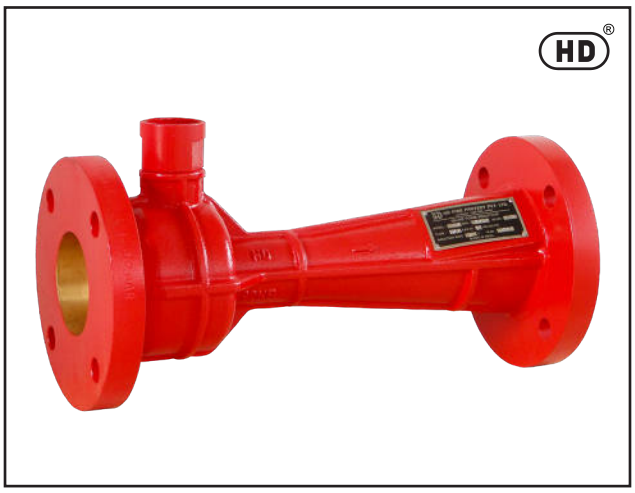
INLINE FOAM INDUCTOR

HD FIRE PROTECT PVT. LTD.

TECHNICAL DATA

MODEL	IG - Bronze material IS - Stainless Steel material
OPERATING PRESSURE	6.5 to 12 bar (93 - 175 psi)
FACTORY HYDROSTATIC TEST PRESSURE	25 bar (365 psi)
SUITABLE FOAM	3% AFFF or 3% x 3% AR-AFFF
MAXIMUM BACK PRESSURE	65% of Inlet Pressure
FLANGE CONNECTION	ANSI B16.5 Class 150# FF Standard supply. (Contact HD Sales for other options.)
NOMINAL SIZE	65, 80, 100 & 150 mm
FINISH	Red RAL 3001
ORDERING INFORMATION	1) Inductor Inlet Pressure 2) Foam solution flow required 3) Maximum suction lift 4) Flange connection



DESCRIPTION

Inline Foam Inductor is used to induct the foam liquid concentrate in water stream to supply proportioned solution of the liquid concentrate and water, to the foam producing equipment. The inductors are designed primarily for use in the fixed foam installation to provide a simple and reliable method of proportioning in constant flow applications. Each Inductor is designed for a pre-determined water pressure to give the correct proportioning at that pressure and discharge rate. The increase or decrease of the inlet pressure will result in an increase or decrease in the flow rate, which in turn will change the proportioning.

SPECIFICATION

Inductors are available in two different materials of construction, a wide range of flow from 75 to 3500 litres per minute at inlet pressure between 6.4 to 12 bar as shown in the graph.

Each Inductor is accurately calibrated at the factory to match the flow, pressure and the induction requirement of the system. This enables to ensure and achieve the correct performance.

SYSTEM DESIGN DETAILS

The Inductor must be selected and installed in a hydraulically calculated system considering the limitation of permissible back pressure. The maximum back pressure allowed is expressed as 65% of pressure at the inlet of the Inductor.

The optimum performance of Inline Inductor is with pressure above 8 Bar (115 psi).

In the fixed foam system installation the inductor can be mounted above the concentrate storage tank. The maximum height of the Inductor suction pipe above the bottom of the storage tank to the inductor centre should not exceed 1.75 meters, with AFFF & 0.9 meter for AR-AFFF 3/3% foam concentrate. A minimum of 600mm of unobstructed straight pipe line should be provided at the inlet and outlet of the inductor. The inductor must be installed in a system having minimum of 6.5 bar inlet pressure at inlet of inductor.

The diameter of water supply pipe and water foam solution pipe should not be less than that of the diameter of the inductor. A shut-off valve provided in the induction line must be full bore on-off valve.

The non-return valve if fitted in the foam induction pipe line, then it must be supplied or recommended by HD, so that the induction rate is properly calibrated in factory before supply. For best performance the inlet pressure at the inline inductor should be 6.8 bar or higher.

APPLICATION

Inline Foam Inductors are quite suitable for application utilizing single fixed discharge device. The Inline Inductors are not suitable for variable flow or pressure applications. The Inline Inductors are not suitable for Sprinkler system or system utilizing multiple small orifice discharge devices, which may result in increased back pressure due to blockage of discharge device.

INSTALLATION AND MAINTENANCE

Inductor must be supported firmly to prevent strain on the inductor itself.

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 codes or in accordance to the standard 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 back in service. Also inform the local security guard and control alarm station, so that a false alarm will not be signalled.

