FOAM CHAMBER

MODEL: SD-FC SERIES

APPLICATION

Foam Chamber is used in one of the most common application to protect vertical fixed roof (cone) liquid storage tanks, with or without internal floating roof with the low expansion foam system. The application of foam is on the basis that the risk comprises the total surface area of the fuel. The foam system design guidelines generally used are in accordance with NFPA-11, standard. Foam chambers are defined by NFPA-11 as Type II discharge outlets for delivering the foam to the surface of a flammable liquid. The Foam Chambers are widely used with the In-line Foam Inductor, Balance Pressure Foam Proportioning system, Bladder Tank Proportioner or Foam Tender.

FEATURES

- Heavy duty welded construction with choice of Carbon Steel or Stainless Steel material
- Frangible Glass Vapor Seal
- Controlled Air Flow proportional to liquid flow for optimum foam quality and rupture of Vapor seal in narrow pressure tolerances for increased reliability
- Field replaceable orifice plate fitted with Foam Chamber

SPECIFICATION

Foam Chamber is an air aspirating foam discharge device, covering wide range of flow from 40 GPM to 1086 GPM at 40 to 100 psi inlet pressure. The Foam Chamber contains a Vapor seal to prevent the entry of Vapor into the foam chamber and the foam solution pipe. Each foam chamber is supplied with an orifice plate, designed for the required flow and 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 chamber is designed to create venturi jet which draws air into the foam solution stream. The air is drawn into the foam solution through the holes located on the foam chamber covered with stainless steel screen to exclude nesting birds and insects. The aerated foam is directed into the deflector for the gentle application of the expanded foam. The deflectors are available in different models.

On removal of cover plate from the top of the chamber allows the system to be tested foam, without removing the Vapor seal or disconnecting the foam chamber from the tank. Frangible glass bursting disc (Vapor seal) can be replaced by easily. The Vapor seal is designed to rupture within 0.7 to 1.75 kg/cm^2. (10 to 25 psi) pressure at inlet flange of Foam Chamber, as required by NFPA, UL & FM standard. The Vapor seal will withstand maximum back pressure of 0.07 kg/cm^2. bar (1.0 psi) or equal to 686 mm of water column as specified by API for welded storage tank. If the requirement exceeds 0.07 kg/cm^2. bar (1.0 psi) as in case of nitrogen blanketing system, then this equipment may not be suitable. The Vapor seal is frangible glass. The Vapor seal is supplied with holder and for spares it can be with or without holder. The 'O' ring used for seal are Nitride rubber and optional Viton for polar solvent.

TECHNICAL DATA

Model	SD-FC/FCR-Carbon Steel Construction SD-FCSS/FCRSS-Stainless Steel Construction
Inlet Size	65, 80, 100, 150 NB
Working Pressure	Min. 2.8 kg/cm^2 (40 psi) Max. 7 kg/cm^2 (100 psi)
Foam Proportioning	AFFF 3%,6%, AR-AFFF3/3, AR-AFFF3/6
Foam Type	AFFF, AR-AFFF, FP, FFFP
Flange Connection	Flange Connection ANSI B16.5 Class 150#
Weight (Approx.)	65 NB-34.5kg 80 NB-49.5kg 100 NB-72.0kg 150 NB-110kg
Vapor Seal Rapture Pressure	0.7 to 1.75 kg/cm^2 (10 psi to 25 psi) Running water/water foam solution pressure at inlet of Foam Chamber
Maximum Permissible Back Pressure on Vapor Seal	0.07 kg/cm^2. (1.0 psi)
Vapor Seal	Glass standard supply (UL & FM Approved).
Deflector	Solid or Split Deflector
Finish	Red RAL 3000
Ordering Information	**Model & Size** • Flow & Pressure at inlet of each Foam Chamber • Inlet, outlet flange specification • Type of Deflector • Foam concentrate • Tank number/Tag number

SYSTEM DESIGN REQUIREMENT

The NFPA-11, a standard for low expansion foam, provides the essential requirement of an appropriate designed foam pouring system, which are identified and outlined as below: The Foam Deflector is used with the Foam Chamber.

The aerated foam from the Foam Chamber is directed in to the deflector for the gentle application of the expanded foam. The deflector reduces the expanded foam velocity and allows the foam to slide down the tank wall.

(A) Number of Foam Chamber:
The number of foam chambers required is determined by the tank diameter. Where two or more foam chambers are required, they shall be spaced equally around the tank periphery and each Foam Chamber shall be sized to deliver foam at an approximately same rate. Please refer graph to select the unit that will provide the required minimum foam solution application rate at the available operating pressure of the Foam Chamber.

For minimum number of Foam Chamber requirement, kindly follow the recommendations as per NFPA OISD/ TAC or as per the governmental codes or ordinances wherever applicable.

(B) Minimum Foam Solution Application Rate:
The minimum foam solution application rate is the rate at which the water and foam concentrate in correctly proportioned ratio should be delivered to the surface of a storage tank under protection to control and extinguish the fire. For minimum application rate requirement, follow the recommendations as per NFPA/ OISD/ TAC or governmental codes or ordinances wherever applicable.

TESTING & MAINTENANCE

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 with applicable NFPA/ OISD/TAC standards or in accordance with 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. The Vapor seal must be replaced if the system has been operated. Normal testing of the chamber can be carried out by removing the cover plate from the top of the chamber. This allows the system to draw a sample of the expanded foam without removing the Vapor seal or disconnecting the Foam Chamber from the tank.

The air screen is to be inspected periodically for the obstruction of air inlet holes. If any obstruction is noticed, remove the same and flush if necessary. It is recommended to have regular maintenance program to inspect the Vapor Seal Chamber discharge area and deflector for possible deposit or obstruction.

CAUTION

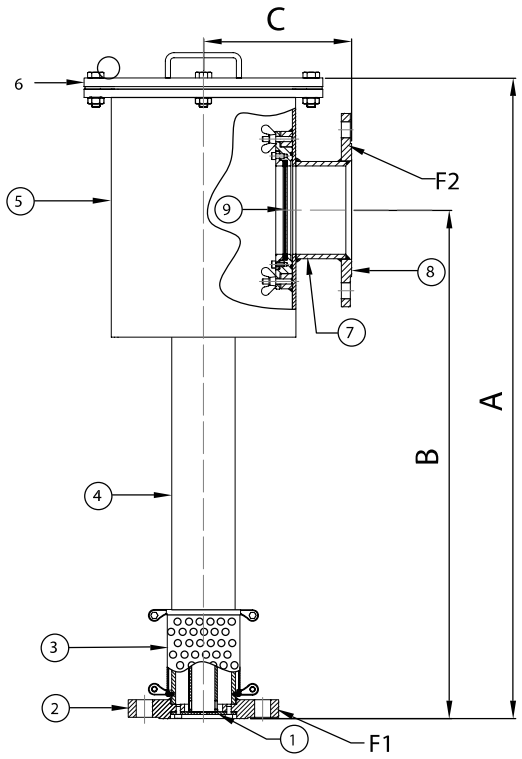
Do not install Foam chambers on pressured storage tanks (Inert gas blanketed tanks) and storage tanks containing product which attack the foam chamber standard construction material. Maximum permissible back pressure on Vapor seal is 0.07 kg/cm^2. 2 (1.0 psi).

