SEWON

FLAME ARRESTER

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Deflagration Flame Arrester

SFC
SFG
SFH
SFE
SFO

Detonation Flame Arrester

SFD
SFJ

Flame Check

Deflagration Flame Arrester

SFC
SFG
SFH
SFE
SFO

Flame Arrester

The flame arrester is a device fitted to the opening of an enclosure or to the connection pipework of a system of enclosures and whose intended function is to allow gas flow but prevent the transmission of flame propagation.

Sewon flame arresters can be used to prevent flame propagation in the presence of explosive atmospheres, e.g. through piping, breathers and filling and emptying lines that are not full of liquid at all times. If the formation of a hazardous explosive atmosphere cannot be avoided, e.g. in a non-explosion proof container for flammable liquids, arrangements to arrest flame transmission must be made at permanent openings communicating with places where sources of ignition can be expected to occur and allowing an explosion to be transmitted to the container.

Sewon crimped ribbon arrester stop the propagation of a flame by absorbing and dissipation heat through the surface area of the flame element by lowering the gas temperature below its ignition temperature.

Deflagration & Detonation Flame Arrester

Flame arresting devices are classified as deflagration proof and detonation proof.

Deflagration Flame Arrester

Flame arrester designed to prevent the transmission of a deflagration.

A deflagration is the most common mode of flame propagation in accidental gas explosions. It is defined as an explosion where the combustion wave propagates at subsonic velocities relative to the unburned gas immediately ahead of the flame. The explosion pressure will range from a few mbar to several bar, depending on the flame speed. For strong deflagrations, shock waves may propagate ahead of the deflagration.

Detonation Flame Arrester

Flame arrester designed to prevent the transmission of a detonation.

A detonation is the most devastating form of gas explosion.. A detonation is defined as an explosion propagating at supersonic velocity and characterized by a shock wave. The gas ahead of a detonation is therefore undisturbed by the detonation wave.

Stable detonation

Detonation is stable when it progresses through a confined system without significant variation of velocity and pressure characteristics. In fuel-air mixtures at atmospheric condition, typical velocities range between 1600m/sec and 2200m/sec and the peak pressure is 15-20 bar.

Unstable detonation

Detonation is unstable during the transition of a combustion process from a deflagration into a stable detonation. The transition occurs in a limited spatial zone where the velocity of the combustion wave is not constant and where the explosion pressure is scientifically higher than in a stable detonation.

Types of ignition source

European Standard EN 1127-1 distinguishes thirteen types of ignition source:

1. Hot surfaces
2. Fames and hot gases
3. Mechanically generated sparks
4. Electrical apparatus
5. Stray electrical currents, cathodic corrosion protection
6. Static electricity
7. Lightning
8. Radio frequency electromagnetic waves from 10kHz to 3,000 GHz
9. Electromagnetic waves from 300 GHz to 3 x 10^6GHz
10. Ionizing radiation
11. Ultrasonics
12. Adiabatic compression and shock waves
13. Chemical reactions, including self-ignition of dusts

It is very important to take certain precautions in order to avoid any effective ignition sources under normal operating conditions.

Selection of Flame Arrester based on Gas Groups

The flame arrester capability of an explosive gas mixture depends on Maximum Experimental Safe Gap (MESG), and it is segmented into three different gas groups Group IIA, IIB and IIC based on the MESG in European Standard.

Explosion Group	CHEMICAL NAME
IIA (MESG > 0.90mm)	2,4-Pentanedione, 2-Diethylaminoethanol, 2-Pentanone, 2-Pexanone, 2-Propanol, 4-Hydroxy-4-Methyl-2-Pentanone , Acetaldehyde, Acetic acid, Acetone, Acetonitrile, Acetylchloride, Allylchloride, Ammonia, Amphetamine, Amylacetate, Aniline, Benzene, Benzotrifluoride, Benzyl chloride, Bromoethane, Butane, Butanol, Butylacetate, Butylamine, Chlorobenzene, Chlorobutane, Chloroethane, Chloromethane, Chloropropane, Coal tar naphtha, Cresol, Cumene, Cyclobutane, Cycloheptane, Cyclohexane, Cyclohexanol, Cyclohexanone, Cyclohexylamine, Cyclopentane, Cyclopropane, Cymene, Decaline, Decane, Dichlorobenzene, Dichloroethane, Dichloroethylene, Dichloromethane, Dichloropropane, Diethylamine, Dimethylamine, Ethane, Ethanediamine, Ethanol, Ethylacetate, Ethylacetoacetate, Ethylbenzene, Ethylcyclobutane, Ethylcyclohexane, Ethylcyclopentane, Ethylene chlorohydrin, Ethylformate, Ethylmercaptane, Ethylmethacrylate, Ethylolamine, Heptane, Heptanol, Hexane, Hexanol, Kerosene, Metaldehyde, Methane, Methanol, Methyl n-amyl ketone, Methylacetate, Methylamine, Methylcyclobutane, Methylcyclohexane, Methylcyclohexanol, Methylcyclopentane, Methylformate, Methylmethacrylate, Motor benzol, N,N-dimethylbenzenamine, Naphthalene, Nitroethane, Nitromethane, Nonane, Nonanol, Octane, Octanol, Pentane, Pentanol, Petroleum naphtha, Phenol, Propane, Propylacetate, Propylamine, Propylene, Propylmercaptane, Pyridine, Styrene, Tetrahydrothiophene, Thiophene, Toluene, Toluidine, Triethylamine, Trimethylamine, Trimethylbenzene, Turpentine, Vinyl chloride,
IIB (MESG > 0.50mm)	1,3 Butadiene, 1,3,5-Trioxane, 1,3-Dioxolane, 1,4-Dioxane, Acrylaldehyde, Acrylonitrile, Butyl glycolate, Carbon monoxide, Crotonaldehyde, Dibutylether, Diethylether, Dimethylether, Dipropylether, Epichlorohydrin, Ethanethiol, Ethylacrylate, Ethylene, Ethylene oxide, Ethylmethylether, Ethylmethylketone, Furan, Hydrogen cyanide, Isopropenylbenzene, Isopropylnitrate, Methylacrylate, Nitroethane, Propane-1-ol, Propene oxide, Propyne, Tetrafluoroethylene, Tetrahydrofuran, Tetrahydrofurfuryl alcohol
IIC (MESG < 0.50mm)	Acetylene, Carbon disulfide, Hydrogen

Note) The flame arrester must be selected with smallest MESG for mixture of several gases.

