

Low Expansion Foam Systems

Foam Concentrates. Used as a component of foam systems. Concentrates are only Approved for use with the specific proportioning, bladder tank, and discharge devices listed below and the sprinklers listed in the Foam Water Sprinkler section of the Approval Guide.

Use of a concentrate with other devices or outside the listed ranges may result in solutions too lean or rich or may produce foam unable to provide the required extinguishing or sealing performance.

Concentrates below are compatible with both fresh water and sea water.

					For Use With									
Product	Company	Listing Country	Type of Equipment	Concentrate										
HD AFFF 3F-C6	HD Fire	India	Concentrate	HD AFFF 3F-C6	3%	For use with HD Fire ratio controllers and bladder tanks specifically tested with this concentrate. Or Water Motor-Powered Positive Displacement Pumps within acceptable viscosity range only. May be used in a pre-mixed solution. For use with HD Fire discharge devices evaluated with the specific concentrate only.	Hydrocarbons							
HD AR- AFFF 3x3- C6	HD Fire	India	Concentrate	HD AR-AFFF 3x3-C6	3%	For use with HD Fire ratio controllers and bladder tanks specifically tested with this concentrate. Or Water Motor-Powered Positive Displacement Pumps within acceptable viscosity range only. May be used in a pre-mixed solution. For use with HD Fire discharge devices evaluated with the specific concentrate only.	Hydrocarbons IPA Ethanol							

Bladder tanks. For use with HD Fire Protect foam concentrates, proportioners, discharge devices, and foam water sprinklers within the specifications identified in the table below.

							For Use W	ith						
			Type of					Hyd	lraulic Concen	trate Control	Valves		Maximum	
Product	Company	Listing Country	Equipmen t	Concentrate Name	te Percent	Hazards	Model Number	Size, inches (NB)	Minimum Actuator Operating Pressure	Maximum Operating Pressure	Туре	Operating Pressure	Sizes	
Vertical Bladder Tank	HD Fire Protect Pvt. Ltd.	India	Bladder Tank	HD AFFF 3F-C6 HD AR-AFFF 3x3-C6	3%	Vertical Vertical	Hydrocarbon Hydrocarbon, IPA, Ethanol	Model CV	1 (25NB) 1.5 (40NB) 2 (50NB)	30 PSI (2.1 Bar)	175 PSI (12.1 Bar)	ASME Section VIII, Division 1	175 PSI (12 Bar)	36 - 2000 USG (140 - 7500 Liters)
Horizontal Bladder Tank	HD Fire Protect Pvt. Ltd.	India	Bladder Tank	HD AFFF 3F-C6 HD AR-AFFF 3x3-C6	3%	Horizontal Horizontal	Hydrocarbon Hydrocarbon, IPA, Ethanol	Model CV	1 (25NB) 1.5 (40NB) 2 (50NB)	30 PSI (2.1 Bar)	175 PSI (12.1 Bar)	ASME Section VIII, Division 1	175 PSI (12 Bar)	36 - 4000 USG (140 - 15000 Liters)



Proportioners. For use with HD Fire Protect foam concentrates and bladder tank systems (where applicable) within the specifications identified in the table below.

