



OPERATION AND SERVICE MANUAL

FMS-HFS/FMS-DFS



PREFACE

Be careful to minimize flow restrictions. Do not close any downstream valve during normal operation without adding external relief protection. A resulting pressure spike could cause filter damage and/or personal injury. If a downstream valve must be used, this valve must be locked in the open position during HFS operation.

The HFS System is to be used solely for the purpose of providing auxiliary filtration. It is not intended to be used as a power unit or in conjunction with other components for the purpose of performing work.

- **Never start up or run a dry pump.** This will cause galling, seizing or destructive wear between the rotors, end plates and casting.
- The HFS System is designed for the transfer and filtering of hydraulic and lubrication oils only. It is not to be used for highly volatile fluids such as gasoline or paint thinners. Please contact factory for uses other than those specified.
- The maximum fluid temperature for the HFS is **150° F**. Higher temperatures could damage the hoses. The maximum ambient temperature for operation is **104° F**.
- Since minimum repair service is generally required on these units, it is recommended that any failed parts be replaced with new parts. See the following parts lists.
- The HFS should not be used in areas where there is the potential to get sprayed with water or used/stored outdoors in the elements without some sort of protective covering. This could lead to a potential electrical shock or damage the motor
- Before moving the filter unit remove as much oil from the drip pan as possible to prevent spilling oil on surfaces during transport.

HOUSING TECHNICAL SPECIFICATIONS

Flow Rating	2.4 gpm - 4 gpm - 7 gpm
Bypass Opening	25 psi (1.7 bar)
Elements Options	FMS-1/25-P, FMS-3/25-P (particulate) FMS-W25-A (absorbing)
Hose Pressure Rating	30 psig (2.0 bar) @ 150°F (65.6°C) Full vacuum @ 150°F (65.6°C)
Fluid Temperature	25°F to 150°F (-4°C to 65°C)
Hydraulic Oil Sump	100 gls (21/20/16 down to 15/13/10 in 60 min)
Maximum Viscosity	2000 cSt - 350 cSt - 500 cSt
Voltage	120V, 1 Phase, 60Hz 230V, 1 Phase, 60Hz (50Hz optional)
Seal Material	Buna N
Weight	65 lbs (depending on configuration)
Compatibility	All petroleum based hydraulic fluid. Contact factory for use with other fluids.



OPERATING INSTRUCTIONS

CONNECTING THE HFS TO THE FLUID RESERVOIR



Hoses and connector tubes are supplied as an accessory for the HFS.

1. Connect the supplied inlet hose to the inlet port on the HFS. Then connect the inlet hose to the reservoir, or connect the connector tube to the inlet hose and place tube inside reservoir opening.
2. Connect the supplied outlet hose to the outlet port on the HFS. Then connect the outlet hose to the reservoir, or connect the connector tube to the outlet hose and place tube inside reservoir opening.
3. Check that the power source being utilized complies with the requirements of the filtration cart motor before actual hook-up.
4. Switch on the HFS System's motor. Visually check that the fluid is actually being pumped through the HFS and out of the outlet hose.
5. When the filtration process is complete, remove and drain the hoses. Be sure to install caps on the inlet/outlet ports when removing the hoses.

ACHIEVING THE BEST FILTERING EFFICIENCY

1. To ensure the proper cleaning of the reservoir fluid, position the ends of both the inlet and the outlet hose or tube as far apart as possible inside the reservoir preferably on different sides of the existing baffles.
2. Cycle the hydraulic system thoroughly to flush the contaminated fluid from the lines and system components so all the fluid in a system will be filtered through the HFS.
3. Operate the HFS until the total volume of the system fluid passes through the HFS. Cycle the reservoir fluid through the HFS six to eight times to ensure the total system fluid is filtered completely.

REPLACEMENT PARTS LIST

Item	Component	Part Numbers
1	Elements	FMS-1/25-P FMS-3/25-P FMS-W25-A (Water Removal)
2	Electric Motor	Contact Factory
3	Gear Pump	Contact Factory
4	Hose/Wands	FMS-7652720
5	Manometers	FMS-1/8-BM

Notes:

1. The HFS comes standard with polyethylene clear hydraulic hose.
2. The HFS system offers dual filters which can be used for both particulate and water contaminant removal.



ELEMENT CHANGE INSTRUCTIONS

FMS-1/25-P
FMS-W25-A

ELEMENT INSTALLATION

- Shut down the system to ensure there is no pressure or flow in the filter housing.
- Rotate the bowl counterclockwise.
- Remove and discard the old/used element.
- Select the item you want to install.
- Install the element in the guide tube in the filter connection head and fit the bowl.

PARTICLE RETAINER		WATER ABSORPTION		
FMS-1/25-P		FMS-W25-A		
ELEMENT TECHNICAL SPECIFICATIONS	Efficiency	Beta 4>4193 (ISO 16889:99)	Efficiency	95%
	DHC	310gr @4gpm (MTD)	WHC	1000 ml
	Max. Flow	50 gpm	Max. Flow	40 gpm
	Recommended Flow	25 gpm	Recommended Flow	25 gpm
	Dimensions	10x5x5"	Dimensions	10x5x5"
	Weight	ND lbs	Weight	ND lbs
	Housings	FMS-25-BP	Housings	FMS-25-BP



NOTE: Filter elements require changeout when the manometers are registering a 20psi delta P

Exclusion of Liability

We have used our best endeavors to ensure the contents of this document, however, errors cannot be ruled out. Consequently, we accept no liability for such errors as may exist in this document, nor for any consequential loss.

The information in this operation instructions relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

The content of this manual is checked regularly. Any corrections required will be incorporated in subsequent editions.

This manual is subject to technical modifications without prior notice.



NOTE: This symbol marks an important note for the proper use of this equipment. The non-observance of these notes can lead to product damage and/or personal injury.



ELEMENT CHANGE INSTRUCTIONS

FMS-1/25-P

FMS-W25-A

1

Remove used element O-Ring from filter head. Confirm there are no seals remaining.

2

Clean and lubricate O-Ring seating surface and threads.

3

Install appropriate O-ring to head (This will be the rectangle O-Ring not the square O-Ring).



CORRECT O-RING



INCORRECT O-RING



CORRECTLY INSTALLED O-RING



INCORRECTLY INSTALLED O-RING

4

The O-Ring should not be installed on element.



ELEMENT CHANGE INSTRUCTIONS

FMS-1/25-P

FMS-W25-A

5

Install new element until hand tight (when element makes contact with sealing surface).

Installed element after being hand tightened.



6

After hand tightening, use the appropriate tool to tighten the element another half turn.



7

Inspect element for any signs of poor O-Ring fitment or leaks.



KEY PRECAUTIONS

- The old seal/o-ring is removed from the filter head.
- The appropriate, larger rectangular seal is installed onto the filter head before the spin-on is installed.
- The sealing surfaces are lubricated with oil or diesel fuel prior to installation.
- The spin-on is tightened no more than ½ a turn from hand tight, or where the spin-on first makes contact with the seal.