

DELUGE VALVE MODEL - A (CAST IRON)



TECHNICAL DATA

MODEL	RPA 65 – Carbon Steel RPA-S 65 – Stainless Steel
SIZE	65 NB inlet
WORKING PRESSURE	Refer Table-I
FLANGE CONNECTION	ANSI B16.5 class 150#
FINISH	Red RAL 3001
APPROVAL	UL Listed & FM Approved Refer Table-I
ORDERING INFORMATION	a) Model b) Flow & Pressure at inlet of each Foam Pourer c) Foam concentrate used

APPLICATION

HD Rim Seal Foam Pourer – RPA consists mainly of Foam Maker, a windshield and an integral deflector. The RPA 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 Inline 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 pourer 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 50 to 550 litres per minute at 2.8 to 7 kg/sq.cm 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 NFPA-11/ OISD/ TAC/ Governmental codes or ordinances wherever applicable.

*Refer to UL/FM directory for specific foam concentrate working pressure.

INSTALLATION, TESTING & MAINTENANCE

Carefully unpack Rim Seal Pourer. While unpacking and installation it is to be handled with care and shocks to be avoided. Check visually for any damages. While installing, ensure that the Rim Seal Pourer is not under stress due to any misalignments in installation or variations of system piping. Ensure that the strainer assembly is clear from any blockages or damages. If strainer assembly is either blocked or damaged, it will adversely affect the performance of the equipment.

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 RPA without discharging the foam into the tank seal area, the RPA is to be rotated 180° away from the wind shield. The air screen is to be inspected periodically for obstruction of air inlet holes.



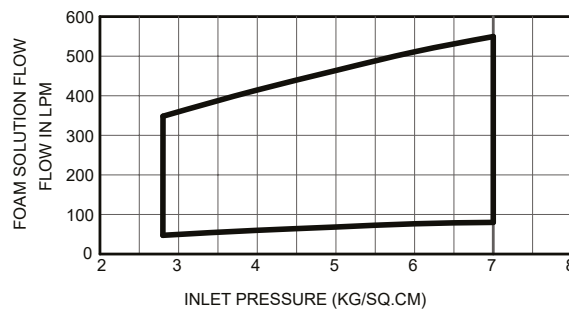
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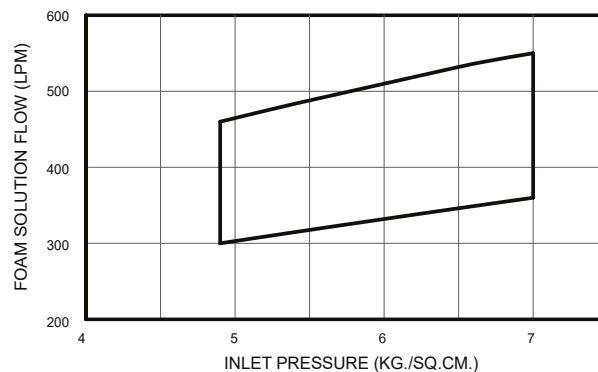
If any obstruction is noticed, remove the same and flush, if necessary. The RPA outlet and pourer, if exposed to atmospheric condition, should be periodically inspected for nest and other obstructions.

The obstruction, if noticed, must be removed and flushed to clear the discharge path. The owner is responsible for testing, inspection and maintenance of the Rim Seal Foam Pourer.