The Explosion Gas Group is also defined in US NFPA 497 "Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas"

Explosion Group (NFPA 497)	CHEMICAL NAME
Group A	Acetylene
Group B	Flammable gas, flammable liquid produced vapor, or combustible liquid produced vapor mixed with air that may burn or explode, having either a MESG value less than or equal to 0.45 mm or a minimum igniting current ratio less than or equal to 0.40. A typical gas is hydrogen.
Group C	Flammable gas, flammable liquid produced vapor, or combustible liquid produced vapor mixed with air that may burn or explode, having either a MESG value greater than 0.45 mm and less than or equal to 0.75 mm, or a minimum igniting current ratio greater than 0.40 and less than or equal to 0.80. A typical gas is ethylene.
Group D	Flammable gas, flammable liquid produced vapor, or combustible liquid produced vapor mixed with air that may burn or explode, having either a MESG value greater than 0.75 mm or a minimum igniting current ratio greater than 0.80. A typical gas is propane.

SEWON SFC FLAME ARRESTER, END-OF-LINE

MODEL SFC FLAME ARRESTER

NOMINAL SIZE	CONNECTIONS
• 3/4", 1", 1-1/2", 2", 3", 4", 6", 8", 10", and 12" • Other sizes are available upon request. • Available EN12874:2001 Certified Model	• ANSI/ASME B16.5 Class 150 Flange • KS/JIS 10K Flange

PROTECT STORAGE TANK OR SYSTEM FROM POTENTIAL IGNITION SOURCE

EASY INSTALLATION AND SIMPLE MECHANISM

AVAILABLE IN SIZE 3/4" TO 12"

SELF-OPENING WEATHER HOOD MECHANISM WHEN BURNING CONDITION OCCURRED

DRILLING CONFORMING TO ANSI/ASME B16.5 FOR CLASS 150 FLANGES, OR KS/JIS 10K FLANGES. OTHER STANDARDS ARE AVAILABLE ON CUSTOMER'S REQUEST.

SIZE 3/4" THROUGH 6"

SIZE 8" THROUGH 12"

SPECIFICATIONS >>>>>>>

INSTALLATION	VERTICAL
TYPE	END-OF-LINE FLAME ARRESTER
CLASSIFICATION	DEFLAGRATION FLAME ARRESTER
NORMAL WORKING PRESSURE	BELOW 1.0 BARg (STANDARD SPECIFICATION)
EXPLOSION GAS GROUP	IIA (STANDARD), IIB / IIC (FOR SPECIAL APPLICATION)

DEFLAGRATION FLAME ARRESTER

::: MATERIALS :::

PART NAME	MATERIALS	
	STANDARD	OPTIONAL
BODY	CARBON STEEL	304 S.S, 316 S.S, ALUMINUM
FLAME ELEMENT	316L S.S	HASTELLOY®, ALLOY 20
ELEMENT HOUSING	304 S.S	316 S.S
WHETHER HOOD	304 S.S	316 S.S
BOLT AND NUT	304 S.S	316 S.S

*Other Special materials are available upon customer's request. Hastelloy® is the registered trademark of Haynes International, Inc.

::: BASIC ORDERING INFORMATION :::

1. MODEL AND TYPE
2. FLUID HANDLING
3. OPERATING TEMPERATURE & PRESSURE RANGES
4. SIZE AND CONNECTION
5. MATERIAL

SEWON SFG FLAME ARRESTER, IN-LINE

MODEL SFG FLAME ARRESTER

NOMINAL SIZE	CONNECTIONS
• 1",1-1/2", 2", 3", 4", 6", 8", 10", and 12" • 14" through 40" sizes are available upon request. • Available EN12874:2001 Certified Model	• ANSI/ASME B16.5 Class 150 Flange • KS/JIS 10K Flange

PROTECT PROCESS LINE OR SYSTEM FROM POTENTIAL IGNITION SOURCE

EASY INSTALLATION AND SIMPLE MECHANISM

AVAILABLE IN SIZE 1" TO 40"

DRILLING CONFORMING TO ANSI/ASME B16.5 FOR CLASS 150 FLANGES, OR KS/JIS 10K FLANGES. OTHER STANDARDS ARE AVAILABLE ON CUSTOMER'S REQUEST.

**CONSULT OUR FACTORY FOR SPECIAL APPLICATION.*

SPECIFICATIONS >>>>>>>

INSTALLATION	VERTICAL, RECOMMEND REQUIRED DRAIN PLUG FOR HORIZONTAL INSTALLATION
TYPE	IN-LINE FLAME ARRESTER
CLASSIFICATION	DEFLAGRATION FLAME ARRESTER, BI-DIRECTIONAL
OPTIONAL EQUIPMENT	TEMPERATURE MONITORING SENSOR
NORMAL WORKING PRESSURE	BELOW 1.0 BARg (STANDARD SPECIFICATION)
EXPLOSION GAS GROUP	IIA (STANDARD), IIB / IIC (FOR SPECIAL APPLICATION

*OTHER SPECIFICATIONS ARE AVAILABLE. CONSULT OUR FACTORY.

