

Foam Systems U.S. Quick Reference Guide

This guide is intended for general reference only. Prior to the design, layout, and/or installation of any sprinkler system, please refer to Viking's technical documentation and always consult with the AHJ. Viking makes no representation or warranty as to whether following this guide will satisfy any rule or requirement. Please visit www.vikinggroupinc.com for the most current technical data and product specifications. All products must be installed in accordance with the manufacturer's current installation instructions. Viking reserves the right to change product specifications at any time without notice and without incurring obligation.



Foam Storage Tanks

Viking Bladder Tanks are an integral part of a balanced pressure proportioning system used to mix water and firefighting foam to generate an effective extinguishing medium. They are used extensively due to their effectiveness in maintaining a stable water/foam ratio under the variable flow rates and pressure conditions that occur during system operation. They are also highly reliable as they require no external power for operation. Viking Bladder Tanks are particularly well-suited for multiple hazard systems, sprinkler systems, and other systems operating under variable, non-predictable flow and pressure conditions.



Model VFT Vertical Foam Concentrate Bladder Tanks

- Carbon steel pressure vessel containing an elastomeric bladder between the water and foam concentrate
- Constructed according to ASME Boiler and Pressure Vessel Code (BPVC) Sec.VIII Div.1 with U-1A ("U" Stamp certification process)
- From 25 to 4,000 gallon capacities
- 175 psi and 232 psi standard approved pressure ratings - 100% pressure tested
- Standalone or pre-assembled with Ratio Controller and water/foam pipe work
- Protective coatings available for salt water applications or harsh environments
- FM Approved, UL Listed, CE Compliant, ASME Certified



Model VFT Horizontal Foam Concentrate Bladder Tanks

- Carbon steel pressure vessel containing an elastomeric bladder between the water and foam concentrate
- Constructed according to ASME Boiler and Pressure Vessel Code (BPVC) Sec.VIII Div.1 with U-1A ("U" Stamp certification process)
- From 50 to 5,250 gallon capacities
- 175 psi and 232 psi standard approved pressure ratings - 100% pressure tested
- Standalone or pre-assembled with Ratio Controller and water/foam pipe work
- Protective coatings available for salt water applications or harsh environments
- FM Approved, UL Listed, CE Compliant, ASME Certified



36 Gallon Bladder Tank Hose Station

- Constructed according to ASME Boiler and Pressure Vessel Code (BPVC) Sec.VIII Div.1 with U-1A ("U" Stamp certification process)
- 30 psi and 145 psi standard approved pressure ratings - 100% pressure tested
- Pre-assembled with supplementary hose line as required by NFPA 409
- Galvanized steel hose reel with water supply through center of reel
- Protective coatings available for salt water applications or harsh environments
- Assembled with FM Approved and UL Listed components, CE Compliant, ASME Certified



SAFE-Tank® Secondary Containment Tanks

- Double wall flat bottom tank manufactured of high density cross-linked polyethylene (XLPE)
- Provides secondary containment to avoid equipment or property damage, chemical loss, or injury in the event of a spill
- Designed for above-ground, vertical installation
- From 105 to 6,550 gallon capacities

Proportioning Devices

Viking foam proportioning devices are all engineered to accurately proportion foam concentrate into a water stream over a wide range of water flow rates. Choice of product depends on your specific project requirements, and should be carefully selected based upon application, flow rate, foam and system type.



FomTec Between Flange BFZ Inductors

- 4", 6", and 8" inlet sizes
- Fixed between-flange installation
- High back pressure
- High suction height
- Customized for system flow rates
- Compatible with alcohol resistant foam concentrates



Model VRC Ratio Controller

- 2", 2.5", 3", 4", 6" and 8" inlet sizes
- Horizontal, vertical and pre-assembled to bladder tank installation
- Brass or Nickel Aluminum Bronze construction for corrosion protection
- For use with fresh or salt water
- FM Approved and UL Listed
- Direction of flow indicator on body



Model VLF In-Line Balanced Proportioner

- 3", 4", 6" and 8" inlet sizes
- Horizontal or vertical installation
- Nickel Aluminum Bronze construction for corrosion protection
- For use with fresh or salt water
- FM Approved and UL Listed
- Direction of flow indicator on body



Model F-2, J-2, E-2, H-2 Foam Concentrate Control Valve

- Simple, dependable, and time-tested design used in applications world-wide
- Foam concentrate positive shut-off valve for use with bladder tanks and foam pumps
- Opens automatically when there is water flow in the system riser, allowing foam concentrate to flow to the proportioning device
- 1.5", 2", 2.5", 3", 4" deluge or flow control version
- Grooved, threaded or flanged inlet and outlet options
- Angle or straight through pattern (depending on size)

Please see individual technical documentation for further information such as approvals, temperature usage, suitable discharge devices, application/risk types etc.

