



TECHNICAL DATA SHEET

Model AX1 Aspirated Foam-Water Sprinkler (K3.0)

1. PRODUCT IDENTIFICATION

This document covers the following product, hereafter referred to as “sprinkler”:

AX1 Aspirated Foam-Water Sprinkler:

- Pendent, K3 (K43 metric) Sprinkler.
- Upright, K3 (K43 metric) Sprinkler.

2. INTENDED USE

The AX1 sprinklers are intended to be used in fixed overhead deluge systems that are primarily involve ignitable liquid fires. They are low-expansion foam devices that entrain air into the foam solution to give enhanced foam qualities to non-aspirated sprinklers.

Foam-water sprinklers are commonly used in high-risk areas, such as loading racks, diesel generator rooms, aircraft hangars, dangerous goods stores, and FPSOs.

The sprinklers must be used in accordance with:

1. the sprinklers' Listings, Approvals, and associated design requirements.
2. the recognized design and installations standards issued. For example: NFPA, FM, EN, VdS, or LPCB.
3. the latest revisions of all applicable manufacturer's documentation



Governmental codes, ordinances, and standards may apply and may differ from one another.

WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3. LISTING AND APPROVALS

Refer to section 6 for details and requirements that must be followed.



cULus Listed - VNWT.EX29570



SFFF Compatible: Refer to this product as bring part of a SFFF Foam System that has been tested to recognized standards. Not all configurations are available. Please consult technical data and/or the Approvals/Listings for usage requirements. **Note:** Other international approval certificates may be available upon request.


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**Model AX1 Aspirated
Foam-Water Sprinkler (K3.0)**
4. TECHNICAL SPECIFICATIONS
4.1 Ratings and Physical Characteristics

Parameter	Value
Minimum operating pressure	30 PSI (2.07 bar)*
Recommended working pressure	30 PSI (2.07 bar) to 70 PSI (4.83 bar)
Maximum rated pressure (UL)	175 PSI (12 bar)
Thread size	1/2" NPT (15 mm)
Nominal K-factor	3 U.S. (43 metric)**
Standard design coverage	100 feet ² (9.3 meters ²)
Sprinkler weight	Upright: 9.5 ounces (269 grams)
	Pendent: 9.4 ounces (266 grams)
Notes: *The minimum operating pressure may vary with the foam concentrate and fuel. **Metric K-Factor shown is for use when pressure is measured in bar. When pressure is measured in kPa, divide the metric K-Factor shown by 10.0.	

4.2 Standard Materials

Material Description	Material Value
Body	Brass Alloy CB491K
Deflector	Phosphor Bronze
Agitator	Stainless steel
Finish	Natural



4.3 Markings and Spray Angles

NOTE: Images are representative only. Your sprinkler deflector may vary in appearance.

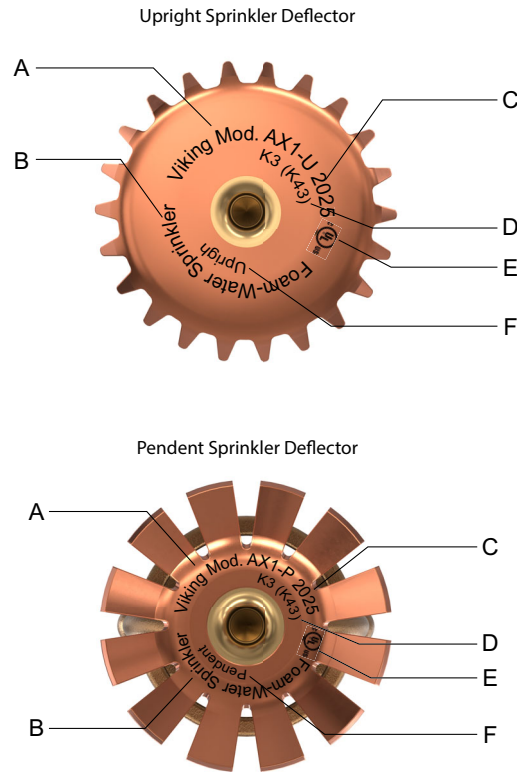


Figure – 1: Sprinkler Deflector Markings

Ref	Description	Sprinkler Markings
A	Sprinkler model	Viking Model AX1
B	Sprinkler type	Foam-Water Sprinkler
C	Year manufactured	2025
D	K-Factor (metric)	K3.0 (K43)
E	Listing	cULus
F	Sprinkler Orientation	Upright or Pendent



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5. SPRINKLER NOMINAL DISCHARGE PATTERNS

The following graphs are intended to be representative only. Spray patterns may vary.