SELECTION OF HD INLINE FOAM INDUCTOR SIZE

Size of Inductor	Inductor K-Factor range
65 NB	29.4 TO 170.00
80 NB	151.2 TO 340.00
100 NB	302.4 TO 680.00
150 NB	604.8 TO 1030.00

For selecting Inductor size, following formula to be used:

$Q = K \sqrt{P}$

Q = Total solution flow rate in litres per minute

K = Inductor constant

P = Inlet pressure in kg/sq.cm

Example: To find K-Factor

Q = 200 lpm

P = 8.0 kg/sq.cm

$K = 200 \div \sqrt{8}$

K = 70.71

This K=70.71 falls within the range of Inductor with 65 NB size. Hence 65 NB Inductor should be selected.

NOTES

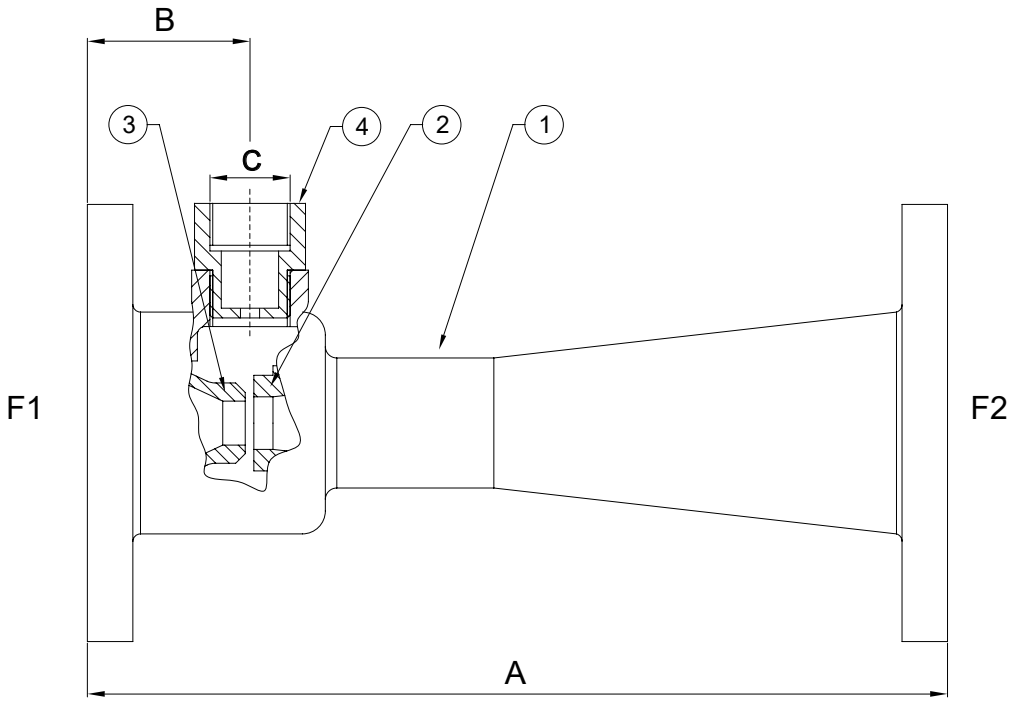
1) It is recommended to select next higher size of inductor when the K-factor is very close to the higher range of model.

2) A pressuge gauge mounting socket at inlet and outlet of Inductor must be provided, which will help to analize the system during commissioning. The socket can be plugged in once the system has been commissioned successfully.

3) The maximum permissible back pressure is 65% of inlet pressure. The system designer should consider and design the system with 62% or less than back pressure as safe design.

4) Inductor must be adequately supported so that no strain is imposed on the inductor body.

INLINE FOAM INDUCTOR



DIMENSIONS in millimeters (Approximate)

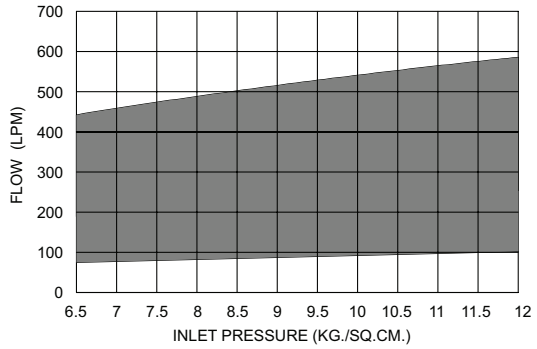
INDUCTOR SIZE	A	B	C	FLANGE SIZE F1 / F2
65 NB	350	75	3/4" BSP	65 NB
80 NB	400	80	1" BSP	80 NB
100 NB	450	85	1-1/4" BSP	100 NB
150 NB	500	90	1-1/4" BSP	150 NB