NOTES:

- *A provision is to be made for pressure gauge mounting at inlet of foam chamber, which may be plugged after successful commissioning of the system. This will help to analyze the system while commissioning.*

DIMENSIONS

Inlet Size (F1)	Outlet Size (F2)	A	B	C
65 NB	100 NB	756	600	175
80 NB	150 NB	1093	908	225
100 NB	200 NB	1221	996	275
150 NB	250 NB	1250	1018	325



FOAM CHAMBER: FLOW RATE IN GPM

Foam Concentrate	Approval	Working Pressure	SD-FC65 / SD-FCSS65	SD-FC80 / SD-FCSS80	SD-FC100 / SD-FCSS100	SD-FCR150 / SD-FCRSS150
AFFF 3%	UL	40-100 psi	39.62-145.30	79.25-269.72	158.50-634.01	--
AR-AFFF 3/3	UL	40-100 psi	39.62-145.30	79.25-269.72	158.50-634.01	--
AFFF 3%	FM	40-100 psi for 65NB 50-100 psi for other sizes	52-156	101-309	198-679	493-1048
AFFF 6%	FM	50-100 psi	59-158	94-303	195-674	489-1042
AR-AFFF 3/3	FM	50-100 psi	57-167	110-311	211-678	516-1086
AR-AFFF 3/6 3%	FM	50-100 psi	59-157	107-305	197-675	512-1073
AR-AFFF 3/6 6%	FM	50-100 psi	59-157	100-304	192-680	514-1072

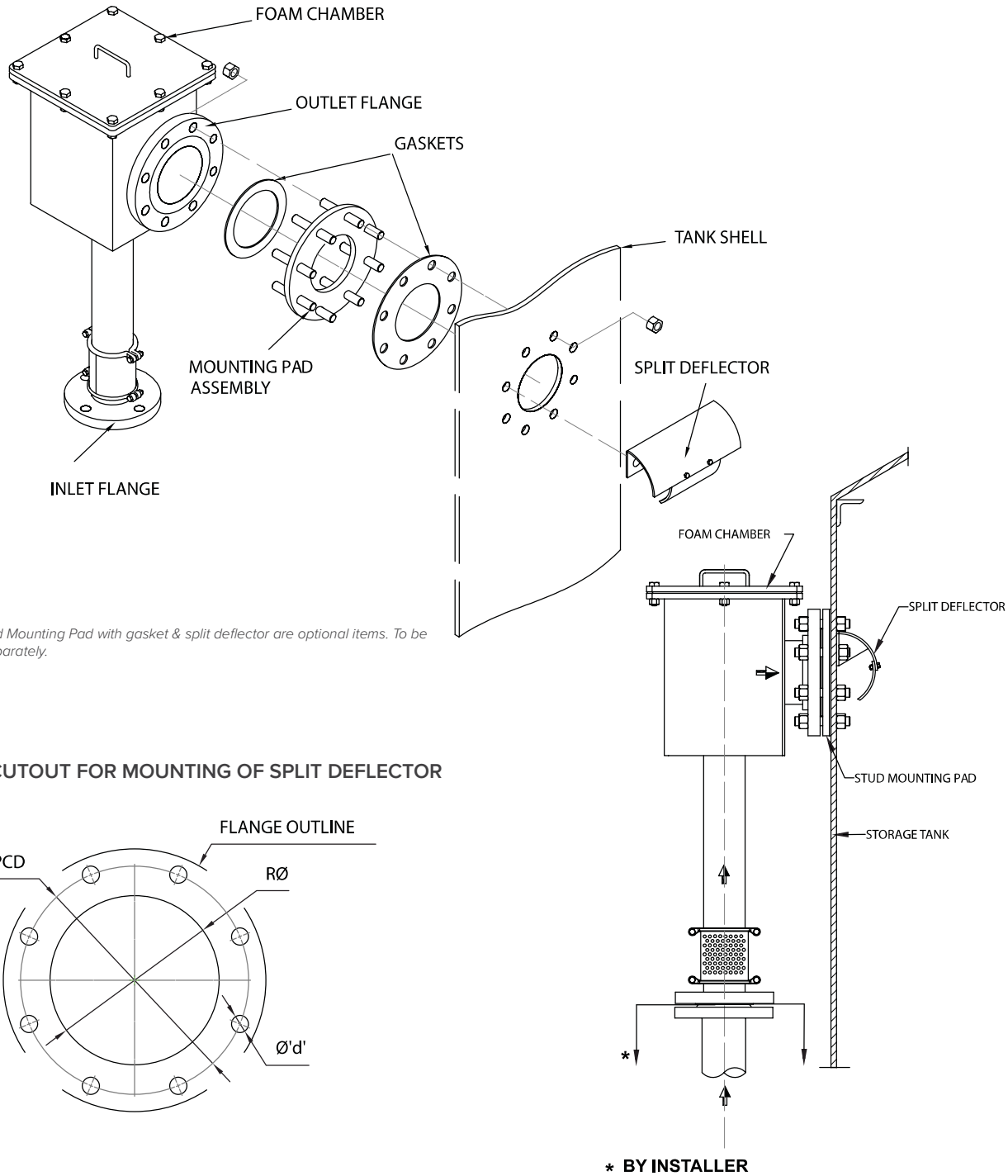
PART LIST

Item No.	Description	Material Specification	
		NF-FC/NF-FCR	NF-FCSS/NF-FCRSS
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	Foam Chamber	Steel	Stainless Steel
6	Inspection Cover	Steel	Stainless Steel
7	Discharge Pipe	Steel Pipe	SS Pipe
8	Outlet Flange	Steel	Stainless Steel
9	Vapor Seal Assembly	Glass	Glass

**NOTES:*

- *Pipes used are ERW (Seamless Pipe are optional)*
- *Foam chambers are open to atmosphere & do not have internal shutoff device,hence no hydrotest is offered during inspection.*
- *Strainer assembly consists of SS perforated sheet, SS strainer holder & galvanized nut/bolt.*