5.1 AX1-U and AX1-P Spray Pattern - Imperial

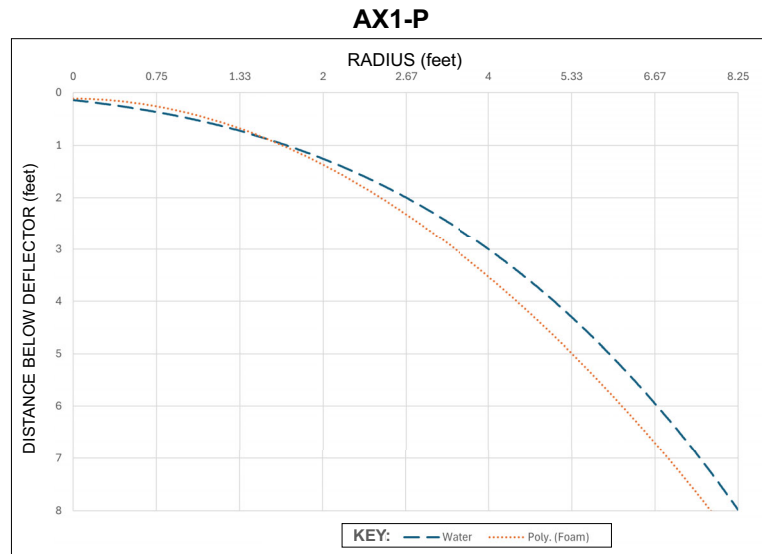
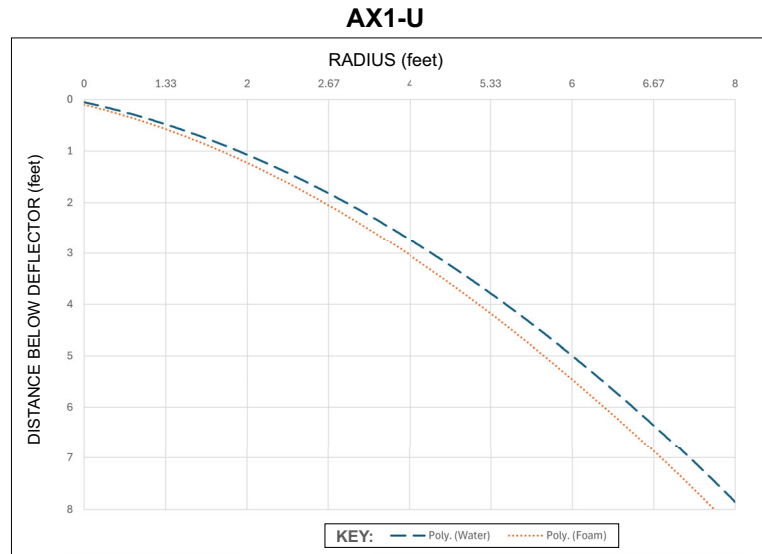


Figure – 2: AX1 Spray Patterns (Feet)