MATERIAL OF CONSTRUCTION

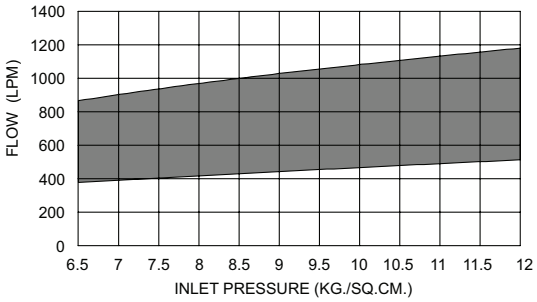
SR. NO.	DESCRIPTION	MODEL	
		IG	IS
1	HOUSING	BRONZE IS:318, LTB-II	SS 304 / 316 ASTM A351-CF8M
2	DIFFUSER	BRONZE IS:318, LTB-II	SS 304 / 316 ASTM A351-CF8M
3	NOZZLE	BRONZE IS:318, LTB-II	SS 304 / 316 ASTM A351-CF8M
4	CONNECTOR WITH ORIFICE	SS 304 / 316	SS 304 / 316 ASTM A351-CF8M

Standard supply is CF8, optional is CF8M

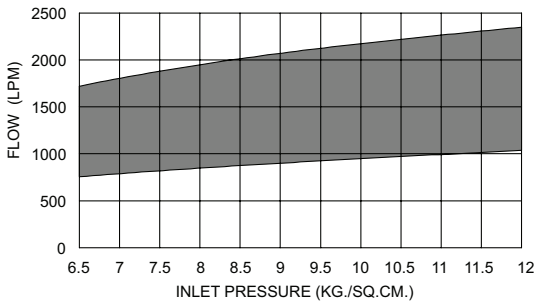
PRESSURE VS FLOW-PERFORMANCE CHARACTERISTICS



