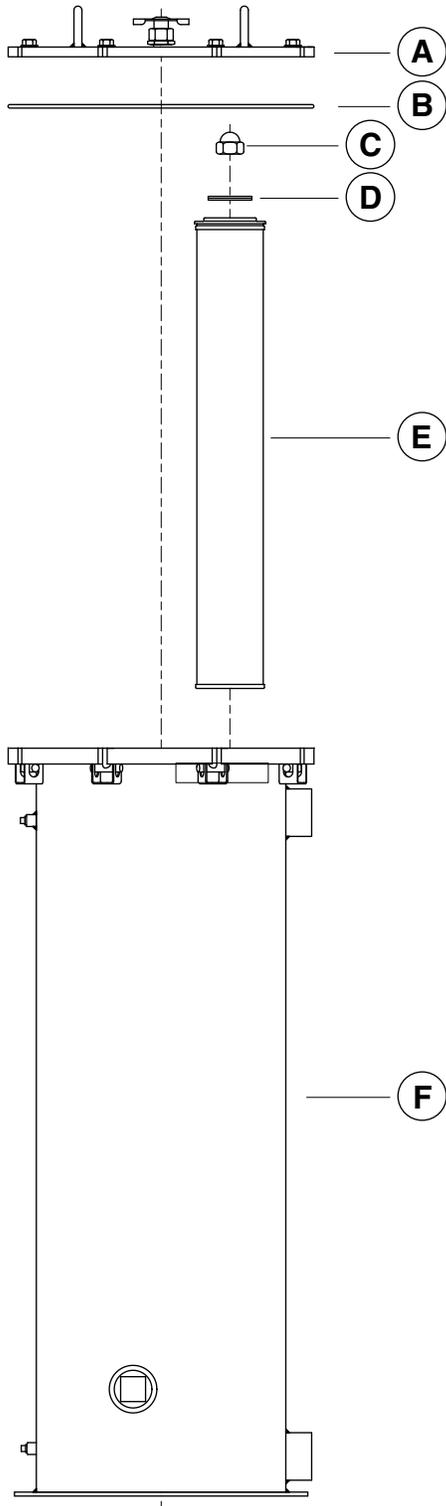




# Winslow® Stationary Multiple Element Design Fuel Coalescer Service Instructions



## Parts List

Part	Description	Part Number
A	Cover Assembly	Q80660A
B	O-Ring	Q79058
C	Seal Nut Assembly	Q53779
D	Gasket	Q58878
E	Filter Element	88472N
F	Housing	91292N

**CAUTION:** These instructions are intended for use by professional mechanics who are trained in the proper use of power and hand tools, using appropriate safety precautions (including eye protection).

## Introduction

Unlike mechanical separators, the Winslow® Fuel Filter/Coalescer can be installed on either the pressure or suction side of the transfer or fuel pump.

### Pressure Side

Pressure side installation is preferred because it reduces fuel flow problems by eliminating air trapped in the housing. With the first installation, or when the unit has been serviced with an element change, the cover vent valve is opened when the fuel pressure is applied. Once the air in the unit has been purged and the housing is filled, the valve should be closed. The cover should be inspected for any possible fuel leaks.

### Suction Side

The fuel level from a storage source should be higher than the housing in order for the inlet to the filter assembly to have the necessary positive pressure.

If a positive pressure is not available and the fuel source is lower than the housing, the suction lift or rise should not exceed 10' (3 m) to the housing due to possible negative pressure into the housing exceeding one atmosphere (14.7 lb/in<sup>2</sup> (1 bar)) at sea level. Also, line lengths must be kept as short as possible.

It is also recommended that a check valve be installed in the suction line close to the fuel supply to prevent drain back and facilitate adding fuel to the housing when elements have been changed. The filters will have to be manually refilled after servicing. Secure all fittings and cover bolts to prevent air entrainment.

Existing filters in the system can be left in place, whether up- or down-stream from the Coalescer. Up-stream filters protect the Coalescer element from large dirt particles that can eventually clog the Coalescer. The Coalescer can work indefinitely, removing water, if it doesn't become plugged with dirt.

## Installation

To install on an engine or Cummins® Fuel Regen System, cut into the fuel line and install with proper fittings to connect to the Coalescer. Mount the Coalescer with enough space to service the water drain and for element replacement.

If installed on the suction (vacuum) side, the housing must be filled with fuel before operating the engine. If installed on the pressure side, priming is not necessary, but recommended.

If the application is for fuel transfer or a dispensing pump where there is head pressure on the Coalescer, a flow control valve must be installed at the inlet port.

Because the Coalescer functions similarly to a particulate or conventional filter, similar troubleshooting procedures should be followed.

## Servicing the Water Drain

1. Turn off the pump engine.
2. To remove water from the sump, loosen the drain valve and allow the collected water to drain. (For suction (vacuum) side installations, open the vent to allow drainage.)
3. Tighten the valve as soon as fuel begins to drain. (For suction (vacuum) side installations, close the vent.)

## Servicing the Elements

Elements should be changed when the pressure drop across the element reaches 8-10 PSID (55.2-69.0 kPa), or when the maximum pressure differential the system can tolerate is reached, providing the pressure differential is less than or equal to 8-10 PSID (55.2-69.0 kPa).

If a pressure gauge is not used, elements should be changed every six months or when engine performance declines, indicating insufficient fuel supply to the engine. A vacuum or differential pressure gauge is strongly recommended.