LT= Low Temperature NV = Non Viscous



FoamPak Integrated Foam Pumping Assembly

- Preassembled skid with UL Listed and FM Approved components for fast and economical installation
- Foam concentrate pump(s) flow range: 25 - 420 US gpm
- Pump controllers: 220/230 V, 380/415 V, 460/480 V – 50Hz or 60Hz
- Pressure range: 100 psi (6.9 bar) to 261 psi (18 bar)
- Single electric, double electric or electric diesel configurations
- Carbon steel frame with stainless steel pipework, painted flame red RAL3000

Discharge Devices

Viking offers a number of discharge devices to protect various types of hazards. Selection is based on your specific application requirements and should be carefully chosen based on system type, flow rate, and foam concentrate.



Viking Foam Sprinklers

- Upright and pendent foam-water sprinklers are non-aspirated foam discharge outlets for use in wet, dry, deluge, preaction and refrigerated area applications
- An extensive range of Viking sprinklers tested and approved to UL 162 and FM5130 using Viking's AFFF 1% "S", AFFF 3% "S", and ARC3X3 "S" type concentrates ("S" designating listed and approved for sprinklers)
- A wide range of K-factors are available: K5.6, K8.0, K11.2, and K16.8

Note: Sprinkler applications are challenging for any foam due to the very low operating pressure and expansion reached. Applying foam through a sprinkler head requires foam that can perform with direct application and partial submersion into the fuel without losing its effectiveness. Foams suitable for sprinkler applications are able to withstand a limited time of water deluge directly onto the foam blanket without losing their burnback properties.



Model GN Grate Nozzle

- Designed for the protection of aircraft hangars and helipads
- Located at the floor to quickly distribute foam where spills typically occur
- 90 / 180 / 360 degree discharge pattern
- Small footprint with no moving parts saves floor space
- 20", 26" trench width models available
- Designed for use with Viking pressure regulation valves
- UL Listed and FM Approved with Viking foam concentrates



Model VFM Foam Maker

- Designed for low expansion foam systems
- 1.5", 2.5", 3", 4" inlet sizes
- 6-38, 26-226, 82-480, and 131-4969 gpm flow ranges available
- 30-125 psi inlet pressure range
- Painted carbon steel for long-lasting performance
- Painted stainless steel available for corrosion resistance



Model VFV Foam Pourer

- Designed for low expansion foam systems
- 3", 4", 6", 8" inlet sizes
- Use with Model VFM Foam Maker
- Painted carbon steel for long-lasting performance
- Painted stainless steel available for corrosion resistance



Model VFC Foam Chamber

- Designed for the protection of fixed roof-mounted tanks in low expansion foam systems
- 2.5", 3", 4", 6" inlet sizes
- 36-226, 82-480, 131-740, 362-1261 gpm flow ranges available
- 30-125 psi inlet pressure range
- Painted carbon steel for long-lasting performance
- Stainless steel available for corrosion resistance
- Available with split deflector, solid deflector and tank mounting kit (sold separately)

Foam Concentrates

Viking offers a wide selection of C6 foam concentrates for use with different system components and discharge devices. We can assist in selection depending on your application and design standard requirements.



Synthetic AFFF 1%S Concentrate (Aqueous Film-Forming Foam)

- Extensively tested for use with a wide range of Viking sprinkler heads
- FM Approved and UL Listed
- Multiple application use on class A and class B (hydrocarbon) fires
- Also available: AFFF 1% A, AFFF 1% F, AFFF 1% Plus, AFFF 1% AFFF 3% A, AFFF 3% F, AFFF 3% Plus, AFFF 3% Ultra LT, AFFF 3% ICAO, AFFF 3% M Mil Spec AFFF 6% A, AFFF 6% F, AFFF 6% Plus, AFFF 6% Ultra LT, AFFF 6% ICAO



Synthetic AFFF 3%S Concentrate (Aqueous Film-Forming Foam)

- Extensively tested for use with a wide range of Viking sprinkler heads
- FM Approved and UL Listed
- Multiple application use on class A and class B (hydrocarbon & polar solvent) fires
- Also available: ARC 1X1 NV, ARC 1X3, ARC 1X3 Ultra ARC 3X3, ARC 3X3F, ARC 3X3 NV, ARC 3X3 Ultra, ARC 3X6, ARC 3X6 Ultra



Synthetic ARC 3X3S Concentrate (Alcohol Resistant - Aqueous Film-Forming Foam)

- Extensively tested for use with a wide range of Viking sprinkler heads
- FM Approved and UL Listed
- Multiple application use on class A and class B (hydrocarbon & polar solvent) fires
- Also available: ARC 1X1 NV, ARC 1X3, ARC 1X3 Ultra ARC 3X3, ARC 3X3F, ARC 3X3 NV, ARC 3X3 Ultra, ARC 3X6, ARC 3X6 Ultra



Synthetic AFFF 3%M C6 Military Specification Concentrate (Aqueous Film-Forming Foam)

- US Military QPL Listed to MIL-F-24385F
- FM Approved and UL Listed with various discharge devices
- Excellent firefighting on Class B hydrocarbon fires
- For use in high risk applications such as aircraft hangars, helidecks, maintenance and storage areas



Fluoroprotein FP 3% Foam Concentrate

- Highly stable foam blanket guards against re-ignition with excellent burn-back properties
- Used in hydrocarbon bulk storage and handling such as refineries and petrochemical facilities
- For use with specific and listed discharge devices
- Also available:

Protein	P 3%, P 6%
Fluoroprotein	FP 6%
Film Forming Fluoroprotein	FFFP 3%, FFFP 3% ICAO, FFFP 6%, FFFP 6% ICAO

Please see individual technical documentation for further information such as approvals, temperature usage, suitable discharge devices, application/risk types etc.