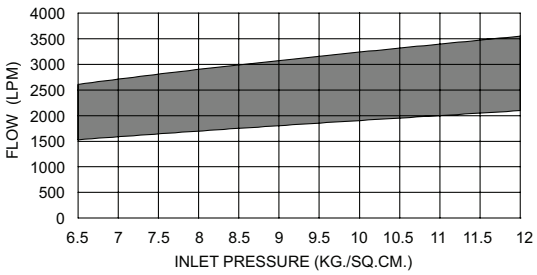
SIZE 65NB



SIZE 80NB



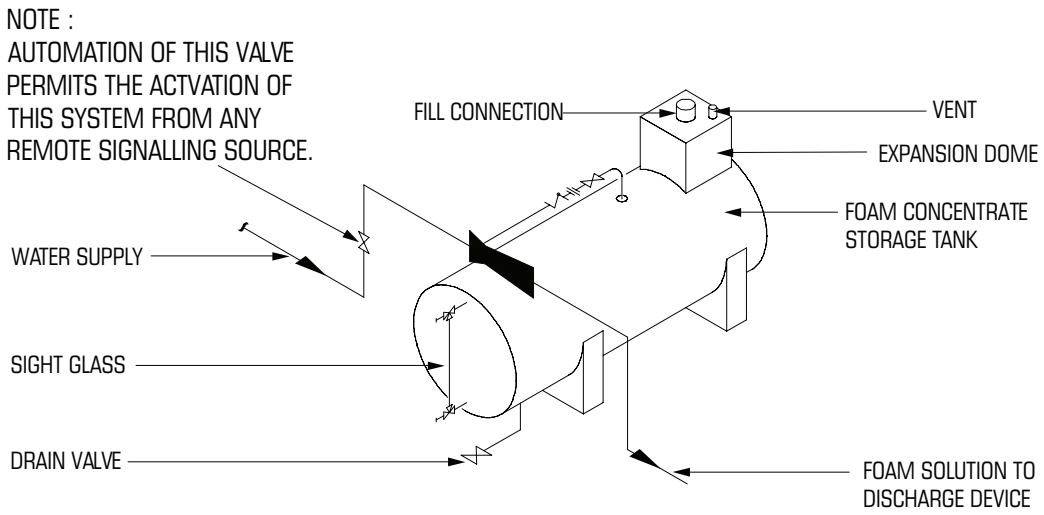
SIZE 100NB



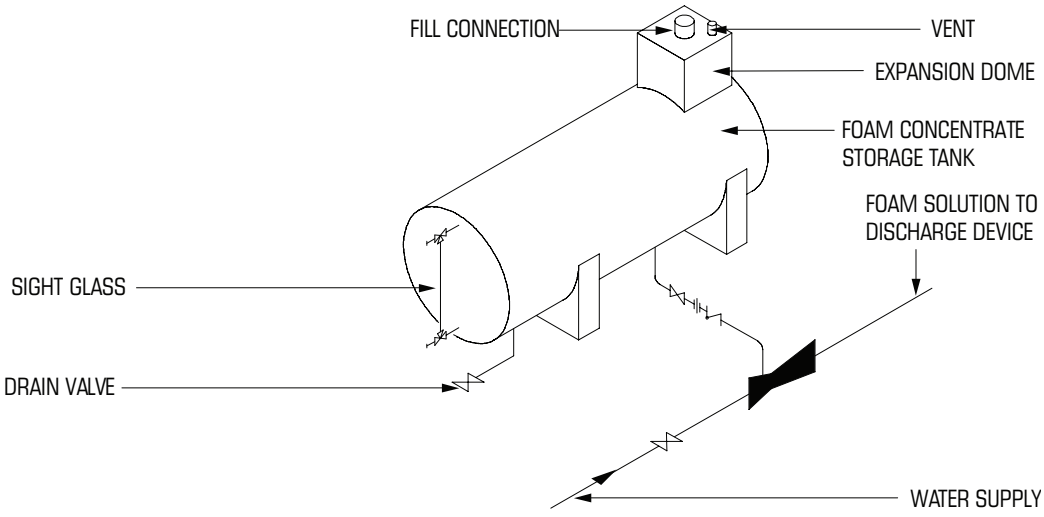
SIZE 150NB

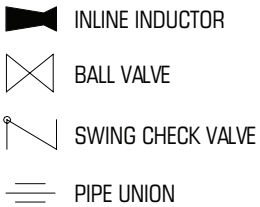
TYPICAL MOUNTING ARRANGEMENT OF INLINE FOAM INDUCTION SYSTEM

WITH INDUCTOR MOUNTING ON TOP OF THE TANK



WITH INDUCTOR MOUNTING BELOW THE TANK





NOTE :
USE MINIMUM OF 600mm.
STRAIGHT UNOBSTRUCTED PIPE AT INLET AND OUTLET OF EACH INLINE INDUCTOR.

LIMITED WARRANTY

HD FIRE PROTECT PVT. LTD. hereby referred to as HD FIRE warrants to the original purchaser of the fire protection products manufactured by HD FIRE and to any other person to whom such equipment is transferred, that such products will be free from defect in material and workmanship under normal use and care, for two (2) years from the date of shipment by HD FIRE. Products or Components supplied or used by HD FIRE, but manufactured by others, are warranted only to the extent of the manufacturer's warranty. No warranty is given for product or components which have been subject to misuse, improper installation, corrosion, unauthorized repair, alteration or un-maintained. HD FIRE shall not be responsible for system design errors or improper installation or inaccurate or incomplete information supplied by buyer or buyer's representatives. HD FIRE will repair or replace defective material free of charge, which is returned to our factory, transportation charge prepaid, provided after our inspection the material is found to have been defective at the time of initial shipment from our works. HD FIRE shall not be liable for any incidental or consequential loss, damage or expense arising directly or indirectly from the use of the product including damages for injury to person, damages to property and penalties resulting from any products and components manufactured by HD FIRE. HD FIRE shall not be liable for any damages or labour charges or expense in making repair or adjustment to the product. HD FIRE shall not be liable for any damages or charges sustained in the adaptation or use of its engineering data & services. In no event shall HD Fire's product liability exceed an amount equal to the sale price. The foregoing warranty is exclusive and in lieu of all other warranties and representation whether expressed, implied, oral or written, including but not limited to, any implied warranties or merchantability or fitness for a particular purpose. All such other warranties and representations are hereby cancelled.

NOTICE :

The equipment presented in this bulletin is to be installed in accordance with the latest publication standards of NFPA or other similar organisations and also with the provision of government codes or ordinances wherever applicable.

The information provided by us is to the best of our knowledge and belief, and consist of general guidelines only. Site handling and installation control is not in our scope. Hence we give no guarantee for result and take no liability for damages, loss or penalties whatsoever, resulting from our suggestion, information, recommendation or damages due to our product.

Product development is a continuous programme of HD FIRE PROTECT PVT. LTD. and hence the right to modify any specification without prior notice is reserved with the company.

HD FIRE PROTECT PVT. LTD.
Protecting What Matters Most to You

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