5.2 AX1-U and AX1-P Spray Pattern - Metric

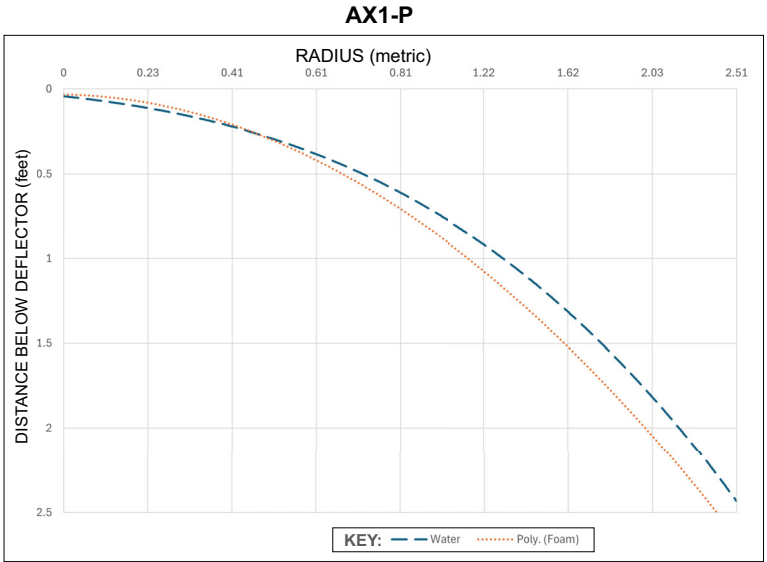
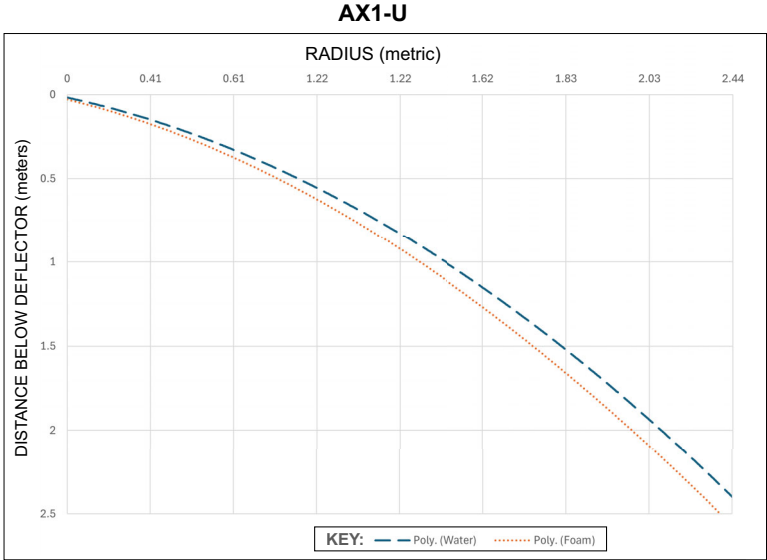


Figure – 3: AX1 Spray Patterns (Metric)

5.3 Sprinkler Dimensions

NOTE: Images are representative only. Your sprinkler may vary in appearance.

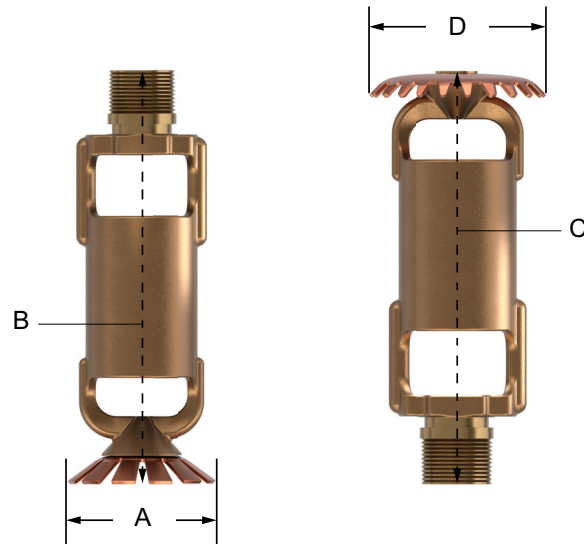


Figure – 4: Foam-Water Pendent and Upright Sprinkler Dimensions

Ref	Dimensions
A	1.84" (47 mm)
B	5.08" (129 mm)
C	4.80" (122 mm)
D	2.05" (52 mm)

6. LISTING AND APPROVAL DESIGN REQUIREMENTS

6.1 cULus Listing Requirements and Details

The AX1 foam-water upright and pendent sprinklers are cULus Listed (VNWT) for installation, as indicated on the UL Listing card and in accordance with the latest edition of NFPA 13 for standard spray sprinklers. The foam-water sprinkler is also UL Listed as part of a fire extinguishing system with specific foam liquid concentrates, as indicated on the individual foam liquid concentrate's UL Listing card. Listed system components can be found at <http://iq.ulprospector.com/en/>.