DEFLAGRATION FLAME ARRESTER

::: MATERIALS :::

PART NAME	MATERIALS	
	STANDARD	OPTIONAL
BODY	CARBON STEEL	304 S.S, 316 S.S, ALUMINUM
FLAME ELEMENT	316L S.S	HASTELLOY®, ALLOY 20
ELEMENT HOUSING	304 S.S	316 S.S
STUD BOLT AND NUT	304 S.S	316 S.S

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::: BASIC ORDERING INFORMATION :::

1. MODEL AND TYPE
2. FLUID HANDLING
3. OPERATING TEMPERATURE & PRESSURE RANGES
4. SIZE AND CONNECTION
5. MATERIAL
6. DISTANCE FROM POTENTIAL IGNITION SOURCE

SEWON SFH FLAME ARRESTER, IN-LINE

MODEL SFH FLAME ARRESTER

NOMINAL SIZE	CONNECTIONS
• 1-1/2", 2", 3", 4", 6", 8", 10", and 12" • 14" through 20" sizes are available upon request	• ANSI/ASME B16.5 Class 150 Flange • KS/JIS 10K Flange

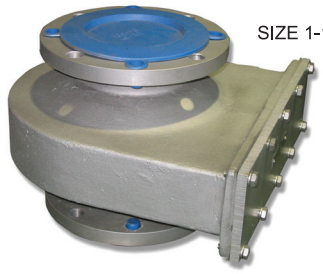
EPROTECT PROCESS LINE OR SYSTEM FROM POTENTIAL IGNITION SOURCE

DESIGNED EASY PERIODIC INSPECTION AND MAINTENANCE

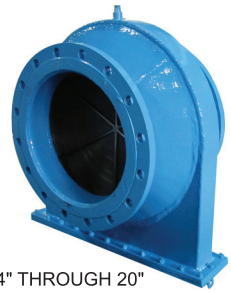
AVAILABLE IN SIZE1-1/2" TO 20"

DRILLING CONFORMING TO ANSI/ASME B16.5 FOR CLASS 150 FLANGES, OR KS/JIS 10K FLANGES. OTHER STANDARDS ARE AVAILABLE ON CUSTOMER'S REQUEST.

**CONSULT OUR FACTORY FOR SPECIAL APPLICATION.*



SIZE 1-1/2" THROUGH 12"



SIZE 14" THROUGH 20"

SPECIFICATIONS >>>>>>>

INSTALLATION	VERTICAL, RECOMMEND REQUIRED DRAIN PLUG FOR HORIZONTAL INSTALLATION
TYPE	IN-LINE FLAME ARRESTER
CLASSIFICATION	DEFLAGRATION FLAME ARRESTER, BI-DIRECTIONAL
NORMAL WORKING PRESSURE	BELOW 1.0 BARg (STANDARD SPECIFICATION)
EXPLOSION GAS GROUP	IIA (STANDARD)

*OTHER SPECIFICATIONS ARE AVAILABLE. CONSULT OUR FACTORY.

DEFLAGRATION FLAME ARRESTER

::: MATERIALS :::

PART NAME	MATERIALS	
	STANDARD	OPTIONAL
BODY	CARBON STEEL	304 S.S, 316 S.S, ALUMINUM
FLAME ELEMENT	316L S.S	HASTELLOY®, ALLOY 20
ELEMENT HOUSING	304 S.S	316 S.S
BOLT AND NUT	304 S.S	316 S.S

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::: BASIC ORDERING INFORMATION :::

1. MODEL AND TYPE
2. FLUID HANDLING
3. OPERATING TEMPERATURE & PRESSURE RANGES
4. SIZE AND CONNECTION
5. MATERIAL
6. DISTANCE FROM POTENTIAL IGNITION SOURCE

SEWON SFE FLAME ARRESTER, IN-LINE

MODEL SFE FLAME ARRESTER

NOMINAL SIZE	CONNECTIONS
• 1-1/2", 2", 3", 4", 6", 8", 10", and 12" • 14" through 20" sizes are available upon request.	• ANSI/ASME B16.5 Class 150 Flange • KS/JIS 10K Flange

PROTECT PROCESS LINE OR SYSTEM FROM POTENTIAL IGNITION SOURCE

AVAILABLE IN SIZE 1-1/2" TO 20"

DRILLING CONFORMING TO ANSI/ASME B16.5 FOR CLASS 150 FLANGES, OR KS/JIS 10K FLANGES. OTHER STANDARDS ARE AVAILABLE ON CUSTOMER'S REQUEST.

**CONSULT OUR FACTORY FOR SPECIAL APPLICATION.*

SPECIFICATIONS >>>>>>>

INSTALLATION	HORIZONTAL
TYPE	IN-LINE FLAME ARRESTER
CLASSIFICATION	DEFLAGRATION FLAME ARRESTER, BI-DIRECTIONAL
NORMAL WORKING PRESSURE	BELOW 1.0 BARg (STANDARD SPECIFICATION)
EXPLOSION GAS GROUP	IIA (STANDARD), IIB / IIC (FOR SPECIAL APPLICATION)

*OTHER SPECIFICATIONS ARE AVAILABLE. CONSULT OUR FACTORY.