TYPICAL INSTALLATION OF FOAM CHAMBER WITH STUD FLANGED SPLIT DEFLECTOR

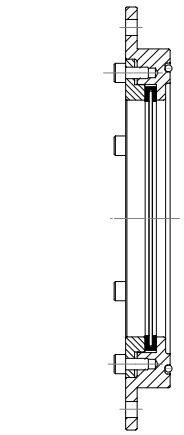


**NOTE:* *Stud Mounting Pad with gasket & split deflector are optional items. To be ordered separately.*

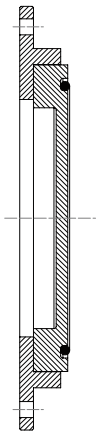
TANK CUTOUT FOR MOUNTING OF SPLIT DEFLECTOR

Model No	RØ	PCD	Hole Diameter Ø-D'	Number of Holes
SD-FC 65/NF-FCSS 65	116	191	19	4
SD-FC 80/NF-FCS S80	170	241	22	4
SD-FC 100/NF-FCSS 100	221	298	22	8
SD-FCR 150/NF-FCRSS 150	276	362	25	12

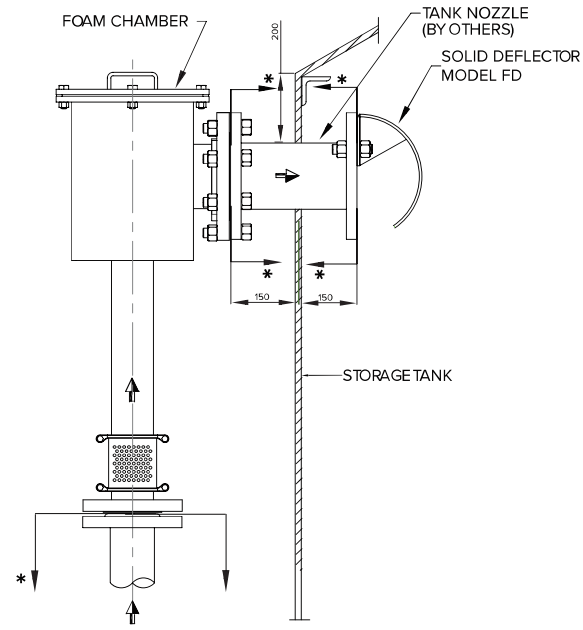
TYPICAL INSTALLATION OF FOAM CHAMBER WITH STUD FLANGED TANK NOZZLE AND SOLID DEFLECTOR



GLASS VAPOUR SEAL
WITH HOLDER (STANDARD SUPPLY)



GRAPHITE VAPOUR SEAL WITH HOLDER,
(OPTIONAL SUPPLY ONLY WITH FM APPROVAL)



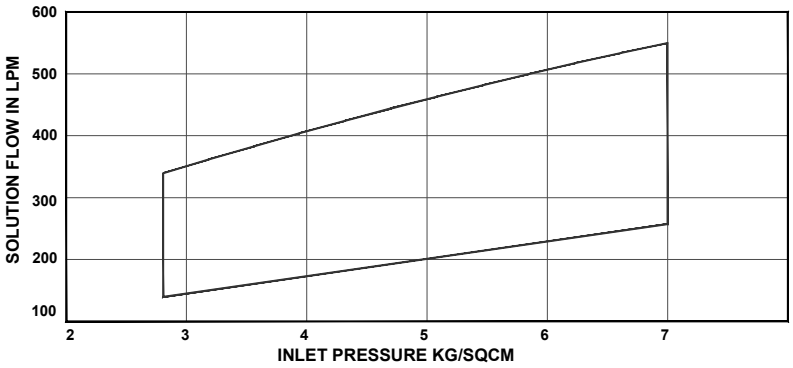
* **BY INSTALLER**

**NOTES:*

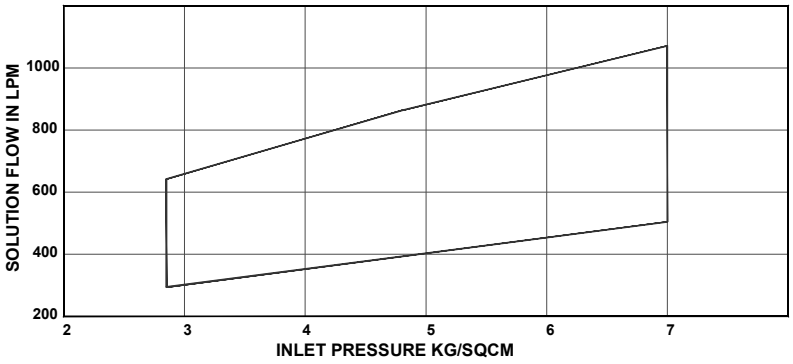
- *Above dimensions are general guidelines only. The system designer can adopt the dimensions as per NFPA as per the governing rules & ordinance having local jurdiction.*
- *Tank Nozzle nut bolts & gasket are optional to be ordered separately.*
- *Solid deflector Model FD is standard supply in carbon steel material (Split deflector Model SD shall be supplied against request) and optional in stainless steel.*