For more information, refer to the appropriate installation standards (i.e., NFPA, VdS, LPCB, etc.) and/or to the applicable FM Global Property Loss Prevention data sheets, such as 4-12, which is labeled Foam Extinguishing Systems.

6.2 Temperature Ratings

The foam-water sprinkler is an open deluge device that does not have specific available temperature ratings.


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6.3 UL162 Foam Concentrate Listing Information

NOTE: Viking spray nozzles may be UL Listed or FM Approved for non-Fomtec foam concentrates.

1. UL Listings: Hydrocarbon Fuels - Heptane¹

Foam Concentrate	Nominal K-Factor		Sprinkler Type		Listed ² Foam Design Density		Tested ³ Sprinkler Pressure	
	U.S.	Metric ⁴	Upright	Pendent	GPM/ft ²	LPM/m ²	PSI	Bar
Fomtec Enviro USP 3%	3.0	43	AX1-U	AX1-P	0.16	6.5	30	2.07
Fomtec Enviro ARK 3%	3.0	43	AX1-U	AX1-P	0.16	6.5	30	2.07
Fomtec Enviro AX1 1%	3.0	43	AX1-U	AX1-P	0.16	6.5	30	2.07

1. This table shows approvals available at the time of printing.
2. Density indicated is minimum application density required per UL162 Standard for Foam Extinguishing Systems. This density cannot be reduced.
3. The pressure indicated is the minimum starting pressure required for the sprinkler. However, the minimum density shown overrides the minimum starting pressure (depending on head spacing) and cannot be reduced.
4. Metric K-factor shown is for use when pressure is measured in bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

2. UL Listings: Gasoline (Unleaded MOGAS 98 RON)¹

Foam Concentrate	Nominal K-Factor		Sprinkler Type		Listed ² Foam Design Density		Tested ³ Sprinkler Pressure	
	U.S.	Metric ⁴	Upright	Pendent	GPM/ft ²	LPM/m ²	PSI	Bar
Fomtec Enviro USP 3%	3.0	43	--	AX1-P	0.16	6.5	30	2.07

1. This table shows approvals available at the time of printing.
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3. The pressure indicated is the minimum starting pressure required for the sprinkler. However, the minimum density shown overrides the minimum starting pressure (depending on head spacing) and cannot be reduced.
4. Metric K-factor shown is for use when pressure is measured in bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

3. UL Listings: Jet A-1¹

Foam Concentrate	Nominal K-Factor		Sprinkler Type		Listed ² Foam Design Density		Tested ³ Sprinkler Pressure	
	U.S.	Metric ⁴	Upright	Pendent	GPM/ft ²	LPM/m ²	PSI	Bar
Fomtec Enviro USP 3%	3.0	43	AX1-U	AX1-P	0.16	6.5	30	2.07

1. This table shows approvals available at the time of printing.
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4. UL Listings: Ketones - Acetone¹

Foam Concentrate	Nominal K-Factor		Sprinkler Type		Listed ² Foam Design Density		Tested ³ Sprinkler Pressure	
	U.S.	Metric ⁴	Upright	Pendent	GPM/ft ²	LPM/m ²	PSI	Bar
Fomtec Enviro ARK 3%	3.0	43	--	AX1-P	0.16	6.5	30	2.07
	3.0	43	AX1-U	--	0.18	7.3	36	2.49

1. This table shows approvals available at the time of printing.
2. Density indicated is minimum application density required per UL162 Standard for Foam Extinguishing Systems. This density cannot be reduced.
3. The pressure indicated is the minimum starting pressure required for the sprinkler. However, the minimum density shown overrides the minimum starting pressure (depending on head spacing) and cannot be reduced.
4. Metric K-factor shown is for use when pressure is measured in bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