DEFLAGRATION FLAME ARRESTER

::: MATERIALS :::

PART NAME	MATERIALS	
	STANDARD	OPTIONAL
BODY	CARBON STEEL	304 S.S, 316 S.S, ALUMINUM
FLAME ELEMENT	316L S.S	HASTELLOY®, ALLOY 20
ELEMENT HOUSING	304 S.S	316 S.S
BOLT AND NUT	304 S.S	316 S.S

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::: BASIC ORDERING INFORMATION

1. MODEL AND TYPE
2. FLUID HANDLING
3. OPERATING TEMPERATURE & PRESSURE RANGES
4. SIZE AND CONNECTION
5. MATERIAL
6. DISTANCE FROM POTENTIAL IGNITION SOURCE

SEWON SFO FLAME ARRESTER, END-OF-LINE

MODEL SFO FLAME ARRESTER

NOMINAL SIZE	CONNECTIONS
• 1-1/2", 2", 2-1/2" 3" and 4" • Other sizes are available upon request.	• BAND WITH STAINLESS STEEL HOSE CLAMP

PROTECT FLASHBACK AT END-OF-LINE OF SMALL PIPE

HIGHER PERFORMANCE COMPARE TO WIRE SCREEN FLAME ARRESTER

CONNECT DIRECTLY WITH STAINLESS STEEL HOSE CLAMP

DESIGNED EASY INSPECTION AND MAINTENANCE

**CONSULT OUR FACTORY FOR SPECIAL APPLICATION.*

SPECIFICATIONS >>>>>>>

INSTALLATION	END-OF-LINE
CLASSIFICATION	FLAME ARRESTER FOR DEFLAGRATION, DIRECTIONAL
EXPLOSION GAS GROUP	IIA

*OTHER SPECIFICATIONS ARE AVAILABLE. CONSULT OUR FACTORY.

DEFLAGRATION FLAME ARRESTER

::: MATERIALS :::

PART NAME	MATERIALS	
	STANDARD	OPTIONAL
BODY	304 S.S	316 S.S
FLAME ELEMENT	316L S.S	HASTELLOY®, ALLOY 20

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::: BASIC ORDERING INFORMATION

1. MODEL AND TYPE
2. FLUID HANDLING
3. OPERATING TEMPERATURE & PRESSURE RANGES
4. SIZE AND CONNECTION
5. MATERIAL

SEWON SFD FLAME ARRESTER, IN-LINE

MODEL SFD FLAME ARRESTER

NOMINAL SIZE	CONNECTIONS
• 1", 1-1/2", 2", 3", 4", 6", 8", 10", and 12" • 14" through 16" sizes are available upon request.	• ANSI/ASME B16.5 Class 150 Flange • KS/JIS 10K Flange

PROTECT PROCESS LINE OR SYSTEM FROM POTENTIAL IGNITION SOURCE

AVAILABLE IN SIZE 2" TO 16"

DRILLING CONFORMING TO ANSI/ASME B16.5 FOR CLASS 150 FLANGES, OR KS/JIS 10K FLANGES. OTHER STANDARDS ARE AVAILABLE ON CUSTOMER'S REQUEST.

**CONSULT OUR FACTORY FOR SPECIAL APPLICATION.*

SPECIFICATIONS >>>>>>>

INSTALLATION	VERTICAL, RECOMMEND REQUIRED DRAIN PLUG FOR HORIZONTAL INSTALLATION
TYPE	IN-LINE FLAME ARRESTER
CLASSIFICATION	DETONATION FLAME ARRESTER, DIRECTIONAL
SPECIAL DESIGN TO DETONATION	INCLUDED SHOCK ABSORBER, AND CERTIFIED BY KIMM (KIMM: Korea Institute of Machinery & Materials)

*OTHER SPECIFICATIONS ARE AVAILABLE. CONSULT OUR FACTORY.

DETONATION FLAME ARRESTER

::: MATERIALS :::

PART NAME	MATERIALS	
	STANDARD	OPTIONAL
BODY	CARBON STEEL	304 S.S, 316 S.S
FLAME ELEMENT	316L S.S	HASTELLOY®, ALLOY 20
ELEMENT HOUSING	304 S.S	316 S.S
BOLT AND NUT	A193-B7 / A194-2H	304 S.S, 316 S.S

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::: BASIC ORDERING INFORMATION :::

1. MODEL AND TYPE
2. FLUID HANDLING
3. OPERATING TEMPERATURE & PRESSURE RANGES
4. SIZE AND CONNECTION
5. MATERIAL

SEWON SFJ FLAME ARRESTER, IN-LINE

MODEL SFJ FLAME ARRESTER

NOMINAL SIZE	CONNECTIONS
• 2", 3", 4", 6", 8", 10", and 12" • Other sizes are available upon request	• ANSI/ASME B16.5 Class 150 Flange • KS/JIS 10K Flange

PROTECT PROCESS LINE OR SYSTEM FROM POTENTIAL IGNITION SOURCE

CONNECTION: 90 DEGREES BEND

AVAILABLE IN SIZE 2" TO 12"

DRILLING CONFORMING TO ANSI/ASME B16.5 FOR CLASS 150 FLANGES, OR KS/JIS 10K FLANGES. OTHER STANDARDS ARE AVAILABLE ON CUSTOMER'S REQUEST.