PRESSURE VS FLOW PERFORMANCE CHARACTERISTIC
UL LISTED WITH FOAM CONCENTRATE AFFF 3% AND AR-AFFF 3 X 3-C6

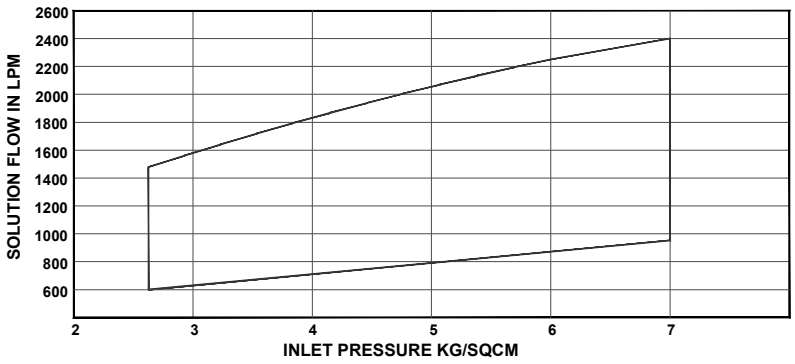
MODEL SD-FC65 & SD-FCSS65



MODEL SD-FC80 & SD-FCSS80

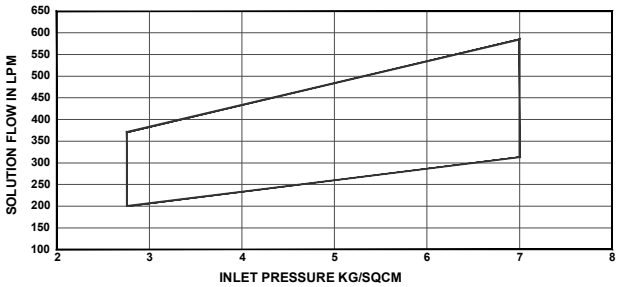


MODEL SD-FC100 & SD-FCSS100

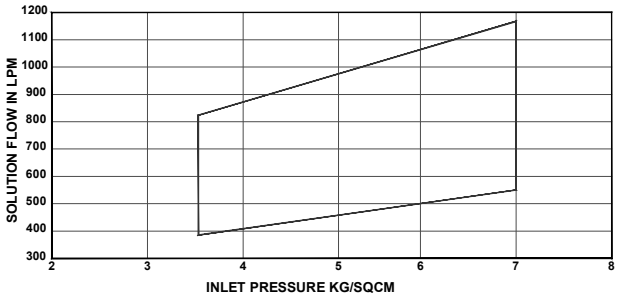


PRESSURE VS FLOW PERFORMANCE CHARACTERISTIC
FM APPROVED WITH FOAM CONCENTRATE AFFF 3% & AFFF 6%

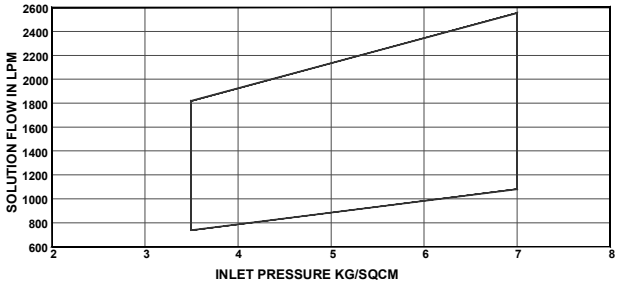
MODEL SD-FC65 & SD-FCSS65
AFFF 3%



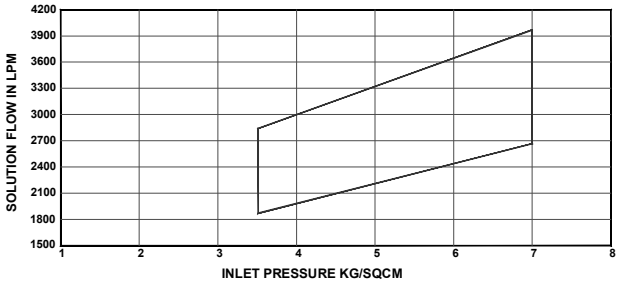
MODEL SD-FC80 & SD-FCSS80
AFFF 3%



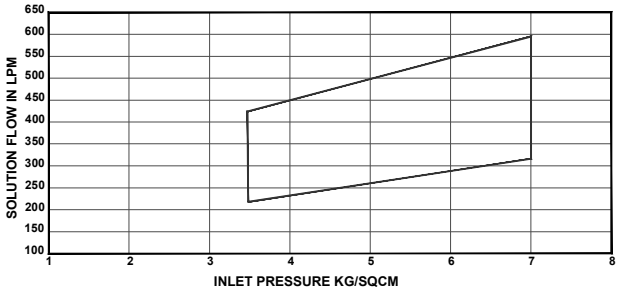
MODEL SD-FC100 & SD-FCSS100
AFFF 3%



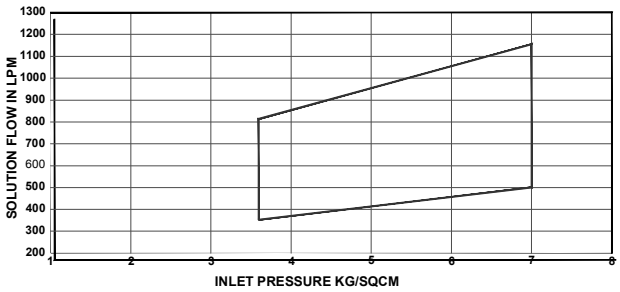
SHIELD FOAM CHAMBER MODEL SD-FCR150 & SD-FCRSS150
AFFF 3%



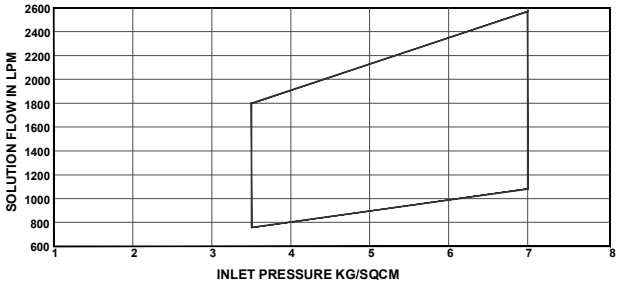
MODEL SD-FC65 & SD-FCSS65
AFFF 6%



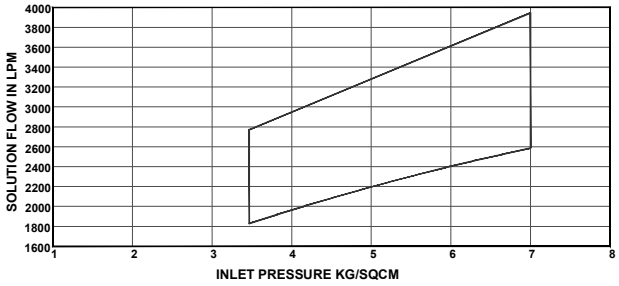
MODEL SD-FC80 & SD-FCSS80
AFFF 6%



MODEL SD-FC100 & SD-FCSS100
AFFF 6%



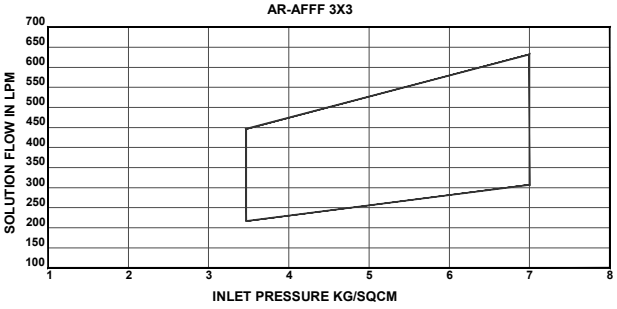
MODEL SD-FC150 & SD-FCSS150
AFFF 6%



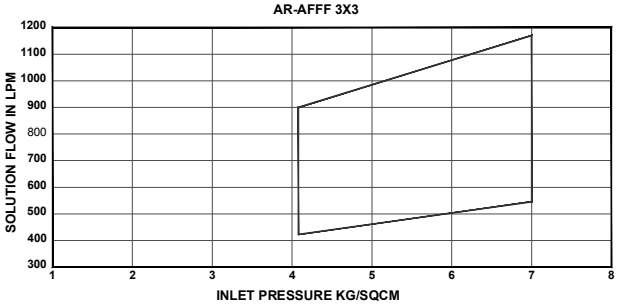
In line with shield policy for continuous product development, shield has the right to change specifications without prior notice.

