2 to 12 in. / 50 to 300 mm Unrestricted (Designed for Unstable Detonations)
Flame Stabilization at stoichiometric mixture and ambient temperature not to exceed at 140°F / 60°C.	Short Time Burn Rating	Short Time Burn Rating	Short Time Burn Rating
Operating Pressure	Atmospheric	15.95 psia / 110 kPa	2 to 6 in. (17.7 psia) / 50 to 150 mm (122 kPa) 8 to 12 in. (16.9 psia) / 200 to 300 mm (116.5 kPa)
IEC Group IIB3 Gases or NEC Group "C"			
Maximum length of pipe between the arrestor and the ignition source.	(Mounted on end of pipe)	2 in. to 8.3 ft / 50 mm to 2.5 m 3 in. to 12.5 ft / 75 mm to 3.8 m 4 in. to 16.6 ft / 100 mm to 5 m 6 in. to 25 ft / 150 mm to 7.6 m 8 in. to 33.3 ft / 200 mm to 10.16 m 10 in. to 39.3 ft / 250 mm to 12 m 12 in. to 39.4 ft / 300 mm to 12 m	2 to 12 in. / 50 to 300 mm Unrestricted (Designed for Unstable Detonations)
Flame Stabilization at stoichiometric mixture and ambient temperature not to exceed at 140°F / 60°C.	Short Time Burn Rating	Short Time Burn Rating	Short Time Burn Rating
Operating Pressure	Atmospheric	15.95 psia / 110 kPa	17.2 psia / 118.3 kPa

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