**CONSULT OUR FACTORY FOR SPECIAL APPLICATION.*

SPECIFICATIONS >>>>>>>

INSTALLATION	VERTICAL
TYPE	IN-LINE FLAME ARRESTER
CLASSIFICATION	DETONATION FLAME ARRESTER, DIRECTIONAL
NORMAL WORKING PRESSURE	BELOW 1.0 BARg (STANDARD SPECIFICATION)
EXPLOSION GAS GROUP	IIA (STANDARD), IIB / IIC (FOR SPECIAL APPLICATION)

*OTHER SPECIFICATIONS ARE AVAILABLE. CONSULT OUR FACTORY

DETONATION FLAME ARRESTER

::: MATERIALS :::

PART NAME	MATERIALS	
	STANDARD	OPTIONAL
BODY	CARBON STEEL	304 S.S, 316 S.S
FLAME ELEMENT	316L S.S	HASTELLOY®, ALLOY 20
ELEMENT HOUSING	304 S.S	316 S.S
STUD BOLT AND NUT	304 S.S	316 S.S

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::: BASIC ORDERING INFORMATION :::

1. MODEL AND TYPE
2. FLUID HANDLING
3. OPERATING TEMPERATURE & PRESSURE RANGES
4. SIZE AND CONNECTION
5. MATERIAL

MODEL SFK
FLAME ARRESTER

NOMINAL SIZE	CONNECTIONS
• 1/2", 3/4" and 1" • Other sizes are available upon request.	• NPT Female / Male • ANSI/ASME B16.5 Class 150 Flange • KS/JIS 10K Flange

PROTECT FLASHBACK IN SMALL PROCESS LINES CONTAINING FLAMMABLE GASES.

AVAILABLE IN SIZE 1/2" TO 1"

DESIGNED EASY INSPECTION AND MAINTENANCE

DRILLING CONFORMING TO NTP(ANSI/ASME B1.20.1), ANSI/ASME B16.5 FOR CLASS 150 FLANGES, OR KS/JIS 10K FLANGES. OTHER STANDARDS ARE AVAILABLE ON CUSTOMER'S REQUEST.

**CONSULT OUR FACTORY FOR SPECIAL APPLICATION.*

SPECIFICATIONS >>>>>>>

INSTALLATION	IN-LINE
CLASSIFICATION	FLAME CHECK FOR DEFLAGRATION, BI-DIRECTIONAL
EXPLOSION GAS GROUP	IIA

*OTHER SPECIFICATIONS ARE AVAILABLE. CONSULT OUR FACTORY.

::: MATERIALS :::

PART NAME	MATERIALS	
	STANDARD	OPTIONAL
BODY	304 S.S	316 S.S, CARBON STEEL
FLAME ELEMENT	316L S.S	HASTELLOY® , ALLOY 20

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::: BASIC ORDERING INFORMATION :::

1. MODEL AND TYPE
2. FLUID HANDLING
3. OPERATING TEMPERATURE & PRESSURE RANGES
4. SIZE AND CONNECTION
5. MATERIAL
6. DISTANCE FROM POTENTIAL IGNITION SOURCE

FLOW CAPACITY

Sewon SFC, End-of-Line Deflagration Flame Arrester

Pressure Drop		Air Flow Rates in 1,000 Nm3/h							
mmH2O	mbar	1"	2"	3"	4"	6"	8"	10"	12"
25	2.5	0.052	0.108	0.190	0.308	0.490	1.033	1.629	2.320
50	4.9	0.082	0.164	0.300	0.478	0.780	1.613	2.536	3.693
75	7.4	0.107	0.211	0.395	0.630	1.026	2.144	3.365	4.903
100	9.8	0.128	0.252	0.479	0.767	1.243	2.632	4.126	5.986
150	15	0.165	0.321	0.625	1.006	1.621	3.497	5.472	7.876
200	20	0.196	0.378	0.750	1.211	1.950	4.239	6.627	9.501
250	25	0.225	0.429	0.862	1.393	2.245	4.884	7.630	10.935
300	30	0.252	0.475	0.963	1.556	2.512	5.451	8.513	12.220
350	34	0.277	0.518	1.055	1.703	2.756	5.955	9.299	13.380
400	39	0.301	0.558	1.140	1.839	2.978	6.407	10.006	14.433
450	44	0.323	0.595	1.217	1.963	3.181	6.817	10.649	15.390
500	49	0.345	0.631	1.288	2.078	3.366	7.191	11.239	16.263
600	59	0.383	0.697	1.412	2.282	3.689	7.854	12.291	17.783
700	69	0.418	0.757	1.517	2.456	3.959	8.429	13.211	19.047
800	79	0.449	0.811	1.606	2.606	4.183	8.935	14.030	20.100

Sewon SFG, In-Line Deflagration Flame Arrester

Pressure Drop		Air Flow Rates in 1,000 Nm3/h							
mmH2O	mbar	1"	2"	3"	4"	6"	8"	10"	12"
25	2.5	0.056	0.127	0.224	0.368	0.699	1.215	1.916	2.729
50	4.9	0.089	0.193	0.353	0.572	1.113	1.897	2.984	4.345
75	7.4	0.117	0.249	0.465	0.754	1.463	2.522	3.959	5.768
100	9.8	0.140	0.297	0.564	0.917	1.773	3.096	4.854	7.042
150	15	0.179	0.378	0.735	1.203	2.311	4.114	6.438	9.266
200	20	0.214	0.446	0.883	1.449	2.780	4.987	7.797	11.177
250	25	0.245	0.505	1.014	1.666	3.201	5.746	8.977	12.865
300	30	0.274	0.560	1.133	1.860	3.582	6.413	10.015	14.376
350	34	0.302	0.610	1.242	2.037	3.930	7.006	10.940	15.741
400	39	0.328	0.657	1.341	2.199	4.246	7.538	11.772	16.980
450	44	0.352	0.702	1.432	2.348	4.535	8.020	12.528	18.106
500	49	0.375	0.744	1.515	2.485	4.799	8.460	13.222	19.133
600	59	0.417	0.822	1.662	2.729	5.260	9.240	14.460	20.921
700	69	0.455	0.892	1.785	2.937	5.645	9.916	15.542	22.409
800	79	0.488	0.956	1.889	3.116	5.965	10.512	16.505	23.647

Notes

1) Flow rates are not included exit losses and entrance losses. The flow rates are based on the Sewon Standard Model. For special application to achieve better flow rate performance, please consult to factory.
2) If the inlet pressure is not listed above Table, use liner interpolation.

