



Automatic Fuel Filtration System









AN INTRODUCTION TO NAFFCO

NAFFCO was founded in Dubai, UAE to become the world's leading producer and supplier of life safety solutions. By recognizing the importance and convenience of having easy access to multiple safety services, we became specialized by offering complete solutions under one roof for all types of high quality firefighting equipment, fire protection systems, fire alarms, addressable emergency systems, security systems, custom-made vehicles such as fire trucks, ambulances, mobile hospitals and airport rescue firefighting vehicles (ARFF).

With the most talented and dedicated employees from around the world, NAFFCO has over 2,000 passionate engineers and over 6.5 million square feet of manufacturing facilities. We are currently exporting to over 100 countries worldwide.

NAFFCO manufactures UL, FM, BSI & Global Mark approved products in our facility in consistent with International Standards UL-DQS, BSI certifies for the Quality Management System against ISO 9001. Our Environmental (ISO 14001) & Occupational Health & Safety (ISO 45001) Management Systems have been certified by UL-DQS. Our Trucks & Vehicles division has been assessed & certified for Quality Management System requirement for Aviation, Space & Defense organization (AS 9100) by UL-DQS.

Our success is driven by our passion to protect; our vision is to become the world's number one provider of innovative solutions in protecting life, environment and property.



AUTOMATIC FUEL FILTRATION SYSTEM MODEL: YH-UFFS-01

Specialists have proven that stored diesel fuel can start to deteriorate within just 28 days of refining. Researchers also have confirmed that after 8 - 10 months, diesel fuel will start to form sludge and if present in the tank for a long period of time increases the chances of engine failure or damage when required to operate.

Fuel contamination is a major cause of premature shutdown for standby engines, generator sets, fire pump engines, and other diesel engine support functions. Contamination commences as soon as the storage tanks are filled and continue until the fuel is used. As the length of the storage period increases, the probability for premature engine shutdown due to either clogged filters, or excessive water entrainment, increases. And here comes the high need for smart fuel filtration systems.

NAFFCO YH-UFFS-01 programmable automated fuel filtration system is a self-contained, stand-alone system that removes and prevents the build-up of water, sludge, and contaminants in tanks. It stabilizes diesel and bio-fuels, eliminates microbial contamination to optimize and maintain fuel quality. It is designed to fulfill NFPA requirements related to maintaining and cleaning fuel stored in fuel tanks.

YH-UFFS-01 automated fuel filtration system is the most efficient, most reliable system that protects your investment in engines and fuel.

NFPA CODES & REQUIREMENTS

NFPA 2022

STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION. 2022 EDITION.

Chapter 11: Fuel Supply Maintenance

11.6.4.3 states that "The tanks shall be designed and installed so that they can be maintained by means that will ensure removal of water and foreign material".

11.6.4.4 An active fuel maintenance system listed for fire pump service shall be permitted to be installed for the maintenance of the fuel in the supply tank.

NFPA 110

STANDARD FOR EMERGENCY AND STANDBY

POWER SYSTEMS, 2022 EDITION.

Chapter 7: Installation and Environmental Considerations,

7.9.1.4 states that: "Fuel system design shall provide for a supply of clean fuel to the energy converter".

7.9.1.5 states that "Tanks shall be sized so that the fuel is consumed within the storage life, or provision shall be made to re-mediate fuel that is stale or contaminated or to replace stale or contaminated fuel with clean fuel".

NFPA 25 - 2020 EDITION

A.8.3.4.2 Where environmental or fuel quality conditions result in degradation of the fuel while stored in the supply tank, from items such as water, micro-organisms and particulates or destabilization, active fuel maintenance systems permanently installed on the fuel storage tanks have proven to be successful at maintaining fuel quality. An active fuel maintenance system will maintain the fuel quality in the tank, therefore preventing the fuel from going through possible cycles of degradation, risking engine reliability, and then requiring reconditioning.

CONTAMINATION OF FUEL THROUGH

Once phase separation occurs, free water forms as a layer under the stored fuel. If the presence of free water is ignored, microbial growth will occur in the layer where the water meets the fuel.

Once microbial growth is present in a fuel tank, sludge is created as a waste by-product of hydrocarbons that are consumed by microbes.



AUTOMATIC FUEL FILTRATION SYSTEM



CONTROL PANEL SPECIFICATION

1. Stages of Fuel Conditioning System	Separates Water from Fuel		
	Coalesces Water Droplets		
	Filters Fuel of Solid Contaminants		
2. Fuel Flow Rate	180 GPH (upto 11.35 liters / min)		
3. Micron Rating	2 Micron / 10 Micron (Std) / 30 Micron		
4. Water Removal Efficiency	99%		
5. Water In Bowl Capacity	305 ml		
6. System Power	220 / 110 VAC at 50 / 60 Hz Single Phase		
7. Ambient Temperature	Suitable for 50 °C		
8. Listing / Approval	UL		

CONTROL PANEL FEATURES

- 1. Industrial controller complying to UL508A standard.
- 2. Fuel gear self priming pump (2.6 GPM) coupled with UL recognized electric motor.
- 3. Stainless Steel plumping.
- 4. Magnetic fuel conditioner.
- 5. Programmable automatic weekly timer.
- 6. Water level controller for sensing water in filter
- 7. Automatic and manual water draining system
- 8. Float switch for fuel leak detection.
- 9. Power ON indicator.
- 10. Pump run indicator.
- 11. Motor overload alarm indicator
- 12. Fuel leak alarm indicator.
- 13. Low vacuum pressure alarm indicator
- 14. High discharge pressure alarm indicator.
- 15. Water in filter alarm indicator.
- 16. Automatic and manual operation (selector switch).
- 17. Common alarm relay for remote warning (free contacts).
- 18. Common top mounted big alarm indicator.



DIMENSIONAL DRAWING



FUEL FILTRATION SYSTEM DESIGN FEATURES

MATERIAL	1.5 MM THICK GI		
PAINT FINISH	POWDER COATED - RED		
DOOR LOCK	TRIANGULAR LOCK WITH KEY		
DOOR OPENING ANGLE	120°		

FUEL FILTRATION SYSTEM CONTROL PANEL FACIA

L	L1 &		Power On Indicator	
L2 🗡	L5 &		——— Motor Over Load Indicator	
L4 🛞	L3 🛇 ——		———— High Vacuum Pressure Alarm Indicator	
L7 &	L6 ⊗		High Out Put Pressure Alarm Indicator	
	PB2		Water Release Mode Selector Switch	
0	0		Water Release Manual Push Button	
	L2 L2 L4 L4 SW1 PB1 O	L1 & L2 L5 & L4 L3 & L4 L7 L6 & SW1 SW1 SW2 PB1 PB2 O O	L2 L2 W L4 L4 L4 L4 C7 L6 W SW1 SW2 PB1 PB2 O PB2 O O	



Serving Over 100 Countries Worldwide



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



