

MODEL B-1 FOAM-WATER SPRINKLERS

Data/Specifications



FEATURES

- Pendent or upright installation
- Foam discharge in spray pattern
- Open-head design
- Quickly blankets the area with foam
- UL Listed
- Recognized for use in ANSUL®'s USCG approved systems

DESCRIPTION

The Model B-1 Upright and Pendent Foam-Water Sprinklers manufactured by Tyco Fire & Building Products are air-aspirating foam discharge outlets designed for use in foam-water deluge systems. They are designed for flammable liquid risks where it is desired to apply foam from overhead sprinklers (either upright or pendent) and where follow-up with plain water in a standard spray sprinkler pattern is necessary as in the case of NFPA 16, "Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems."

The Model B-1 Sprinklers were also formerly available as Gem Issue B-1 and Star Model B-1.

APPROVALS

The Model B-1 Sprinklers are UL Listed. Discharge outlets and foam concentrates are listed for use together. Refer to the individual foam concentrate listing for operating limitations and compatibility with the B-1 Foam-Water Sprinklers as provided in the UL Fire Protection Equipment Directory.

The Model B-1 Sprinklers meet the requirements of MIL-S-901C for lightweight Grade A shockproof equipment, as well as the requirements of MIL-H-24146.

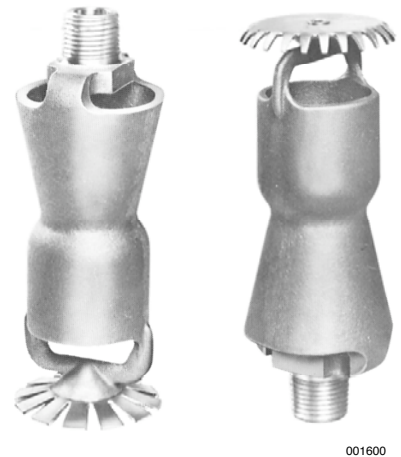
OPERATION

The Model B-1 Foam-Water Sprinklers are designed with a unique venturi-style body. As foam solution (water and foam concentrate mixture) flows through the inlet of the body, air is drawn into the body through the openings adjacent to the wrenching area. The foam solution and air mix is then agitated to create an air-aspirated foam.

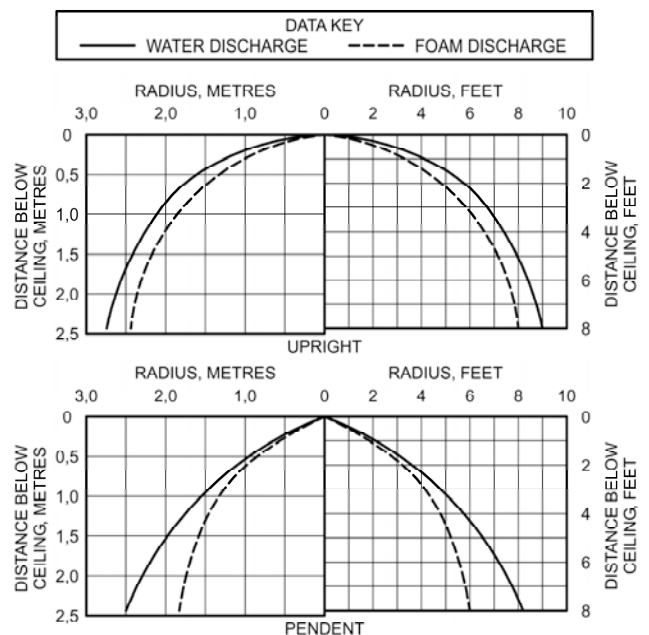
The Model B-1 Foam-Water Sprinklers are designed to discharge foam in a pre-determined discharge pattern, as well as to discharge water similar to standard spray sprinklers. To meet the intent of NFPA 16, foam-water sprinklers must be able to sufficiently distribute water after depletion of the foam concentrate.

SPECIFICATIONS

Working pressure:	30 – 175 psi (2.1 – 12.1 bar)
Discharge coefficient:	K = 3.0
Finishes:	Natural Bronze
Physical characteristics:	Body – Bronze, Deflector – Brass, Agitator – Brass
Pipe thread connection:	1/2 in. NPT
Nominal orifice size:	3/8 in. (0.95 cm) at throat
Finish:	Plain



001600



007532

Figure 1: Nominal Discharge Patterns
 (Shown for reference only – not suitable for design purposes)

DESIGN

The Model B-1 Upright and Pendent Foam-Water Sprinklers are intended for fire protection systems designed in accordance with the standard installation rules for foam-water sprinklers systems recognized by the applicable Listing agency (e.g., UL Listing is based on the requirements of NFPA 13 and 16).