Sewon SFH, In-Line Deflagration Flame Arrester

Pressure Drop		Air Flow Rates in 1,000 Nm3/h							
mmH2O	mbar	1-1/2"	2"	3"	4"	6"	8"	10"	12"
25	2.5	0.078	0.098	0.209	0.362	0.692	1.119	1.597	2.886
50	4.9	0.119	0.148	0.330	0.563	1.102	1.747	2.486	4.596
75	7.4	0.153	0.191	0.435	0.741	1.449	2.323	3.300	6.101
100	9.8	0.183	0.228	0.527	0.902	1.755	2.852	4.045	7.449
150	15	0.233	0.291	0.687	1.184	2.288	3.789	5.365	9.800
200	20	0.274	0.343	0.825	1.425	2.753	4.593	6.497	11.822
250	25	0.311	0.389	0.948	1.639	3.169	5.292	7.481	13.607
300	30	0.344	0.431	1.059	1.830	3.547	5.907	8.346	15.205
350	34	0.375	0.469	1.160	2.004	3.891	6.453	9.116	16.649
400	39	0.404	0.505	1.253	2.163	4.204	6.943	9.810	17.959
450	44	0.432	0.540	1.337	2.310	4.490	7.387	10.440	19.151
500	49	0.458	0.572	1.415	2.444	4.752	7.792	11.019	20.236
600	59	0.506	0.632	1.552	2.684	5.208	8.511	12.050	22.128
700	69	0.549	0.686	1.668	2.890	5.589	9.134	12.952	23.701
800	79	0.588	0.735	1.765	3.066	5.906	9.682	13.755	25.011

Sewon SFE, In-Line Deflagration Flame Arrester

Pressure Drop		Air Flow Rates in 1,000 Nm3/h							
mmH2O	mbar	1-1/2"	2"	3"	4"	6"	8"	10"	12"
25	2.5	0.078	0.122	0.224	0.371	0.681	1.183	1.857	2.635
50	4.9	0.119	0.185	0.353	0.577	1.083	1.847	2.890	4.220
75	7.4	0.153	0.239	0.464	0.760	1.425	2.456	3.836	5.601
100	9.8	0.183	0.285	0.563	0.925	1.726	3.015	4.703	6.839
150	15	0.233	0.363	0.734	1.213	2.250	4.005	6.237	8.998
200	20	0.274	0.429	0.882	1.461	2.707	4.856	7.553	10.855
250	25	0.311	0.486	1.013	1.680	3.117	5.595	8.696	12.494
300	30	0.344	0.538	1.132	1.876	3.488	6.244	9.702	13.961
350	34	0.375	0.586	1.240	2.054	3.826	6.821	10.598	15.287
400	39	0.404	0.632	1.339	2.217	4.134	7.339	11.404	16.490
450	44	0.432	0.675	1.430	2.367	4.416	7.809	12.137	17.584
500	49	0.458	0.715	1.513	2.506	4.673	8.237	12.809	18.581
600	59	0.506	0.790	1.659	2.751	5.121	8.997	14.008	20.317
700	69	0.549	0.858	1.783	2.962	5.496	9.656	15.057	21.762
800	79	0.588	0.919	1.887	3.142	5.808	10.235	15.990	22.965

Notes

1) Flow rates are not included exit losses and entrance losses. The flow rates are based on the Sewon Standard Model. For special application to achieve better flow rate performance, please consult to factory.
2) If the inlet pressure is not listed above Table, use liner interpolation.

FLOW CAPACITY

Sewon SFO, End-of-Line Deflagration Flame Arrester

Pressure Drop		Air Flow Rates in 1,000 Nm3/h				
mmH2O	mbar	1-1/2"	2"	2-1/2"	3"	4"
25	2.5	0.062	0.347	0.357	0.402	0.555
50	4.9	0.086	0.492	0.526	0.592	0.817
75	7.4	0.100	0.579	0.641	0.722	1.025
100	9.8	0.112	0.649	0.729	0.822	1.198
150	15	0.133	0.775	0.872	0.984	1.481
200	20	0.154	0.893	0.998	1.126	1.720
250	25	0.173	1.006	1.116	1.259	1.935
300	30	0.192	1.114	1.227	1.385	2.136
350	34	0.209	1.217	1.334	1.505	2.325
400	39	0.226	1.315	1.436	1.620	2.504
450	44	0.243	1.409	1.533	1.729	2.674
500	49	0.258	1.498	1.626	1.834	2.837
600	59	0.287	1.665	1.800	2.030	3.139
700	69	0.313	1.817	1.958	2.208	3.414
800	79	0.337	1.956	2.103	2.371	3.664

