



TECHNICAL DATA

FOAM MAKERS

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

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1. DESCRIPTION

The Chemguard CGFLR & CGFM Foam Makers are designed as air-aspirating discharge devices used principally for the protection of open floating roof storage tanks and dike protection systems. These devices are used in various types of proportioning systems such as bladder tanks, balanced pressure pump proportioning systems or line proportioners. The Foam Maker is normally installed in the discharge line of a semi-fixed or fixed foam fire protection system. The Foam Makers are used with appropriate Chemguard foam agents for the flammable liquid being protected.


The CGFLR Foam Makers incorporate an orifice, screened air inlet and mixing barrel. The body and orifice are corrosion resistant stainless steel. The air inlet screen is corrosion resistant stainless steel.

The CGFM Foam Chamber is available as standard product constructed from mild steel with the "CR" Epoxy red Paint System. The assemblies can be supplied in a primed only finish for field painting, or manufactured from 304 stainless steel for highly corrosive environments.

An orifice is provided at the inlet to the Foam Maker and designed to provide the required flow rate of foam solution at a specified inlet pressure. The air inlet provides uniform distribution of air into the foam solution stream to generate expanded foam. The air inlet screen conforms to the body of the Foam Maker and prevents damage by the entrance of foreign material.



2. LISTINGS AND APPROVALS

 Part Numbers F20741 and F20742: UL Listed

3. TECHNICAL DATA

Specifications:

See Table 1.

Minimum Operating Pressure:

Model CGFM: 40 PSI (2.76 bar)

Model CGFLR: 30 PSI (2.1 bar)

Maximum Operating Pressure:

Model CGFM: 100 PSI (6.89 bar)

Model CGFLR: 150 PSI (10.3 bar)

Material Standards: See Table 1.

Ordering Information: See Table 1.

4. INSTALLATION

The foam/water solution is provided in a "pre-mix" condition through either an automatic or mobile proportioning system. The foam maker does not proportion foam concentrate into the water stream. The foam maker discharges foam indirectly at a burning liquid by deflecting the foam at the interior wall of a dike area or bund area. Foam then spreads across the floor of the dike area and covers the surface of the liquid, creating a vapor barrier to extinguish the fire.

The foam/water solution supply provided to foam makers must be continuous, clean, and obstruction free.

Foam makers should be installed with adequate clearance and be protected from physical damage. Adequate clearance should be maintained for maintenance and inspection. Foam makers are deluge system discharge devices, and should be provided with adequate shutoff capabilities while being adjusted or maintained.

The foam maker should be installed in accordance with NFPA 11: The Standard for Low-Expansion Foam. The foam maker inlet is to be mounted to a compatible piping flange. Piping to foam maker should be self-supporting and installed in accordance with NFPA 11.

A properly sized machined brass metering orifice plate will be provided at the inlet in order to deliver the required flow rate of foam solution at a specified inlet pressure. The metering orifice and stainless steel foam solution inlet strainer, when applicable, will be secured with a snap-ring to enable removal for inspection and cleaning. The foam maker orifice will be stamped with the appropriate diameter.

For some Foam Maker installations, particularly very large dikes or jetties, it may be required to have flow rates above those offered with the CGFLR Foam Makers. The Chemguard Foam Maker "CGFM" is the foam maker portion of a Chemguard Foam Chamber (without the chamber).

Discharge piping length is to be installed in compliance with NFPA 11.