LT= Low Temperature NV = Non Viscous

Introduction to Foam Products

For over 100 years, Viking has been a trusted name in fire protection. Our reputation has been earned by delivering unmatched product quality, integrated solutions, and experienced customer service and technical support at every point in your project process. We offer thousands of the finest fire protection products through Viking SupplyNet, our global network of distribution and fabrication centers.

Now you can rely on Viking for all your foam-water fire suppression needs. Our complete systems, backed by our decades of experience and the highest level of customer support, give you a seamless, integrated fire protection solution.

Foam System Solutions

Viking foam systems are designed to distribute a foam-water solution to a specific hazard area within a protected facility. Typical facilities include incineration plants, logistic centers, aircraft hangars, refineries, and many other areas where flammable liquid spill fires could occur. The type and potential size of the hazard determines the number of discharge devices, type of foam concentrate, and foam-water discharge rate and duration. Characteristics of some flammable products may require higher densities and special foam liquid concentrates.

NFPA 11 and EN13565-2 contain requirements for foam-water systems, with requirements for foam systems also found in NFPA 13, NFPA 16, NFPA 30, NFPA 409, and NFPA 418.

Viking - Tested and Trusted

Viking Foam Systems are FM Approved to FMS130 and UL Listed to UL162. These test standards require that foam system components – including foam concentrate, proportioning devices, storage tanks, and discharge devices - are tested together and approved or listed as a complete system. Many Viking products have also been tested to local approval standards. See Viking technical datasheets for details.

Viking Bladder Tanks carry ASME BPVC Certification, and conform to the rules governing the design, fabrication, assembly, and inspection of boiler and pressure vessel components during construction.

For all applicable approvals, please refer to Viking technical documentation or contact your local Viking SupplyNet location.



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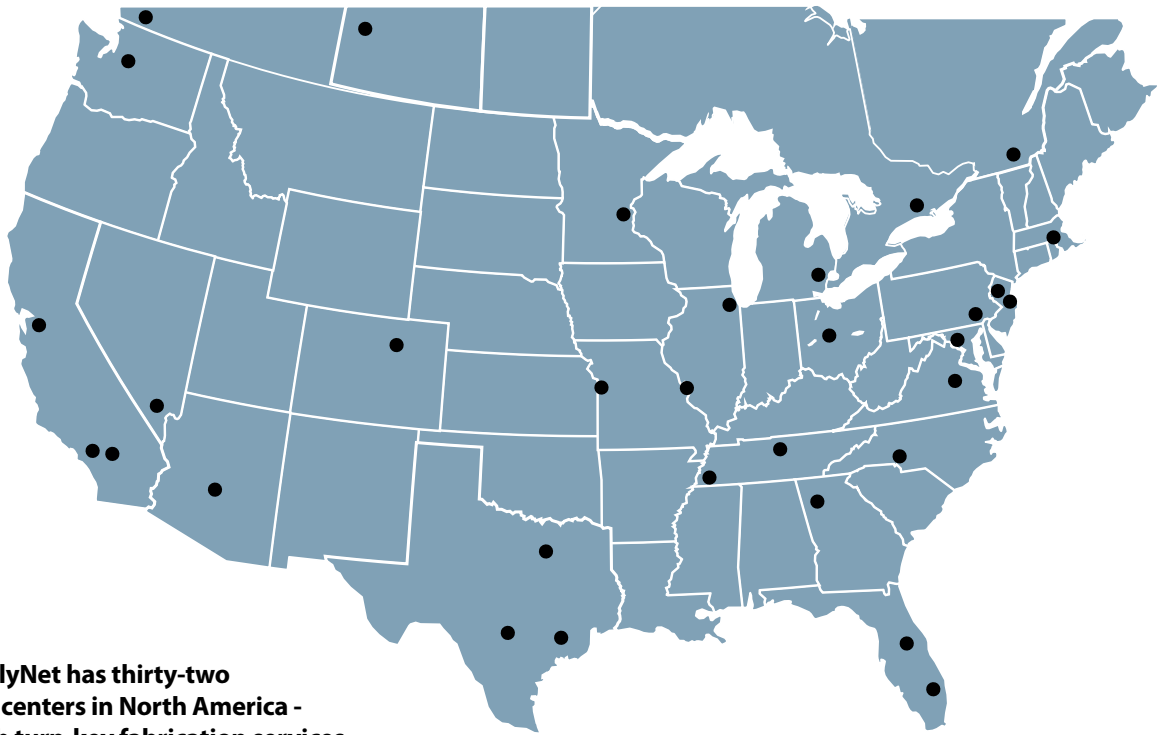
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Viking SupplyNet has thirty-two distribution centers in North America - thirteen with turn-key fabrication services.

Visit www.vikinggroupinc.com for a Viking SupplyNet location near you.