5. UL Listings: Alcohols - IPA¹

Foam Concentrate	Nominal K-Factor		Sprinkler Type		Listed ² Foam Design Density		Tested ³ Sprinkler Pressure	
	U.S.	Metric ⁴	Upright	Pendent	GPM/ft ²	LPM/m ²	PSI	Bar
Fomtec Enviro ARK 3%	3.0	43	--	AX1-P	0.16	6.5	30	2.07
	3.0	43	AX1-U	--	0.18	7.3	36	2.49

1. This table shows approvals available at the time of printing.
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4. Metric K-factor shown is for use when pressure is measured in bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

6. UL Listings: Ethanol¹

Foam Concentrate	Nominal K-Factor		Sprinkler Type		Listed ² Foam Design Density		Tested ³ Sprinkler Pressure	
	U.S.	Metric ⁴	Upright	Pendent	GPM/ft ²	LPM/m ²	PSI	Bar
Fomtec Enviro ARK 3%	3.0	43	AX1-U	AX1-P	0.16	6.5	30	2.07

1. This table shows approvals available at the time of printing.
2. Density indicated is minimum application density required per UL162 Standard for Foam Extinguishing Systems. This density cannot be reduced.
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7. UL Listings: Methanol¹

Foam Concentrate	Nominal K-Factor		Sprinkler Type		Listed ² Foam Design Density		Tested ³ Sprinkler Pressure	
	U.S.	Metric ⁴	Upright	Pendent	GPM/ft ²	LPM/m ²	PSI	Bar
Fomtec Enviro ARK 3%	3.0	43	AX1-U	AX1-P	0.16	6.5	30	2.07

1. This table shows approvals available at the time of printing.
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3. The pressure indicated is the minimum starting pressure required for the sprinkler. However, the minimum density shown overrides the minimum starting pressure (depending on head spacing) and cannot be reduced.
4. Metric K-factor shown is for use when pressure is measured in bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

8. UL Listings: Esters - N-Butyl Acetate¹

Foam Concentrate	Nominal K-Factor		Sprinkler Type		Listed ² Foam Design Density		Tested ³ Sprinkler Pressure	
	U.S.	Metric ⁴	Upright	Pendent	GPM/ft ²	LPM/m ²	PSI	Bar
Fomtec Enviro ARK 3%	3.0	43	AX1-U	--	0.16	6.5	30	2.07

1. This table shows approvals available at the time of printing.
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7. ORDERING PROCEDURE
7.1 Sprinkler

NOTE: The Model AX1 is shipped in box quantities of 10.

1. Select the sprinkler part number preferred.

Model Part Number	
AX1-3VB-U	1/2" NPT upright
AX1-3VB-P	1/2" NPT pendent

8. ACCESSORIES



Figure – 5: Model AX1 Accessories

Ref.	Part Number	Description
1)	21475M/B	Standard wrench (USA)
2)	23559MB	Standard wrench (EMEA/APAC)

9. CONTACT

The sprinkler and accessories are available through Viking distributors only. Contact your local Viking sales office which can be found on our website:

Americas and Asia: www.vikinggroupinc.com/locations OR Europe, Middle East, Africa (EMEA): www.viking-emea.com/contact

Distributor:

The Viking Corporation
5150 Beltway SE
Caledonia, MI 49316
Tel.: (800) 968–9501
Fax: 269–818–1680
Technical Services: 1–877–384–5464
techsvcs@vikingcorp.com

Distributor EU:

Viking S.A.
21, Z.I, Haneboesch
L–4562 Differdange / Niederkorn
Tel.: +352 58 37 37 – 1
Fax: +352 58 37 36
vikinglux@viking-emea.com

Distributor Asia Pacific (APAC):

The Viking Corporation (Far East) Pte. Ltd.
69 Tuas View Square
Westlink Techpark, Singapore 637621
Tel: (+65) 6 278 4061
Fax: (+65) 6 278 4609
vikingAPAC@vikingcorp.com