PRESSURE VS FLOW PERFORMANCE CHARACTERISTIC
FM APPROVED WITH FOAM CONCENTRATE AR-AFFF 3X3-C6 AND AR-AFFF 3X6-C6

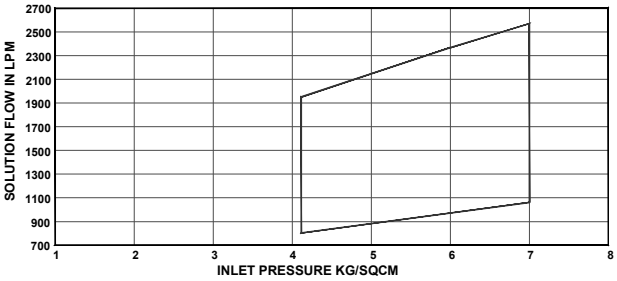
MODEL SD-FC65 & SD-FCSS65
AR-AFFF 3X3



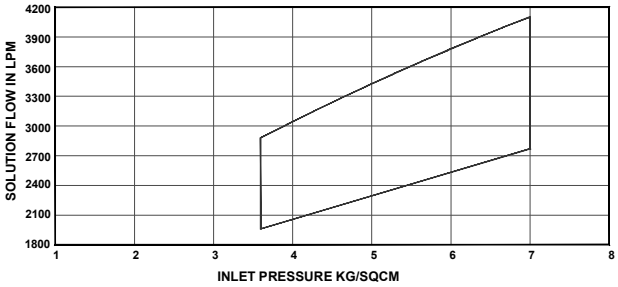
MODEL SD-FC80 & SD-FCSS80
AR-AFFF 3X3



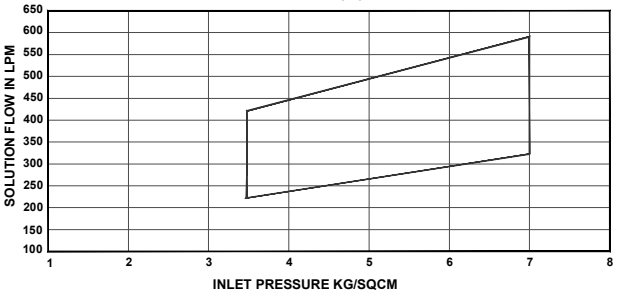
MODEL SD-FC100 & SD-FCSS100
AR-AFFF 3X3



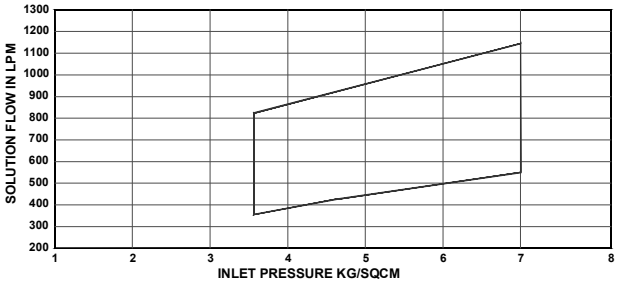
MODEL SD-FC150 & SD-FCSS150
AR-AFFF 3X3



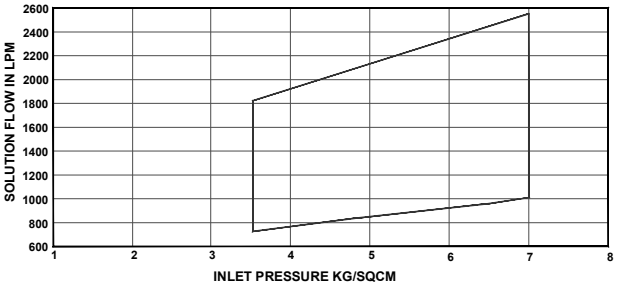
MODEL SD-FC65 & SD-FCSS65
AR-AFFF 3X6



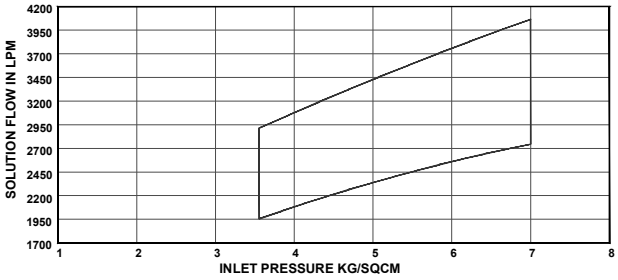
MODEL SD-FC80 & SD-FCSS80
AR-AFFF 3X6



MODEL SD-FC100 & SD-FCSS100
AR-AFFF 3X6



MODEL SD-FC150 & SD-FCSS150
AR-AFFF 3X6



In line with shield policy for continuous product development, shield has the right to change specifications without prior notice.

FOAM MAKER with RIM SEAL POURER

MODEL: SD-FM50 WITH SD-RSP80, SD-FMSS50 WITH SD-RSPS80, SD-FM65 WITH SD-RSP100, SD-FMSS65 WITH SD-RSPS100

APPLICATION

SHIELD Rim Seal Foam Pourer consists mainly of Foam Maker, a windshield and deflector. The Rim Seal Foam Pourer is designed to deliver fully aspirated foam directly to the annular seal area of open top floating roof tank. The Rim Seal Foam Pourer 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 NFPA 11 standard. Rim Seal Foam Pourers are defined by NFPA 11 as Type II discharge outlets for delivering the low expansion aspirated foam to the seal.

The Rim Seal Foam Pourers are widely used with In-line Foam Inductor, Balance Pressure Foam Proportioning System, Bladder Tank system or Foam tenders.

SPECIFICATION

The Rim Seal Foam Pourer is an air aspirating foam generator connected to the foam maker to deliver the aspirated foam gently into the tank seal area. The rim seal foam pourer covers a wide range of foam solution rates from 41 GPM to 207 GPM at 50 to 100 psi inlet pressure. Each rim seal foam pourer is supplied with an orifice plate, designed for the required flow at 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 venturi 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.

SYSTEM DESIGN REQUIREMENT

For essential requirement of appropriately designed foam pouring system for storage tanks refer NFPA11/OISD/ Governmental codes or ordinances wherever applicable.