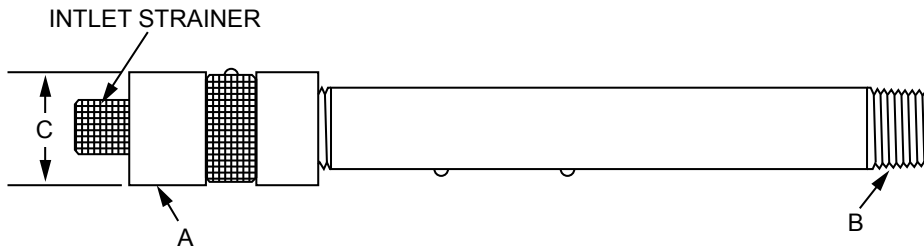
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Table 1: Specifications							
Part Number	Model Number	Flow Range (GPM)	Length Inches (mm)	Inlet Connection (Female)	Outlet Connection (Male)	K-factor Range	Shipping Weight Lbs. (kg)
F20741*	CGFLR-30	6.7 - 79.6	16 (406)	1-1/2" NPT	1-1/4" NPT	1.2 - 6.5	5 (2)
F20742*	CGFLR-90	31.1 - 197.7	25 (635)	2-1/2" NPT	2-1/2" NPT	5.6 - 16.1	13 (6)
F20745	CGFM-170	94 - 279	11-1/4 (286)	3" Flange	3" NPT	14.9 - 27.9	15 (7)
F20746	CGFM-330	183 - 610	12-7/8 (327)	4" Flange	4" NPT	28.9 - 61.0	25 (11)
F20747	CGFM-550	350 - 980	15-5/16 (389)	6" Flange	6" NPT	55.3 - 98.0	35 (16)

* UL Listed



Model	A	B	C
CGFLR-30	1-1/2" NPT	1-1/4" NPT	16"
CGFLR-90*	2-1/2" NPT	2-1/2" NPT	25"

* Inlet strainer not supplied or required.

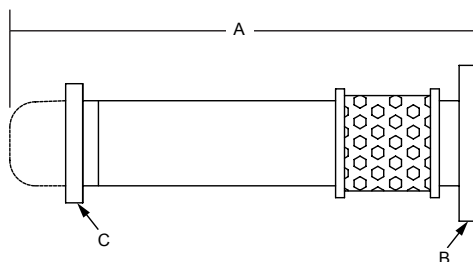
Figure 1: Model CGFLR Dimensions



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Model	A (Length)	B (Inlet Flange; 150 lb ANSI)	C Outlet Pipe Size (NPT)
CGFM-170	11-1/4 in. (286 mm)	3"	3" NPT
CGFM-330	12-7/8 in. (327 mm)	4"	4" NPT
CGFM-550	15-5/16 in. (389 mm)	6"	6" NPT

Figure 2: Model CGFM Dimensions

5. OPERATION

Foam Makers are in-line foam discharge devices. Foam/water solution is supplied to the inlet side of the foam makers. The inlet side of the foam maker is equipped with an orifice plate and air strainer. When foam solution initially passes through the air strainer, water will discharge from the vent holes. When the flow rate is of a greater velocity, a venturi effect will draw air into the fluid stream at a greater rate than water is escaping. At this point, solution will cease to flow from the air strainer. The foam solution is aerated, which will cause the foam discharge to expand at a greater rate than normal. The aerated foam solution will have enhanced foam qualities of greater expansion and normally longer drain times.

6. INSPECTIONS, TESTS AND MAINTENANCE

NOTICE

THE OWNER IS RESPONSIBLE FOR MAINTAINING THE FIRE PROTECTION SYSTEM AND DEVICES IN PROPER OPERATING CONDITION.

For minimum maintenance and inspection requirements, refer to recognized standards such as those produced by NFPA, LPC, and VdS, which describe care and maintenance of sprinkler systems. In addition, the "Authority Having Jurisdiction" may have additional maintenance, testing and inspection requirements which must be followed.

WARNING

ANY SYSTEM MAINTENANCE THAT INVOLVES PLACING A CONTROL VALVE OR DETECTION SYSTEM OUT OF SERVICE MAY ELIMINATE THE FIRE PROTECTION CAPABILITIES OF THAT SYSTEM. PRIOR TO PROCEEDING, NOTIFY ALL AUTHORITIES HAVING JURISDICTION. CONSIDERATION SHOULD BE GIVEN TO EMPLOYMENT OF A FIRE PATROL IN THE AFFECTED AREAS. Failure to follow these instructions could cause improper system operation, resulting in serious personal injury and/or property damage.

7. AVAILABILITY

Viking Foam Products are available through a network of domestic and international distributors. See the Viking web site for closest distributor or contact The Viking Corporation.

8. GUARANTEE

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.