Sewon SFD, In-Line Detonation Flame Arrester

Pressure Drop		Air Flow Rates in 1,000 Nm3/h							
mmH2O	mbar	1"	2"	3"	4"	6"	8"	10"	12"
25	2.5	0.038	0.084	0.155	0.299	0.530	0.791	1.125	1.829
50	4.9	0.052	0.116	0.237	0.431	0.832	1.232	1.782	2.839
75	7.4	0.061	0.135	0.303	0.515	1.094	1.605	2.368	3.620
100	9.8	0.068	0.152	0.359	0.587	1.326	1.932	2.898	4.278
150	15	0.082	0.183	0.454	0.720	1.725	2.496	3.829	5.414
200	20	0.095	0.213	0.538	0.848	2.065	2.990	4.636	6.441
250	25	0.108	0.242	0.616	0.970	2.369	3.441	5.358	7.413
300	30	0.120	0.269	0.691	1.088	2.648	3.866	6.019	8.343
350	34	0.132	0.296	0.763	1.202	2.908	4.269	6.634	9.238
400	39	0.143	0.321	0.833	1.311	3.154	4.655	7.212	10.100
450	44	0.154	0.345	0.901	1.417	3.387	5.026	7.759	10.930
500	49	0.164	0.368	0.966	1.518	3.610	5.382	8.280	11.730
600	59	0.183	0.411	1.091	1.710	4.026	6.054	9.253	13.243
700	69	0.201	0.451	1.208	1.887	4.408	6.676	10.146	14.647
800	79	0.217	0.488	1.318	2.052	4.759	7.252	10.967	15.951

Notes

1) Flow rates are not included exit losses and entrance losses. The flow rates are based on the Sewon Standard Model. For special application to achieve better flow rate performance, please consult to factory.
2) If the inlet pressure is not listed above Table, use liner interpolation.

FLOW CAPACITY

Sewon SFJ, In-Line Detonation Flame Arrester

Pressure Drop		Air Flow Rates in 1,000 Nm3/h					
mmH2O	mbar	2"	3"	4"	6"	8"	10"
25	2.5	0.041	0.103	0.143	0.281	0.510	0.861
50	4.9	0.062	0.154	0.219	0.428	0.767	1.279
75	7.4	0.080	0.189	0.280	0.559	0.994	1.651
100	9.8	0.096	0.215	0.330	0.676	1.196	1.986
150	15	0.123	0.258	0.411	0.878	1.541	2.564
200	20	0.145	0.296	0.478	1.046	1.830	3.051
250	25	0.164	0.332	0.537	1.191	2.080	3.471
300	30	0.182	0.367	0.592	1.320	2.302	3.843
350	34	0.198	0.401	0.645	1.437	2.504	4.179
400	39	0.213	0.435	0.696	1.544	2.690	4.487
450	44	0.227	0.468	0.745	1.646	2.866	4.772
500	49	0.240	0.500	0.792	1.742	3.031	5.040
600	59	0.265	0.562	0.883	1.925	3.340	5.534
700	69	0.287	0.622	0.969	2.098	3.624	5.982
800	79	0.307	0.680	1.050	2.264	3.887	6.394

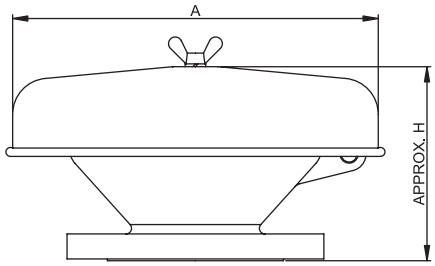
Sewon SFK, Flame Check

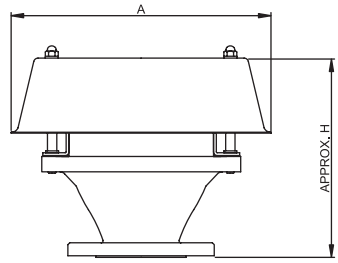
Pressure Drop		Air Flow Rates in 1,000 Nm3/h		
mmH2O	mbar	1/2"	3/4"	1"
25	2.5	0.004	0.005	0.006
50	4.9	0.006	0.008	0.009
75	7.4	0.007	0.010	0.011
100	9.8	0.008	0.011	0.013
150	15	0.010	0.014	0.016
200	20	0.012	0.015	0.019
250	25	0.013	0.017	0.021
300	30	0.014	0.019	0.023
350	34	0.015	0.020	0.025
400	39	0.016	0.022	0.027
450	44	0.017	0.023	0.029
500	49	0.018	0.024	0.030
600	59	0.020	0.026	0.033
700	69	0.021	0.028	0.035
800	79	0.023	0.030	0.037

Notes

1) Flow rates are not included exit losses and entrance losses. The flow rates are based on the Sewon Standard Model. For special application to achieve better flow rate performance, please consult to factory.
2) If the inlet pressure is not listed above Table, use liner interpolation.

DIMENSIONS



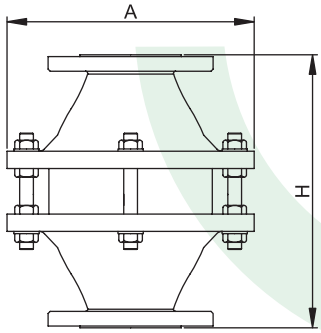


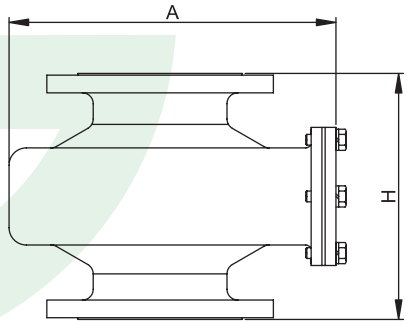
MODEL SFC, 3/4" to 6"

Size (inch)	H (mm)	A (mm)
3/4"	150	160
1"	150	160
1-1/2"	160	220
2"	160	220
3"	165	270
4"	175	320
6"	215	425

MODEL SFC, 8" to 12"