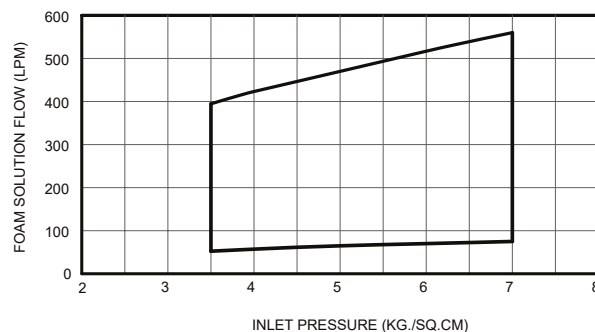
PRESSURE VS FLOW PERFORMANCE CHARACTERISTIC UL LISTED WITH FOAM CONCENTRATE AFFF 3%



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



PRESSURE VS FLOW PERFORMANCE CHARACTERISTIC FM APPROVED WITH FOAM CONCENTRATE HD AR-AFFF 3X3%



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TABLE I - Selection of HD RIM SEAL FOAM POURER

FOAM CONCENTRATE	AFFF 3%	AFFF 3%	AR-AFFF 3X3%
*APPROVALS	UL LISTED	FM APPROVED	
WORKING PRESSURE	2.8 To 7 kg/sq.cm	4.9 To 7 kg/sq.cm	3.5 To 7 kg/sq.cm
K-FACTOR	30 To 208	135.5 To 208	29 To 211

*Refer to UL/FM directory for specific foam concentrate, working pressure and flow.

To calculate the K Factor of Rim Seal Pourer, use the following formula:

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

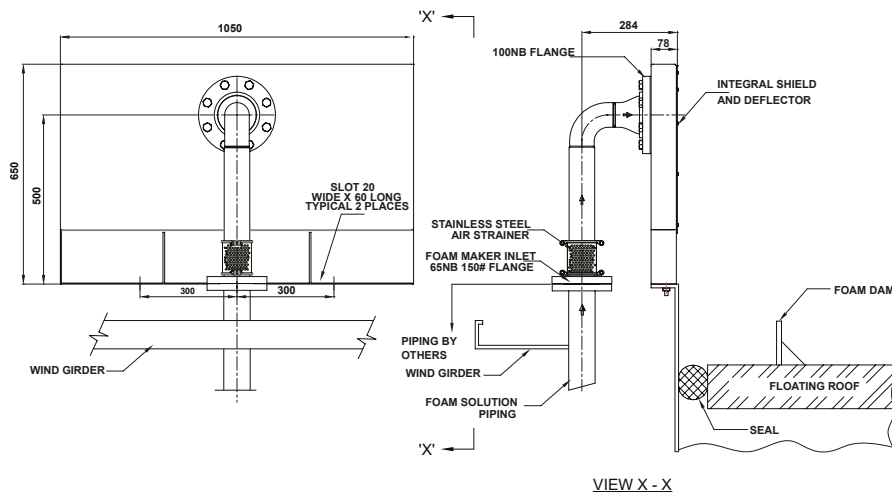
Where,

Q = Total solution flow in litres per minute.

K = Constant for Foam Chamber

P = Inlet pressure in kg/sq.cm.

TYPICAL INSTALLATION OF RIM SEAL FOAM POURER MODEL: RPA 65 & RPA-S 65



All Dimensions are in MM (Approx.)

NOTE:

1. STRAINER ASSEMBLY CONSISTS OF SS PERFORATED SHEET, SS STRAINER HOLDER & GALVANISED NUT/BOLT.
2. A PROVISION IS TO BE MADE FOR PRESSURE GAUGE MOUNTING AT INLET OF RPA, WHICH MAY BE PLUGGED AFTER SUCCESSFUL COMMISSIONING OF THE SYSTEM. THIS PROVISION WILL HELP TO ANALYSE THE SYSTEM WHILE COMMISSIONING.
3. FM APPROVAL AND UL LISTING OF EQUIPMENT ARE VALID ONLY WHEN USED WITH HD FOAM CONCENTRATE IN A MANNER AS LISTED AND AS IN APPROVAL DATA.
4. FM APPROVAL IS VALID ONLY WHEN TOTAL SYSTEM IS HAVING APPROVED PRODUCTS.
5. REFER TO THE INDIVIDUAL FOAM UL LISTING AND FM APPROVAL FOR OPERATING LIMITATION WITH EACH FOAM CONCENTRATE AND RIM SEAL FOAM POURER.