					Approved	Flow	Appr							
Product	Company	Listing	Type of Equipment	Concentrate	Concentr		Approved Fuel	Range	110W	Press		Connecti	Finish	Sizes
	Company	Country		Name	Percent in Water	Configurations	Hazards	(gal/min)	(L/min)		(bar)	on		Jizes
Model RCW-B, RCW-S, RCF-B, and RCF-S Ratio	HD Fire Protect	India	Ratio	HD AFFF 3F-C6	3%	For use with HD Fire Protect bladder tanks and discharge devices as appear in the FM Approval Guide only.	Hydrocarbons	27 - 420	102 - 1590 _{30 -}	30 -	2-12	Wafer (RCW)	Bronze (B) or Stainless	2.5" (65
Controllers	Pvt. Ltd.	Illula	Controller	HD AR-AFFF 3x3-C6	3%		Hydrocarbons, IPA, Ethanol	132 - 272	500 - 1030	175	2-12	Flanged (RCF)	Steel (S)	NB)
Model RCW-B, RCW-S, RCF-B, and RCF-S Ratio Controllers	HD Fire		Ratio			For use with HD Fire Protect bladder tanks and discharge devices as appear in the FM Approval Guide only.	Hydrocarbons		290 - 2990	30 -		Wafer (RCW)	Bronze (B) or Stainless Steel (S)	3"
	Protect Pvt. Ltd.	India	Controller	HD AFFF 3F-C6	3%			77 - 790		175	2-12	Flanged (RCF)		(80 NB)
Model RCW-B, RCW-S,	HD Fire		Ratio Controller	HD AFFF 3F-C6	3%	For use with HD Fire Protect bladder tanks and discharge devices as appear in the FM Approval Guide only.	Hydrocarbons	159 - 1598	600 - 6050	30 -		Wafer (RCW)	Bronze (B) or Stainless Steel (S)	4"
RCF-B, and RCF-S Ratio Controllers	Protect Pvt. Ltd.	India		HD AR-AFFF 3x3-C6	3%		Hydrocarbons, IPA, Ethanol	478 - 1622	1810 - 6140	175	2-12	Flanged (RCF)		(100 NB)
Model RCW-B, RCW-S,	HD Fire		Ratio	HD AFFF 3F-C6	3%	For use with HD Fire Protect bladder tanks and discharge devices as appear in the FM Approval Guide only.	Hydrocarbons	317 - 3027	1200 - 11460	30 -	2-12	Wafer (RCW)	Bronze (B) or Stainless Steel (S)	6"
RCF-B, and RCF-S Ratio Controllers	Protect Pvt. Ltd.	India	Controller	HD AR-AFFF 3x3-C6	3%		Hydrocarbons, IPA, Ethanol	1321 - 3249	5000 - 12300	175		Flanged (RCF)		(150 NB)
Model RCW-BM, RCW-	HD Fire		Ratio	HD AR-AFFF		For use with HD Fire Protect bladder tanks and discharge	Hydrocarbons,		165 -	30 -		Wafer (RCW)	Bronze (B)	2.5"
SM, RCF-BM, and RCF- SM Ratio Controllers	Protect Pvt. Ltd.		Controller	3x3-C6	3%	devices as appear in the FM Approval Guide only.	IPA, Ethanol	44 - 139	528	175	2-12	Flanged (RCF)		(65 NB)



SM, RCF-BM, and RCF-	HD Fire Protect	India	Ratio Controller	HD AR-AFFF 3x3-C6	3%	For use with HD Fire Protect bladder tanks and discharge devices as appear in the FM Approval Guide only.	Hydrocarbons, IPA, Ethanol	217 - 814	820 - 3080	30 - 175	2-12	Wafer (RCW)	or Stainless	3" (80
	Pvt. Ltd.			3,3 60					3000	173		Flanged (RCF)		NB)
Model IE225-7B, IE225-7S, IE225-12S	Protect	India	Inline	HD AFFF 3F-C6	3%	For use with HD Fire Protect bladder tanks and ratio controllers as appear in the FM Approval Guide only.	Hydrocarbons	59 or 119	225 or 450	100, or 175	7, or 12	Hose Coupling	or Stainless	2.5" (65
Portable Inline Inductors	Pvt. Ltd.		Inductor	HD AR-AFFF 3x3-C6	3%		Hydrocarbons, IPA, Ethanol	59*	225*	100 or 175	7 or 12			NB)
Model IE450-7B, IE450-7S, IE450-12S Portable Inline Inductors	HD Fire	India	Inline Inductor	HD AFFF 3F-C6	3%	bladder tanks and ratio controllers as appear in the FM Approval Guide only.	Hydrocarbons	119	450		7, or 12	Hose	Bronze (B)	2.5"
				HD AR-AFFF 3x3-C6	3%		Hydrocarbons, IPA, Ethanol	119	450	175*	12*	Coupling 12*	Steel (S)	NB)

Note: Maximum static pressure is 200 PSI (13.8 Bar).

^{*}Model IE450-7B and IE450-7S is not FM Approved for use with HD AR-AFFF 3x3-C6.



Topside discharge devices. For use with HD Fire Protect foam concentrates and bladder tank proportioning systems within the specifications identified in the table below.