Size (inch)	H (mm)	A (mm)
8"	275	520
10"	285	650
12"	300	700





MODEL SFG

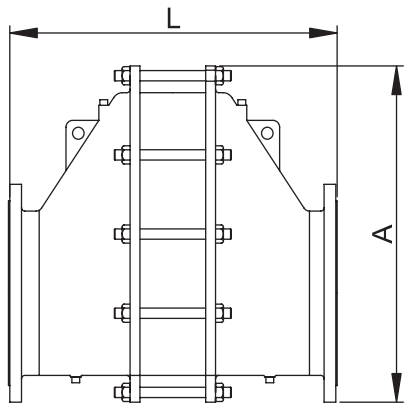
Size (inch)	H (mm)	A (mm)
1"	215	170
1-1/2"	255	180
2"	285	225
2-1/2"	295	240
3"	305	260
4"	305	320
6"	370	410
8"	385	485
10"	395	595
12"	405	635

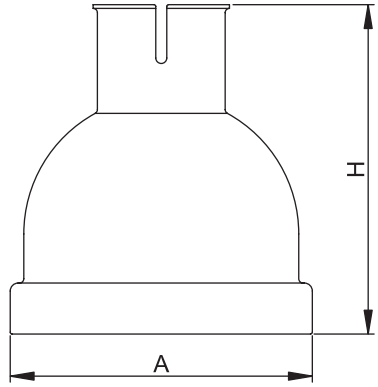
MODEL SFH

Size (inch)	H (mm)	A (mm)
1"	-	-
1-1/2"	158	171
2"	200	189
2-1/2"	200	220
3"	210	240
4"	228	303
6"	280	418
8"	370	463
10"	380	488
12"	400	520

Actual dimensions may vary from these listed dimensions due to variations or revisions of specifications. The dimensions may change without notice. For more information, consult our factory.

DIMENSIONS





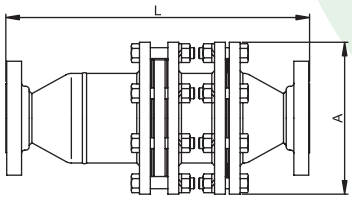
MODEL SFE

Size (inch)	L (mm)	A (mm)
1-1/2"	255	175
2"	285	225
3"	305	255
4"	355	320
6"	370	410
8"	385	485
10"	515	600
12"	515	650

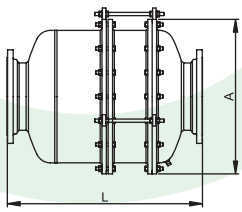
MODEL SFO

Size (inch)	H (mm)	A (mm)
1-1/2"	115	104.4
2"	140	142.9
2-1/2"	150	167.9
3"	150	167.9
4"	180	219.2

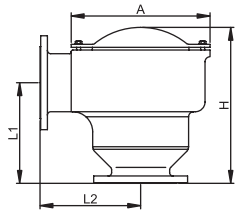
[SFD 1" TO 6"]



[SFD 8" TO 12"]



[MODEL SFJ]



MODEL SFD

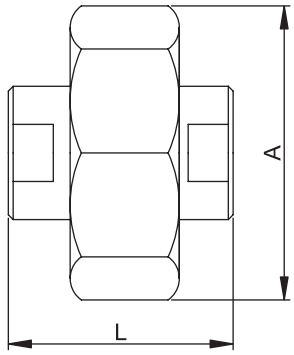
Size (inch)	L (mm)	A (mm)
1"	345	175
1-1/2"	370	210
2"	485	210
3"	530	280
4"	590	330
6"	740	445
8"	735	515
10"	755	615
12"	775	715

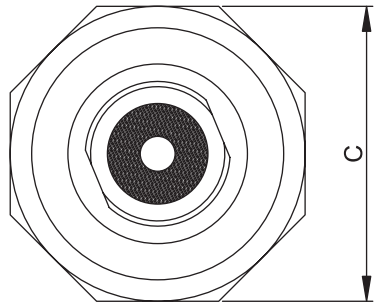
MODEL SFJ

Size (inch)	H (mm)	L1 (mm)	L2 (mm)	A (mm)
1"	-	-	-	-
1-1/2"	-	-	-	-
2"	250	170	150	180
3"	310	210	175	220
4"	365	250	240	290
6"	495	300	300	415
8"	575	350	350	585
10"	650	450	450	680
12"	Consult factory			

Actual dimensions may vary from these listed dimensions due to variations or revisions of specifications. The dimensions may change without notice. For more information, consult our factory.

DIMENSIONS





MODEL SFK

Size (inch)	L (mm)	C (mm)
1/2"	60	64
3/4"	70	78
1"	70	78

Actual dimensions may vary from these listed dimensions due to variations or revisions of specifications. The dimensions may change without notice. For more information, consult our factory.

HOW TO ORDER

MODEL	SIZE	MATERIALS	FLANGE DRILLING	OPTION
□□□	□□	□□	□□	□
SFC SFG SFE SFH SFO SFD SFJ SFK	A1: 1/2" A2: 3/4" 01: 1" 1A: 1-1/2" 02: 2" 2A: 2-1/2" 03: 3" 04: 4" 06: 6" 08: 8" 10: 10" 12: 12" SS: Special	Body Flame Element C: Carbon Steel 4: 304 S.S 5 304L S.S 6: 316 S.S 7: 316L S.S A: Aluminum H: Hastelloy® L: Alloy 20 S: Special Material	AR: ANSI Class 150 RF AF: ANSI Class 150 FF KR: KS/JIS 10K RF KF: KS/JIS 10K FF NO: No Drilling SS: Special	0: No Option J: Steam Jacket T: Temperature Monitoring Sensor (Unprotected side only) B: Temperature Monitoring Sensor (Both sides) S: Special

EXAMPLE **SFG-08-47-AR-0**

means a 8" model SFG with 304 stainless steel body, 316L stainless steel flame element, ANSI Class 150 RF flange drilling and no other option.

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