TESTING & MAINTENANCE

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 the 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 Rim Seal Foam Pourer without discharging the foam into the tank seal area, the Rim Seal Foam Pourer is to be rotated 180° away from the wind shield.

The air screen is to be inspected periodically for the obstruction of air inlet holes. If any obstruction is noticed, remove the same and flush, if necessary. The Rim Seal Foam Pourer outlet and pourer, if exposed to atmospheric condition, should be periodically inspected for nest and other obstructions. The obstruction, if noticed, must be removed and flushed to clear the discharge path.

TECHNICAL DATA

Foam Maker	• SD-FM50, SD-FM65-Carbon Steel • SD-FM50SS, SD-FM65SS-Stainless Steel
Inlet Size	50, 65 NB Inlet
Working Pressure	Min. 3.5 kg/cm^2 (50 psi) Max. 7 kg/cm^2 (100 psi)
Flange Connection	ANSI B16.5 Class 150#
Finish	Red RAL 3000
WEIGHT without Pourer *(Approx)*	50 NB-9.9 kg 65 NB-14.0 kg
Ordering Information	• Model & Inlet Size • Inlet Pressure • Foam Solution Flow requirement • Inlet and Outlet Flange • Foam concentrate used

Material Pourer	• NF-RSP80, NF-RSP100-Carbon Steel • NF-RSPS80, NF-RSPS100-Stainless Steel
Inlet Size	80 NB & 100 NB INLET
Flange Connection	ANSI B16.5 Class 150#
Finish	Red RAL 3000

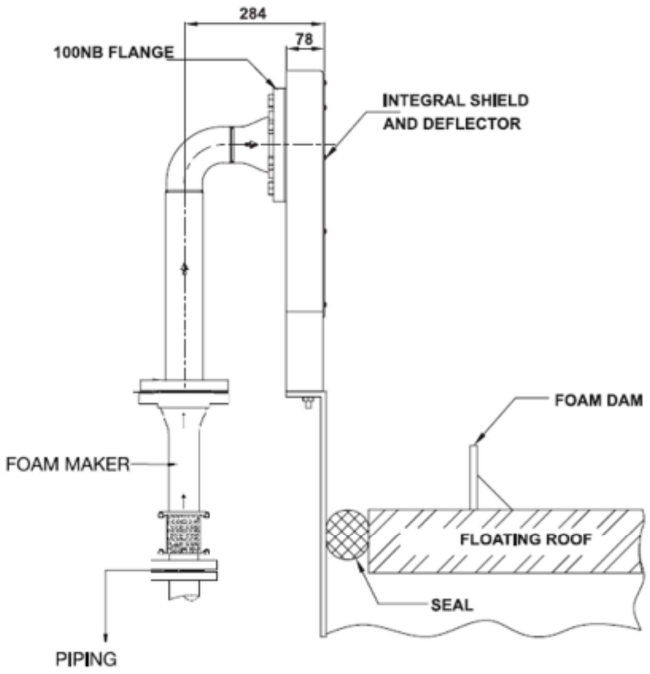
FOAM MAKER WITH RIM SEAL FOAM POURER-FLOW RATE IN GPM

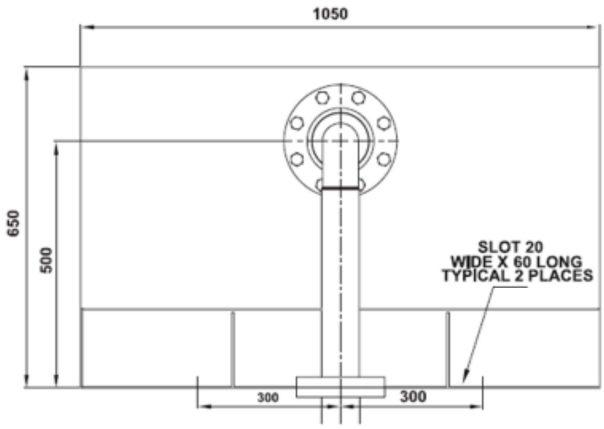
Foam Concentrate	Approval	Working Pressure	SD-RSP80/ SD- FRSPS80	Working Pressure	SD-RSP100/ SD- RSPS100
AFFF 3%	FM	73-100 psi	72-105	50-100 psi	56-170
AFFF 6%	FM	73-100 psi	73-105	73-100 psi	90-167
AR-AFFF 3/3	FM	50-100 psi	42-112	50-100 psi	57-207
AR-AFFF 3/6 3%	FM	50-100 psi	41-112	50-100 psi	58-204
AR-AFFF 3/6 6%	FM	50-100 psi	42-112	50-100 psi	58-205

**NOTES:*

- *A provision is to be made for pressure gauge mounting at inlet, which may be plugged after successful commissioning of the system.*
- *This provision will help to analyse the system while commissioning.*
- *Listings, Approvals and/or Certifications for foam concentrate and/or equipment are valid only when used with other foam concentrates or equipment in a manner as outlined in the applicable Listing, Approval and/or Certification*

TYPICAL INSTALLATION FOAM MAKER WITH RIM SEAL POURER





DIMENSIONS of FOAM MAKER in mm

In line with shield policy for continuous product development, shield has the right to change specifications without prior notice.

RIM SEAL POURER with INTEGRAL FOAM MAKER

MODEL: SD-RSP65, SD-RSPSS65

APPLICATION

Rim Seal Foam Pourer consists mainly of Foam Maker, a windshield and an integral deflector. The Rim Seal Foam Pourer is designed to deliver fully aspirated foam directly to the annular seal area of open top floating roof tank. The Foam system design guidelines generally used are in accordance with NFPA11 standard.

The Rim Seal Foam Pourer are defined by NFPA 11 as Type II discharge outlets for delivering the low expansion aspirated foam to the seal & used with the In-line Foam Inductor, Balance Pressure Foam Proportioning system, Bladder Tank system and Foam tenders.

SPECIFICATION

Rim Seal Foam Pourer is an air aspirating foam generator connected to deliver the aspirated foam gently into the tank seal area. Foam maker covers wide range of foam solution rates from 13.21 to 148 GPM at 10 to 100 psi inlet pressure.

Each rim seal foam pourer is supplied with an orifice plate, designed for the required flow at 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.

SYSTEM DESIGN REQUIREMENT

For essential requirement of appropriately designed foam pouring system for storage tanks refer NFPA 11/ OISD/ Governmental codes or ordinances wherever applicable.

TESTING & MAINTENANCE

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 on 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 Rim Seal Foam Pourer without discharging the foam into the tank seal area, the foam maker is to be rotated 180° 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.