Element change-out frequency is dependent on the degree of solid and semi-solid contaminants present in the fluid being conditioned. The amount of water in the fuel does not affect the element change-out frequency. Barring contamination, the Coalescer would continue to coalesce and separate water from fuel indefinitely.

If an excessive amount of asphaltines or gums in the fuel being conditioned is suspected, it would be evidenced by relatively short change-out cycles.

### Determining the Pressure Differential

If the housing is equipped with an upstream and downstream pressure gauge, or a differential pressure gauge assembly, the pressure differential is determined as follows:

1. Read and record the pressure shown on the upstream (inlet) gauge. This reading is the high indication.
  2. Read and record the pressure shown on the downstream (outlet) gauge. This reading is the low indication.
  3. Subtract the downstream pressure from the upstream pressure. This difference is the back pressure, or differential pressure caused by the element.
- Note:** The upstream (inlet) pressure must always be higher than the downstream (outlet) pressure. If not, check the gauges for accuracy.
- Note:** The differential pressure gauge assembly is equipped with a single gauge and indicates the differential pressure in the housing directly.
4. As the Coalescer accumulates hours of operating service, the pressure difference between the upstream and downstream pressure readings will become higher. When the pressure differential reaches the maximum allowable value of 8-10 PSID (55.2-69.0 kPa), the element must be replaced in order to maintain high water removal efficiency.

### Replacing the Elements

1. Shut off the engine or fuel supply.
2. Close the inlet and outlet valves.
3. Loosen the vent valve.
4. Open the drain valve and drain the fuel and water.
5. Release the cover plate clamping bolts and remove the top cover plate, o-ring, seal nut and gasket.
6. Check all gaskets for wear and replace as needed.
7. Remove both the coalescing and the separator elements.
8. Clean the canister by flushing it with #2 fuel oil.
9. Install the new separator element(s) first, making certain they are centered.

10. Install the Coalescer element by lowering it inside the separator element. Make certain the bottom gasket contacts the end cap and seats properly.
11. Inspect the seal nut gasket and replace, if worn. Lubricate and install the seal nut gasket.
12. Screw the seal nut down as far as possible by hand, pushing the Coalescer element down with one hand while tightening the seal nut with the other.
13. Torque the seal nut to 10-12 ft-lbs (14-16 N·m) to ensure a good seal.
14. Fill the canister with fuel.
15. Lubricate and replace the o-ring.
16. Replace the top cover plate.
17. Replace the cover plate clamping bolts and torque evenly in a cross pattern to 70-80 ft-lbs (95-109 N·m).
18. Tighten the vent valve.
19. Open the Inlet and outlet valves.
20. If it is a pressure side application, loosen the vent valve to bleed off any air and completely fill the canister with fuel. Close the vent valve when fuel begins to ooze out.
21. Start the engine or fuel system.
22. Check for leaks or air locks.

### Troubleshooting

1. Leaks - check for:
  - a. Worn gaskets
  - b. Improperly closed clamps
  - c. Open valves
  - d. Loose connections
2. No Fuel to the Engine (Air Locks)
  - a. Open the vent valve, remove the cover and fill with fuel (see Step 19 above).
  - b. Check the inlet and outlet connections to make sure they are not plugged.

### Suggested Preventive Maintenance

**Every Filter Change** – Replace gaskets.

**Every 12 Months** – Check all fittings for leaks.

## Specifications

Part Number	Design Pressure lb/in <sup>2</sup> (kPa)	Flow Rate* gal/min (L/min)	Pressure Drop** in Hg (kPa)
91292N	75 (517.1)	100 (378.5)	3.5 (11.9)

\* Clean filter at rated flow, based on #2 Diesel fuel.

\*\* Change filter at 5 PSID (34.5 kPa) above initial pressure drop.

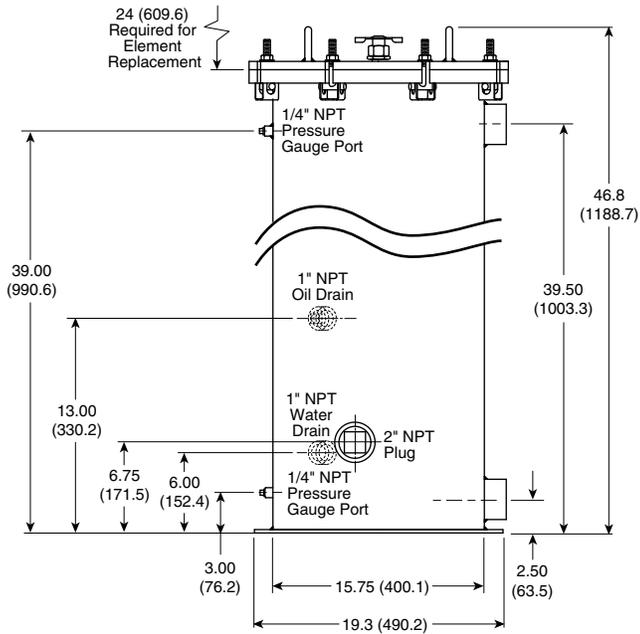
## Ordering Information

Housing Part Number	Filter Element
91292N	88472N

## Replacement Filter

Part Number	Description
88472N	Two-stage coalescing element

## Mounting/Dimensions



**Filtration**

For more information, visit  
[cumminsfiltration.com](http://cumminsfiltration.com)

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