

DESCRIPTION

APPLICATION

Foam Maker is used for one of the most common applications of protecting tank seal in vertical liquid storage tank with internal floating roof with low expansion foam system. The application of aspirated foam is on the basis of the risk comprising the area in the annular ring between the rim of the floating roof and the tank shell. The Foam system design guidelines generally used are in accordance with NFPA11 standard. The Foam Makers are defined by NFPA 11 as Type II discharge outlets for delivering the low expansion aspirated foam to the seal. The Foam Makers are widely used with the Inline Foam Inductor, Balance Pressure Foam Proportioning system, Bladder Tank system and Foam tenders.

SPECIFICATION

Foam Maker is an air aspirating foam generator connected to the foam pourer to deliver the aspirated foam gently into the tank seal area. Foam maker covers wide range of foam solution rates from 75 to 550 litres per minute at 2.8 to 7 kg/sq.cm. inlet pressure. The orifice is field replaceable in the event of change in design parameters. The foam is produced by introducing air into the foam solution stream. The inlet of foam maker is designed to create venture jet which draws air into the foam solution stream. The air is drawn into the foam solution through holes located on the foam maker covered with stainless steel screen to exclude nesting birds and insects. The aerated foam is directed into the pourer for the gentle application of the expanded foam. The pourers are available in different models.

TECHNICAL DATA

MODEL	FMA-50, FMA-65 - Carbon Steel Construction FMA-S 50, FMA-S 65 Stainless Steel Construction
INLET SIZE	50, 65 NB
WORKING PRESSURE	Minimum 2.8 Kg/sq.cm. (40 PSI) Maximum 7 Kg/sq.cm. (100 PSI)
FLANGE CONNECTION	ANSI B 16.5 class 150#
FINSIH	Red RAL 3000
WEIGHT (Approx.)	50 NB - 9.9 kg 65 NB - 14.0 kg
APPROVAL	UL Listed
ORDERING INFROMATION	Specify a. Model and inlet size b. Inlet pressure c. Flow Solution flow required. d. Inlet Outlet flange e. Type of Foam Concentrate used

PRINCIPLE OF OPERATION

Qualified and trained person must commission the system. After few initial successful tests, an authorized person must be trained to perform inspection and testing of the system. It is recommended to carry out physical inspection of the system regularly. The system must be fully tested at least once in a year or in accordance to standards of the organization having local jurisdiction.



Do not turn off the system or any valve to make repair or test the system, without placing a roving Fire Patrol in the area covered by the system. The Patrol should continue until the system is put back in service. Also inform the local security guard and control alarm station, so as to avoid false alarm.

Each system is to be flushed properly. To test the Foam Maker without discharging the foam into the tank seal area, the foam maker is to be rotated 180o away from the wind shield. The air screen is to be inspected periodically for obstruction of air inlet holes. If any obstruction is noticed, remove the same and flush if necessary. The foam maker outlet and pourer, if exposed to atmospheric condition, should be periodically inspected for nest and other obstructions. Any obstruction if noticed must be removed and flushed to clear the discharge path.

Selection of FOAM MAKER

FOAM MAKER SIZE	K - FACTOR
50 NB	44.8 TO 126.6
65 NB	89.6 TO 207.8

To select the size of the Foam Maker use the following formula:

$$Q = K\sqrt{P}$$

Where,

Q = Total solution flow in litres per minute.

K = Constant for Foam Chamber

P = Inlet pressure in kg/sq.cm.

Example:

To find K factor: Q = 150LPM

$$P = 3.5 \text{ Kg/sq.cm.}$$

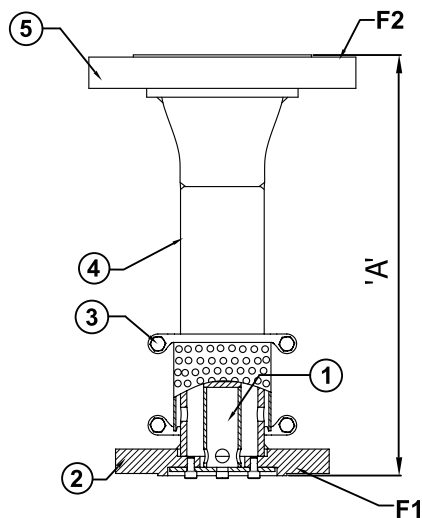
$$K = 150 \div \sqrt{3.5} = 80.17$$

The K-Factor 80.17 falls within the range of the Foam Maker having 50NB size. Hence 50NB size Foam Maker to be selected.

The Foam Maker can also be selected from the graph.



FOAM MAKER

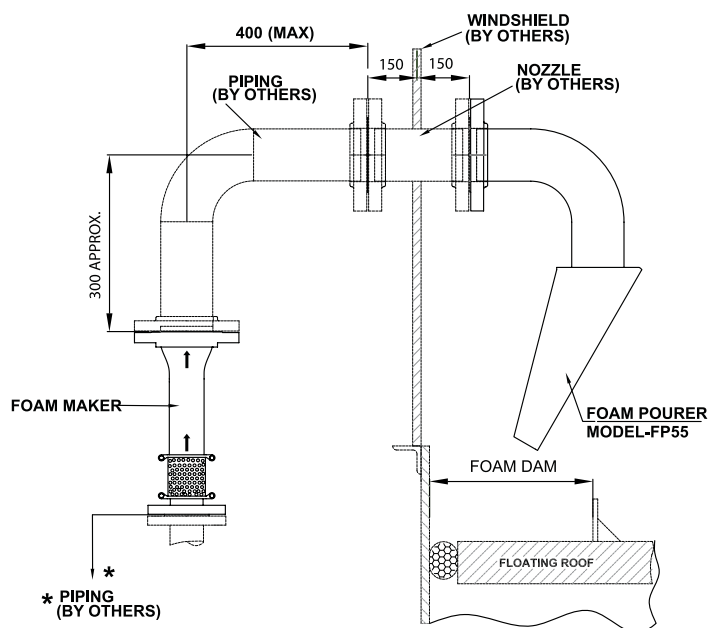


ITEM NO.	DESCRIPTION	MATERIAL SPECIFICATION	
		FMA	FMA-S
1	ORIFICE ASSEMBLY	STAINLESS STEEL	STAINLESS STEEL
2	INLET FLANGE	STEEL	STAINLESS STEEL
3	STRAINER ASSEMBLY	STAINLESS STEEL	STAINLESS STEEL
4	FOAM MAKING CHAMBER	STEEL PIPE	SS PIPE
5	OUTLET	STEEL	STAINLESS STEEL

Dimension Of FOAM CHAMBER in millimeter(approxmate)

FOAM MAKER SIZE	INLET (F1)	OUTLET (F2)	A
50NB	50NB	80NB	300
65NB	65NB	100NB	400

Typical Installation Of Foam Maker With Pourer



NOTE

- Above dimensions are general guidelines only. The system designer can adopt the dimensions as per NFPA/TAC/OISD or as per the governing rules & ordinance having local jurisdiction.
- See the UL listing details for foam or contact us.
- Foam Pourer Model - FP55 is standard supply in carbon steel material and optional in stainless steel.

Pressure Vs Flow Performance Characteristic