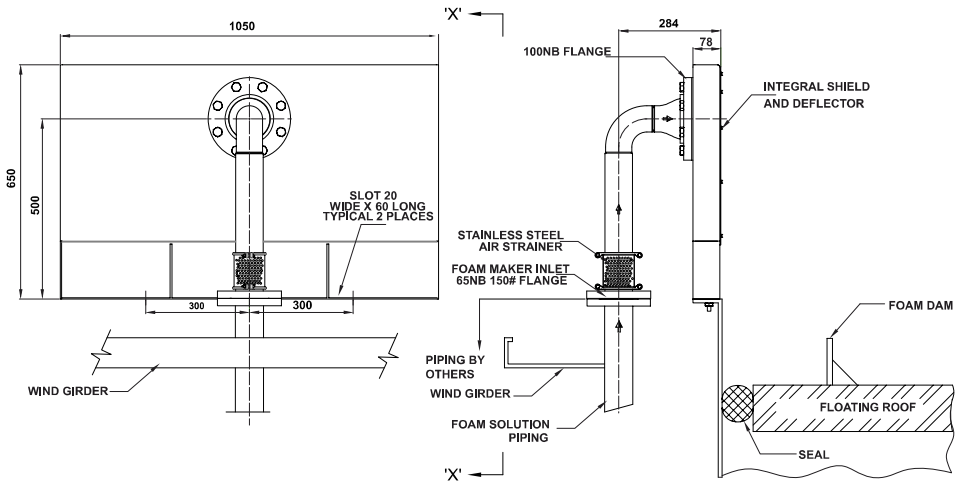
TECHNICAL DATA

Material	SD-RSP65-Carbon Steel SD-RSPS65-Stainless Steel
Inlet Size	65 NB INLET
Working Pressure	Min. 2.8kg/cm^2 (40 psi) Max. 7kg/cm^2 (100 psi)
Flange Connection	ANSI B16.5 Class 150#
Finish	Red RAL 3000
Ordering Information	• Model & Inlet Size • Inlet Pressure • Foam Solution Flow requirement • Foam concentrate used

DETAILS FOR 65NB FOAM MAKER WITH RIM SEAL POURER

FOAM CONCENTRATE TYPE	APPROVAL	WORKING PRESSURE	SD-RSP65/SD-RSPS65
AFFF 3%	UL	40-100 psi	13.21-145.30 GPM
AR-AFFF 3%	-	50-100 psi	14-148 GPM

TYPICAL INSTALLATION OF RIM SEAL POURER WITH INTEGRAL FOAM MAKER



VIEW X - X

All Dimensions are in MM (Approx.)

**NOTES:*

- *Strainer assembly consists of SS perforated sheet, SS strainer holder & Galvanized Nut/Bolt*
- *A provision is to be made for pressure gauge mounting at inlet of RSP, which may be plugged after successful commissioning of the system. This provision will help to analyze the system while commissioning.*
- *UL listing of equipment are valid only when used with foam concentrate in a manner as listed and as approval data.*
- *Refer to the individual foam UL listing for operating limitation with each foam concentrate and rim seal pourer*

FOAM MAKER with GOOSENECK POURER

MODEL: SD-FM50 WITH FP55, SD-FMSS50 WITH FP-S-55, SD-FM65 WITH FP55, SD-FMSS65 WITH FP-S-55

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 In-line 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 19.8 to 205 GPM at 40 to 100 psi 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.

TESTING & MAINTENANCE

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 180° 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.

TECHNICAL DATA

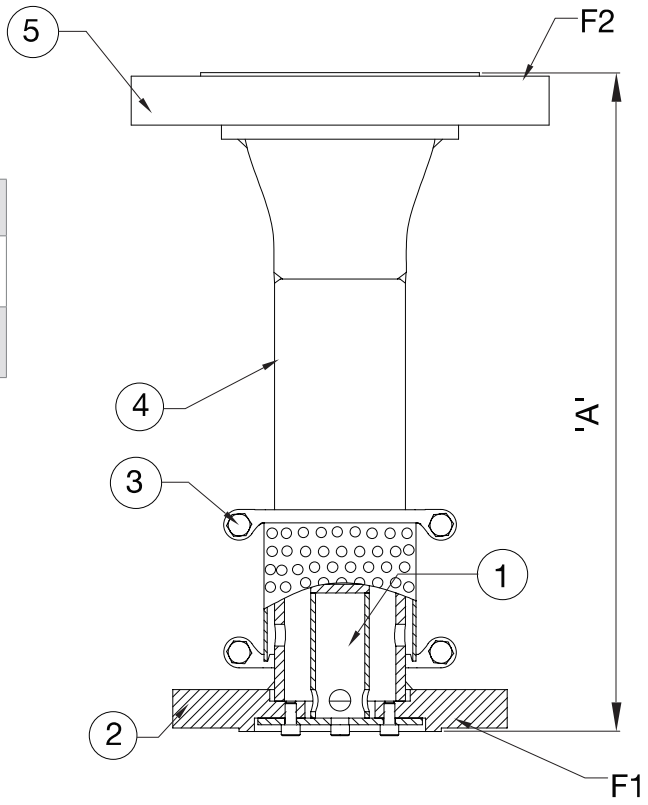
Material	SD-FM50, FP-55, SD-FM65-Carbon Steel SD-FMSS50, SD-FP-S-55, SD-FMSS65-Stainless Steel
Inlet Size	50 NB & 65 NB
Working Pressure	• Min. 2.8 kg/cm^2 (40 psi) • Max. 7 kg/cm^2 (100 psi)
Flange Connection	ANSI B16.5 Class 150#
Finish	Red RAL 3001
WEIGHT (without Pourer)	• 50 NB-9.9 kg • 65 NB-14.0 kg
Ordering Information	• Model & Inlet Size • Inlet Pressure • Foam Solution Flow requirement • Inlet and Outlet Flange • Foam concentrate used

DIMENSION OF FOAM MAKER IN MM

Model	Foam Maker Size	Inlet(F1)	Outlet(F2)	A
SD-FM50/ SD-FMSS50	50NB	50NB	80NB	300
SD-FM65/ SD-FMSS65	65NB	65NB	100NB	400

**NOTES:*

- *Strainer assembly consists of SS perforated sheet, SS strainer holder and galvanized nut bolt.*



PART LIST

Item No.	Description	Material Specification	
		SD-FM	SD-FMSS
1	Orifice Assembly	Stainless Steel	Stainless Steel
2	Inlet Flange	Carbon Steel	Stainless Steel
3	Strainer Assembly	Stainless Steel	Stainless Steel
4	Foam Making Chamber	Carbon Steel	Stainless Steel Pipe
5	Outlet Flange	Carbon Steel	Stainless Steel