Figure 1 provides the nominal discharge patterns for reference use.

Note: The discharge patterns shown in Figure 1 are not to be used for design purposes or to disregard standard installation rules.

Not less than two foam-water sprinklers are to be installed in any area, regardless of size, in order to obtain pattern overlap.

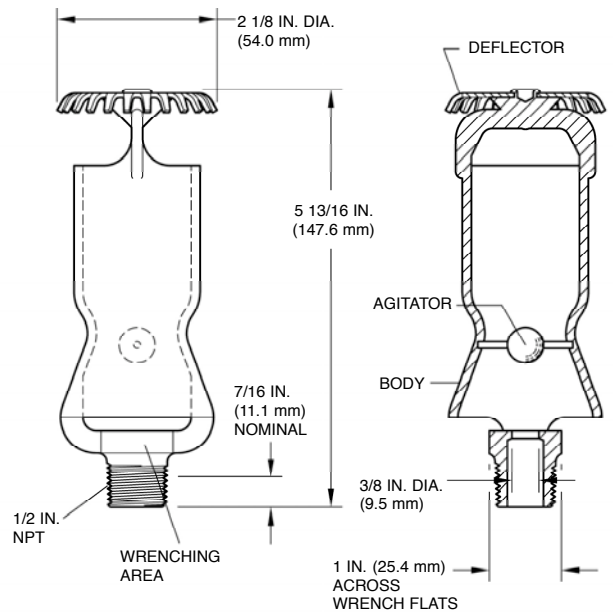
The applied density (flow per unit of area) of foam solution must meet the requirements of the Authority Having Jurisdiction for the type flammable liquid and occupancy. Per NFPA 16, coverage density must not be less than 0.16 GPM/ft² (6.52 LPM/m²) of floor area with a resulting minimum discharge pressure of no less than 30 psi (2.1 bar).

Foam-water sprinkler spacing must not exceed the requirements of NFPA 13 for extra hazard occupancies and the system must be hydraulically calculated to obtain the required density and discharge pressure.

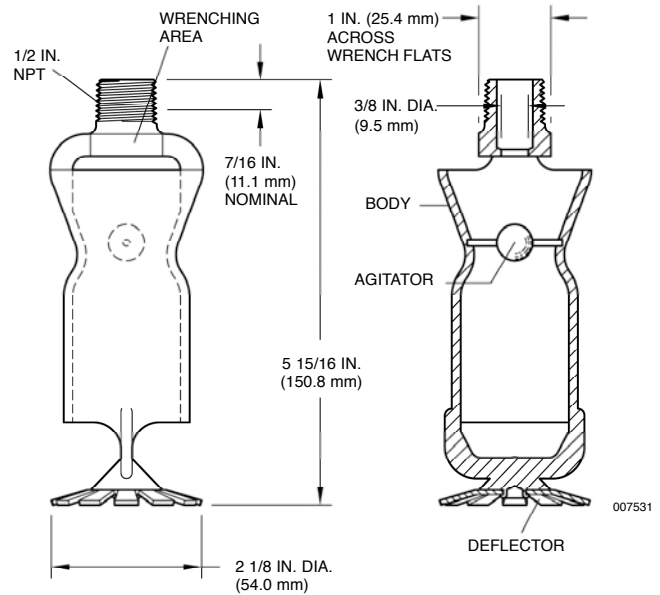
Note: Discharge outlets and foam concentrates are listed for use together. Refer to the individual foam concentrate listing for operating limitations and compatibility with the B-1 Foam-Water Sprinklers as provided in the UL Fire Protection Equipment Directory and shown on the Popular Sprinkler Data Sheet F-2007011 included in Section 4 of the Foam Systems, Design & Applications Manual.

ORDERING INFORMATION

Part No.	Description
422711	Upright B-1 Foam-Water Sprinkler
72535	Pendent B-1 Foam-Water Sprinkler



UPRIGHT



PENDENT

Figure 2: Model B-1 Upright and Pendent Foam-Water Sprinklers Nominal Dimensions

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