

SKID MOUNTED BALANCE PRESSURE FOAM PROPORTIONING SYSTEM



APPLICATION

Balance Pressure pump skid-proportioning system accurately controls the flow of foam concentrate in to the water stream. The system automatically controls the foam concentrate over a wide range of flow and pressure, without manual adjustment.

The system is typically used in the fixed foam system and specialised mobile equipments to protect tank farm, offshore platform, air craft hanger, marine dock, loading rack and in many other applications and in all types of hazard.

SPECIFICATION

The basic system utilizes the principle of operation based on the use of a modified venturi device called "Ratio Controller". As the water flows through a nozzle at the inlet of ratio controller, a low-pressure area is created between the inlet nozzle and a down stream section called diffuser. This low-pressure area causes foam concentrate to flow through a metering orifice at the concentrate inlet and into the low-pressure area. As the system demand varies, the flow through the ratio controller increase or decreases, which in turn varies the pressure at low pressure area of ratio controller, creating a corresponding pressure drop across the foam concentrate metering orifice. This corresponding change of pressure results in a foam concentrate flow, which is proportional to the water flow through the ratio controller.

The pressure sensing line from the ratio controller inlet for water pressure, and from the concentrate supply side above the metering orifice are connected to a bypass valve. This valve automatically adjusts the concentrate pressure corresponding to the water pressure by re-circulating the concentrate in return line to the concentrate storage tank. Manually the pressure can also be balanced by using manual regulating globe valve to read equal pressure of the water gauge and the foam concentrate gauge (or through a duplex gauge).

The system is available as a skid mounted unit, in different flow range, varying from 150 to 18000 LPM. Each skid consist of a positive displacement pump, a pump drive, an electric control, a bypass valve, a manual regulating valve, a ratio controller, interconnecting piping in stainless steel with various controlling valves, check valve, flush-in and flush-out valve. The system is also available for operation in auto mode.

INSPECTION AND MAINTENANCE

A qualified and trained person must commission the system. After few initial successful tests, an authorised person must be trained to perform the inspection and testing of the system. It is recommended to carry out physical inspection of the



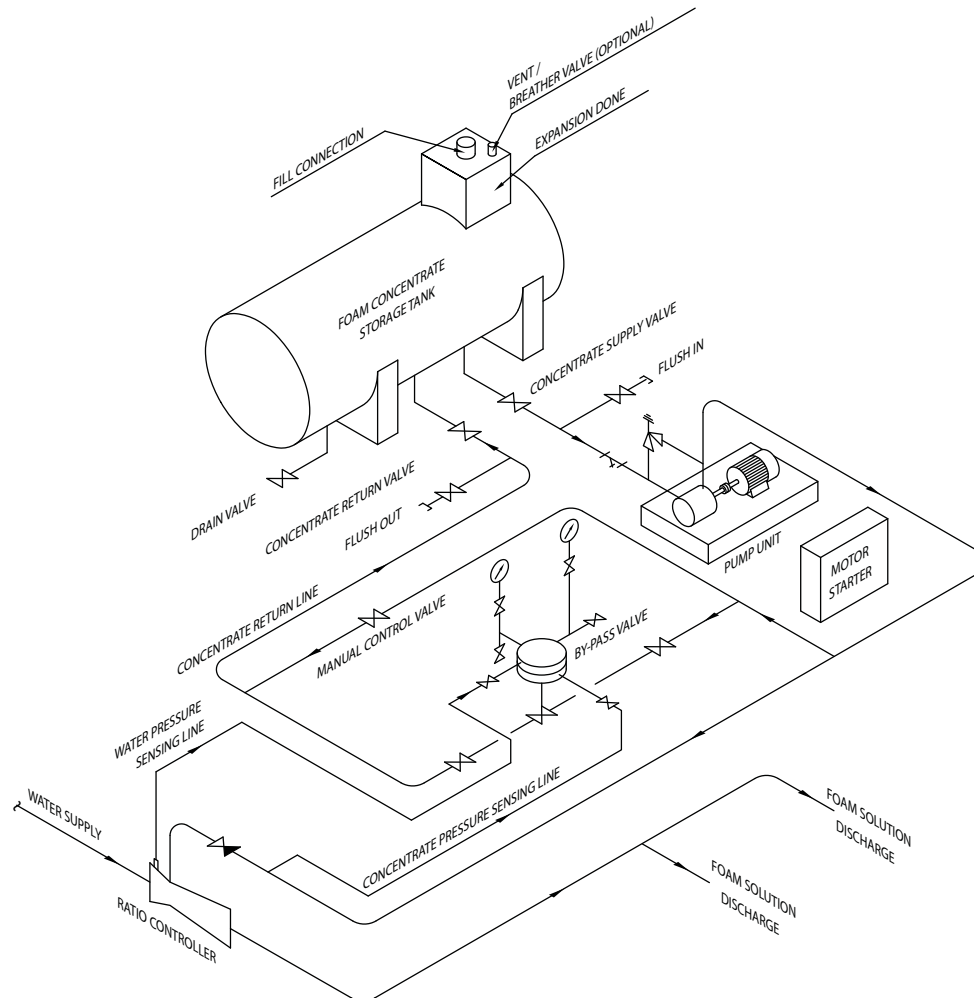
system at least once in a week. The inspector should verify that all the valves are in their proper position as per the system requirement and there is no damage to any component.

Do not turn off the system or any valve to 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 guards and control alarm station, so that a false alarm will not be signalled. The system must be periodically checked for its normal operating condition. All the valves must be verified for its normal operating condition. The electrical controls must also be verified.

The system must be operated periodically to verify its normal operating condition as per the instruction for testing provided with the equipment.

The entire system must be fully tested at least once in a year in accordance with the applicable NFPA codes, or in accordance to the guidelines of the organisation having local jurisdiction.

TYPICAL INSTALLATION OF BALANCE PRESSURE FOAM PROPORTIONING SYSTEM



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.



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D-6/2, ROAD NO. 34, WAGLE INDUSTRIAL ESTATE, THANE 400 604, INDIA.
 • TEL: + (91) 22 2158 2600 • FAX: +(91) 22 2158 2602
 • EMAIL: info@hdfire.com • WEB: www.hdfire.com