

DELUGE VALVE MODEL - A (CAST IRON)



TECHNICAL DATA :

MODEL	F1 - Stainless Steel H - Bronze
MOUNTING	Pendent
MAXIMUM WORKING PRESSURE	12 bar (175 psi)
RECOMMENDED OPERATING PRESSURE	2.1 bar (30 psi) minimum 4.2 bar (60 psi) maximum
END CONNECTION	1/2" BSPT (1/2" NPT Optional)
K-FACTOR	K-42 Standard (K-2.95) Other K-factors can be provided as optional without Listing & Approvals
APPROVAL	UL Listed & FM Approved
FINISH	Natural finish
WEIGHT	0.465 kg (Approximate)
ORDERING INFORMATION	Please specify : Model, End connection
SIN NUMBER	HD331

APPLICATION

The Foam Nozzles (Models F1 & H) are open type Air Aspirating Foam-Water Sprinklers. Foam-Water Sprinklers are used in the deluge foam systems to protect the high-risk areas where foam is required to be applied through overhead nozzles and is to be followed with plain water in a standard sprinkler spray pattern.

Foam-Water Sprinklers protect the loading and unloading areas in the event of a spill fire as part of the low expansion foam systems. These are useful in many other applications like aircraft hangers, warehouses stored with flammable liquids, DG Set rooms, solvent storage areas, etc.

SPECIFICATION

Foam-Water Sprinklers are open and air aspirating type. The pattern of coverage is similar to the conventional sprinkler head. The Foam-Water Sprinkler has standard orifice with K-factor of 42 (Metric).

The Foam-Water Sprinklers are designed to operate at a minimum of 2.1 bar pressure and maximum of 4.2 bar pressure. The Foam-Water Sprinkler with K-42 will deliver about 61 lpm at 2.1 bar pressure. The standard coverage per Foam-Water Sprinkler is 9.3 sq.m (100 sq.ft).



SYSTEM DESIGN

The approval of the Foam Sprinkler is based on the requirements of NFPA-13 & NFPA-16. Discharge pattern provided is indicative only and it is not to be used for designing purpose. Spacing between the sprinklers should not exceed the parameters, which are mentioned in NFPA-13 for extra hazard occupancies.

INSTALLATION, TESTING & MAINTENANCE

The Foam-Water Sprinkler must be handled with due care. For best results, the storage as well as any further shipment be made in original packing only.

Foam-Water Sprinkler which is visibly damaged should not be installed.

Use Teflon tape of soft thread sealant on male thread of the sprinkler. The sprinkler must be tightened in to the fitting. Excessive tightening torque may result into serious damage to sprinkler arms and deflector, which may affect spray pattern of the sprinkler and its performance. Do not apply wrench on threading, it has to be applied on flat area of Sprinkler.

Do not drop the product, it may cause damage to the deflector.

It is recommended that foam-water spray system must be inspected regularly by authorised technical personal.



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The sprinkler must be checked for atmospheric effects, external and internal obstruction, blockage if any. The sprinkler should be cleaned or replaced if required.

The system must be operated with optimum water flow at least twice in a year or as per the provisions of NFPA or as per authority having jurisdiction.

The owner is responsible for the testing, inspection and maintenance of the Foam-Water Sprinkler and its system.

NOTE:

- (i) Foam-Water Sprinkler and Foam Concentrate are listed together.
- (ii) FM Approval is valid when total system is having FM Approved products.
- (iii) UL Listed:
 - AFFF 3% *
 - AR-AFFF 3X3% *
 - FP 3% *

* With minimum application rate of 0.16 gpm/sq.ft (6.5 lpm/sq.m)

FM Approved:

 - AFFF 3% with 10' x 10' spacing, minimum height of 8' 9", with application density of 0.3 gpm/sq.ft (12.2 lpm/sq.m)
 - AR-AFFF 3x3% with 10' x 10' spacing, minimum height of 4'6", with application density of 0.3 gpm/sq.ft (12.2 lpm/sq.m)
- (iv) Refer to individual UL Listing and FM Approval for operating limitation with each foam concentrate and Foam-Water Sprinkler.

To meet intent of NFPA-16, Foam-Water Sprinklers must be able to sufficiently distribute water after depletion of foam. (As on June 2020, NFPA-16 is incorporated into NFPA-11)

Not less than two Foam-Water Sprinklers are to be installed in any area of hazard.

Marking on Foam-Water Sprinkler:

- (i) K-Factor
- (ii) Model
- (iii) Year of Manufacturing
- (iv) **HD** Trademark
- (v) UL & FM mark
- (vi) Pendent

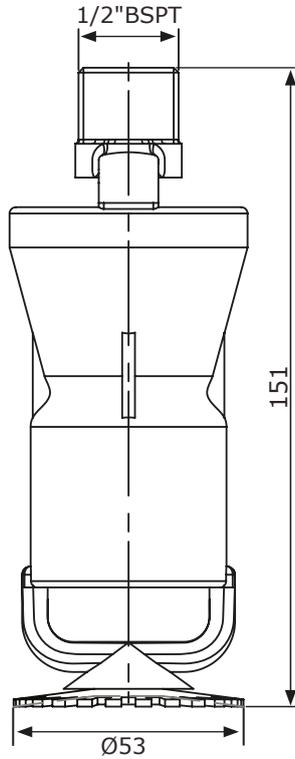
The certification of the system is contingent upon piping designed and installed in accordance with NFPA 11 and/ or FM Global Property Loss Prevention Data Sheet 4-12, Foam-Water Sprinkler Systems.



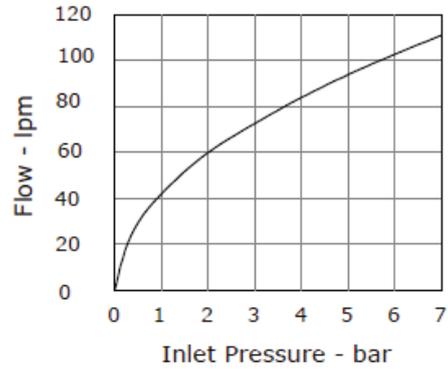
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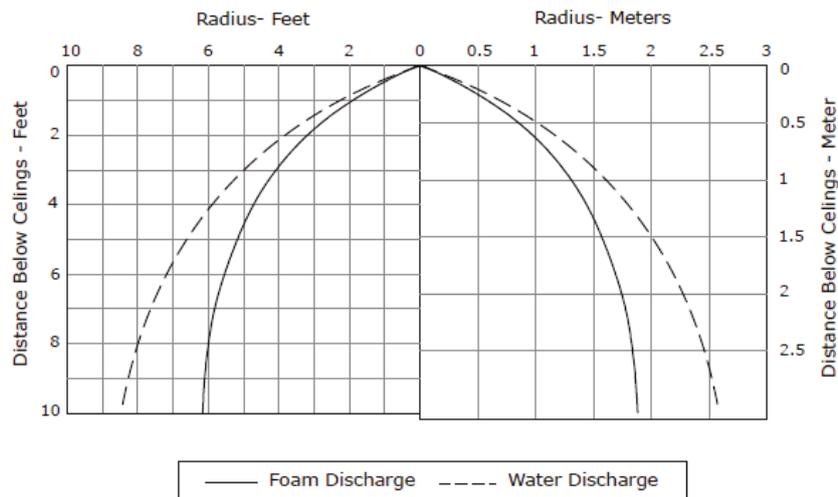
DIMENSIONS



PRESSURE VS FLOW PERFORMANCE CHARACTERISTIC



DISCHARGE PATTERN



For reference only - not suitable for system design