Product			Type of Equipment	For Use With					Approved Flow Range		ed e Range		nt:	
	Company	Listing Country		Concentrate Name	Concent rate Percent in Water	Configurations	Approved Fuel Hazards	(gal/mi n)	(L/min)	(psi)	(bar)	Connecti on	' Finish	Sizes
Model H	HD Fire		Foam Chamber	HD AFFF 3F-C6	3%	ratio controllers as appear in the FM	Hydrocarbons	41 - 140	155 - 531	40 - 100	2.8 - 7			2.5"
FCA 65 and FCA-S 65 Foam Chambers	Protect Pvt. Ltd.	India		HD AR-AFFF 3x3- C6	3%		Hydrocarbons, IPA, Ethanol		158 - 575	50 - 100	3.5 - 7	Flanged		(65 NB)
Model	HD Fire Protect Pvt. Ltd.		Foam	HD AFFF 3F-C6	3%	Protect bladder tanks and ratio controllers as appear in the FM	Hydrocarbons		308 - 1135	40 - 100	2.8 - 7	- Flanged	Carbon Steel or Stainless Steel (S)	3"
FCA 80 and FCA-S 80 Foam Chambers		India	Chamber	HD AR-AFFF 3x3- C6	3%		Hydrocarbons, IPA, Ethanol	1	314 - 1048	50 - 100	3.5 - 7	langed		(80 NB)
Model FCA 100 and FCA-S 100	HD Fire Protect Pvt.	India	Foam	HD AFFF 3F-C6	3%	For use with HD Fire Protect bladder tanks and ratio controllers as	Hydrocarbons	1 -	620 - 2540	40 - 100	2.8 - 7	Flanged	Carbon Steel	4" (100
Foam Chambers	Ltd.		Chamber	HD AR-AFFF 3x3- C6	3%	annear in the FM	Hydrocarbons, IPA, Ethanol		600 - 2520	50 - 100	3.5 - 7	a langeu	Steel (S)	NB)
FCA 150 and FCA-S 150	HD Fire			HD AFFF 3F-C6	3%	For use with HD Fire Protect bladder tanks and ratio controllers as appear in the FM Approval Guide only.	Hydrocarbons	1	1480 - 3300	40 - 100	2.8 - 7			6"
		India	Foam Chamber	HD AR-AFFF 3x3- C6	3%		Hydrocarbons, IPA, Ethanol		1465 - 3300	50 - 100	3.5 - 7	Flanged		(150 NB)



Model FMA 50 and FMA-S 50 Foam Maker	HD Fire Protect Pvt.	India	Foam Maker	HD AFFF 3F-C6	3%	Protect bladder tanks and ratio controllers as appear in the FM Approval Guide only.	Hydrocarbons	25 - 92	95 - 350	40 - 100	2.8 - 7	Flanged	or Stainless	2" (50
	Ltd.		Widker	HD AR-AFFF 3x3- C6	3%		Hydrocarbons, IPA, Ethanol	60 - 96	227 - 365	75 - 100	5.2 - 7			NB)
Model HD Fire FMA 65 and FMA-S 65 Protect Pvt Foam Maker Ltd.	HD Fire			HD AFFF 3F-C6	3%	For use with HD Fire Protect bladder tanks and	Hydrocarbons	92 - 147	349 - 557	70 - 100	4.9 - 7		Carbon Steel	2.5"
	Protect Pvt. Ltd.		Foam Maker	HD AR-AFFF 3x3- C6	3% appear in the rivi		Hydrocarbons, IPA, Ethanol	41 - 148	155 - 560	50 - 100	3.5 - 7	Flanged	or Stainless Steel (S)	(65 NB)
Model	HD Fire		Rimseal Pourer	HD AFFF 3F-C6	3%	For use with HD Fire Protect bladder tanks and	Hydrocarbons	77 - 147	293 - 558	70 - 100	4.9 - 7		Carbon Steel	2.5"
RPA 65 and RPA-S 65 Rimseal Foam Pourers	Protect Pvt. Ltd.	Pvt. India		HD AR-AFFF 3x3- C6	ratio controllers as appear in the FM Approval Guide only. Hydrocarbons, IPA, 14 - 54 - 50 - 100 3.5 - 7	3.5 - 7		or Stainless Steel (S)	(65 NB)					
Model BP225-4.2, BP225-7, BP450-4.2 and BP450-7 Foam Branch Pipes	HD Fire Protect Pvt. Ltd.	India	Branch Pipe	HD AFFF 3F-C6	For use with HD Fire Protect bladder tanks and ratio controllers, or in-line inductors, as appear in		59 or 119	225 or 450	60, or 100	4.2, 7	Hose Coupling	Aluminium	2.5" (65	
				HD AR-AFFF 3x3-	3%	the FM Approval Guide	Hydrocarbons, IPA, Ethanol	59 or 119	225 or 450	100*	7*	Соцыпа	ling	NB)

Foam chambers are fitted with glass or graphite vapor seals designed to rupture upon system discharge. Maximum permissible back pressure is 1 psi.

^{*}Model BP450-4.2 is not FM Approved for use with HD AR-AFFF 3x3-C6.

Company Name:	HD Fire Protect Pvt. Ltd.								
Company Address:	Company Address: D-6/2, ROAD NO.34, WALGE INDUSTRIAL ESTATE, THANE, 400604, MAHARASHTRA, INDIA								
Company Website:	http://hdfire.com								
New/Updated Product Listing:	Yes								
Green Product:	No								
Listing Country:	India								
Certification Type:	FM Approved								