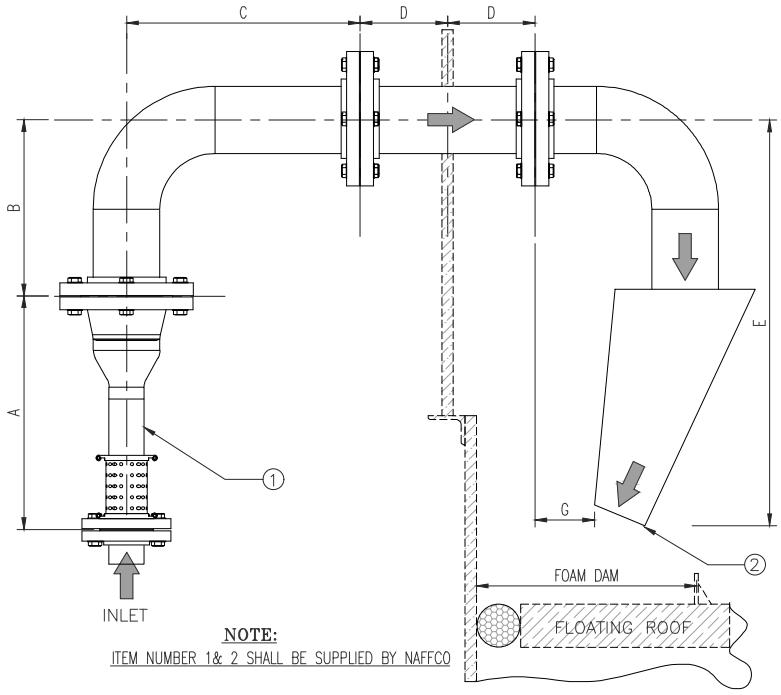
ASTM GRADES OF FOAM MAKER IN CARBON STEEL-FMA MATERIAL OF CONSTRUCTION

Sr. No	Name Of The Equipment	MOC	ASTM Grades & Equivalent Grades
1	Orifice Plate Assembly	SS 304	ASTM A240 TYPE 304
2	Inlet Flange	CS	ASTM A105,ANSI B16.5 150#
3	Strainer	SS 304	ASTM A240 TYPE 304
4	Foam Making Chamber	CS	ASTM A53
5	Reducer	CS	ASTM A234 WPB
6	Outlet Flange	CS	ASTM A105,ANSI B16.5 150#

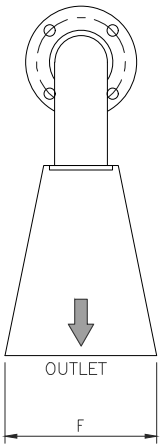
FOAM MAKER WITH GOOSENECK FLOW RATE IN GPM

Foam Concentrate	Approval	Working Pressure	SD-FM50 with FP-55/ SD-FMSS50 with FP-S-55	SD-FM65 with FP-55/ SD-FMSS65 with FP-S-55
AFFF3%	UL	40-100 psi	19.81-88.5	39.62-145.30
AFFF3%	UL	50-100 psi	35-106	51-167
AFFF6%	UL	50-100 psi	36-106	57-168
AR-AFFF3/3 3%	UL	50-100 psi	41-112	58-205
AR-AFFF3/6 3%	UL	50-100 psi	41-119	56-203
AR-AFFF3/6 6%	UL	50-100 psi	41-118	57-204

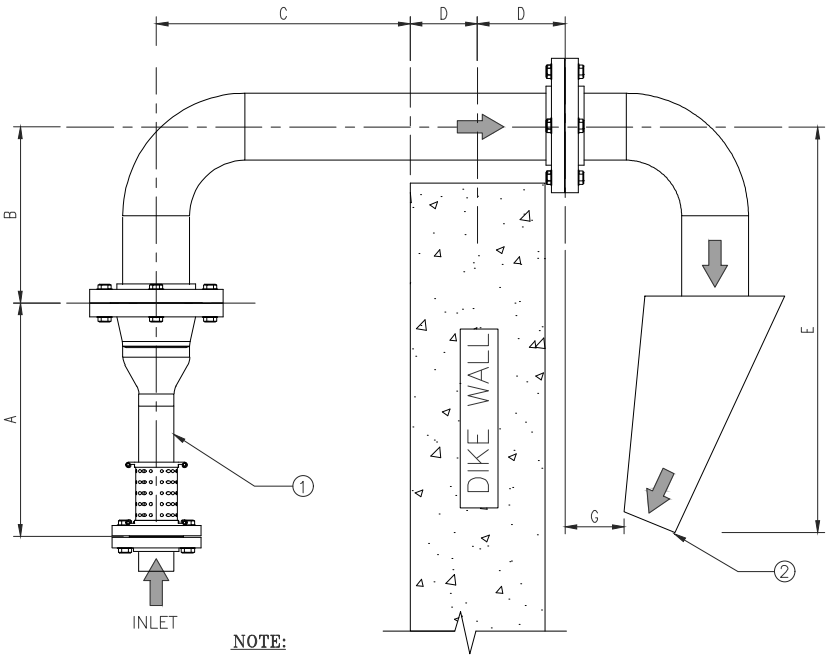
TYPICAL INSTALLATION OF FOAM MAKER WITH POURER FOR FLOATING ROOF PROTECTION



NOTE:
ITEM NUMBER 1& 2 SHALL BE SUPPLIED BY NAFFCO



TYPICAL INSTALLATION OF FOAM MAKER WITH POURER FOR DIKE PROTECTION



NOTE:
ITEM NUMBER 1& 2 SHALL BE SUPPLIED BY NAFFCO

PARTS LIST

ITEM.NO	ITEM	MATERIAL
01	FOAM MAKER	CARBON STEEL,STAINLESS STEEL
02	FOAM POURER	C.S. ASTM A36,STAINLESS STEEL

DIMENSIONAL DATA

FOAM MAKER			FOAM POURER		APPROXIMATE DIMENSIONS (IN MM)						
INLET/FOAM MAKER	INLET	OUTLET	MODEL	INLET	A	B	C	D	E	F	G
(FM50/NF-FMSS50)	50 NB	80 NB	FP-55/FP-S-55	80 NB	300	300	400	150	500	260	75
(FM65/NF-FMSS65)	65 NB	100 NB	FP-55/FP-S-55	100 NB	400	300	400	150	615	310	105

**NOTE: Above dimensions are general guidelines only. The system designer can adopt the dimensions as per the governing rules & ordinance having local jurisdiction. Foam pourer model SD-FP 55 is standard supply in Carbon steel material and optional in stainless steel. Foam maker can be install horizontal position also.*