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VF-61 INSTRUCTIONS

DESCRIPTION

The Velcon VF-61 filter housing is designed to operate with various **Aquacon**[®], coalescer, or microfilter elements in a wide variety of applications. The filter housing is shipped with **no cartridge** installed. **Cartridges must be ordered separately. See page 3 for cartridge selection table.**

Connections Size: 1-1/2" Female NPT
Housing Pressure Rating: 150 psi

NOTE: FOR LIQUID SERVICE ONLY. Do not use or leak test this filter vessel with compressed air or other gases.

IMPORTANT SAFETY PRECAUTIONS

- To protect the fuel system, including the VF-61 and other components, **BE SURE TO INSTALL PRESSURE RELIEF VALVE(S).**
- **MAKE CERTAIN FILTER HOUSING IS COMPLETELY VENTED BEFORE OPENING HOUSING.**
- To prevent electrical buildup and discharge - use a grounding wire to place a bonding loop from the drain valve to a point on the metal framework of the vehicle or skid. This provides a continuous bond. Before draining the vessel, electrically bond a metal container to the drain valve using a grounding wire. Then drain the fuel into the bonded metal container.

INSTALLATION PROCEDURES

Install the housing at a convenient point in the line. Note "Inlet" and "Outlet" markings on the cast head which indicate direction of flow. **DO NOT** install the housing backwards.

NOTE: Fuel "weeping" from the inlet or outlet 1-1/2" NPT connections sometimes occurs when regular pipe dope is used when plumbing the vessel. In time, it **appears** that the leak is at the clamp. To prevent "weeping", we recommend a product like Loctite No. 59231 "Pipe Sealant with Teflon[®]".

Install the 1/2" NPT petcock drain valve which is shipped loose in the shipping carton. Use Teflon[®] tape on the drain valve threads. An optional 1/2" NPT carbon steel ball valve, part number 554Y020, is available at extra cost.

Provide room for the housing shell to clear the cartridge during change-out.

It is good practice to install a differential pressure gauge so that the differential pressure across the housing can be monitored. This allows accurate determination of when the cartridge should be changed.

Part number 10678, as described on Form 1715 (PN 09-880) is a differential pressure gauge specifically designed to be used on VF-61.

FOR **Aquacon**® CARTRIDGES USED IN AVIATION FUEL OR DIESEL FUEL SERVICE, **ALWAYS** INSTALL A DIFFERENTIAL PRESSURE GAUGE OR OTHER MEANS OF DETERMINING THE DIFFERENTIAL PRESSURE. For diesel fuel service, flow rate should be kept between 15 and 50 gpm. Consult Velcon for other flow applications.

On systems where pressures can exceed 75 psi, a pressure bypass around the pump should be installed to protect the cartridge and the system from a high pressure shock or sudden cartridge seal-off due to a slug of water in the product.

Valves ahead of and behind the housing may be required to isolate it during cartridge change-out.

CARTRIDGE CHANGE-OUT INFORMATION

For OS Series Fuel Service – NOTE: The OS Series coalescer cartridge has an O-ring at the bottom of the cartridge. This O-ring seals to the inside of the housing. The cartridge fits tightly into the bowl and will require fuel or oil pre-lubrication to insert into the bowl.

**** DRAIN SUMP AT EVERY FUELING. ****

Replace the cartridge when the differential pressure exceeds 15 psi, after 1 year of service, when the flow is significantly reduced, or if differential pressure has been steadily climbing and then begins to decrease – whichever occurs first. **After changing cartridges circulate flow through vessel for at least 3 minutes, use millipores to check for fibers and also check hose end strainers.**

For Aviation Fuel Service – Please refer to cartridge Operating Procedures that are supplied with each cartridge shipment.

For All Other Applications – Replace the cartridge when the differential pressure exceeds 25 psi, after 1 year of service, when the flow is significantly reduced, or if differential pressure has been steadily climbing and then begins to decrease – whichever occurs first.

CARTRIDGE CHANGE-OUT INSTRUCTIONS

REMINDER: Be sure equipment is properly bonded before and after cartridge change-out is performed.

1. Turn off pump.
2. Close isolation valves (if any) and open the valve vent at the top.
3. Place a bucket under the housing to contain any spilled liquid.
4. Drain all liquid from the housing through the bottom drain.
5. Loosen the four bolts and rotate out and down to clear the top clamp. Drop the housing shell. Remove the spent cartridge.
6. Wipe the inside of the shell clean of any contaminants.
7. Inspect the O-ring and replace if damaged. Lightly lubricate the O-ring with the fuel or oil in which it will be used, and position it on the head.
8. Lightly lubricate the cartridge O-rings with the fuel or oil in which it will be used.
9. Install a new element onto the nozzle of the filter head. Twist and push the cartridge until it bottoms against the step on the nozzle.
10. Lift shell up to the housing head, making sure the head O-ring is in place. Align shell bolts so they do not interfere with inlet and outlet piping. Rotate bolts over clamp top half (see photo).



Tighten all bolts to 33 ft-lbs, alternating in a criss-cross fashion.

Note: Small O-rings on bolts do not seal, but just hold washers next to bolt head.

11. Close the drain valve, and open isolation valves.
12. Open vent valve so that the vessel slowly bleeds air from the top vent while filling the housing .
13. Close the vent when the housing has filled. Check all fittings and the head/shell junction for leaks.

REPLACEMENT PARTS

The VF-61 is shipped with a Buna-N O-ring installed. Some fuels, especially unleaded gasoline, may cause excessive swelling of the O-ring. If this is a problem, a Viton O-ring should be used. When ordering replacement O-rings from Velcon, specify:

G-0986 for Buna-N or **G-0986A** for Viton

Replacements can also be obtained from any commercial supplier of O-rings. Specify size 2-257 in the desired material.

CARTRIDGE SELECTION TABLE

TYPE	MODEL NUMBER	DEGREE OF FILTRATION	COLLAPSE STRENGTH	APPLICATION
Pleated Media (Dirt Removal Only)	FO-512PL1/2	0.5 micron	75 psi	Fuels, Oils
	FO-512PL05	5 microns	75 psi	Fuels, Oils
	FO-512PL25	25 microns	75 psi	Fuels, Oils
Aquacon [®] Media* (Dirt & Water Removal)	AC-51205	5 microns	75 psi	Oils, Motor Gasoline
	AD-51225	25 microns	75 psi	Oils, Diesel Fuel
	ACO-51201L	0.5 micron	75 psi	Jet Fuel & Avgas
	ASL-51201	1 micron	75 psi	Solvents
Coalescer (Dirt & Water Removal)	OS-51288	0.5 microns	75 psi	Jet Fuel & Avgas
	OS-51286	5 microns	75 psi	Diesel

****CAUTION: Do not use Aquacon[®] cartridges with pre-mixed jet fuel containing anti-icing additives.***

***WARNING: Aquacon[®] cartridges will not remove water from fuel containing alcohol-blending agents (commonly called gasohol). For removal of solids, please use Velcon particle removal filters specifically made for gasohol. Consult your Velcon representative.**