

Finite® High Efficiency Coalescers Provide Fuel System Protection on Natural Gas Vehicles

Market Application Publication



Background:

Compressed Natural Gas (CNG) is a fuel substitute for gasoline and other types of fossil fuels. It is an environmentally clean alternative and contains less carbon emissions than any other fossil fuel. When compressed into a transportation fuel, it provides clean and affordable alternative fuel source for all types of vehicles, especially those used in fleet operations.

CNG is made by compressing natural gas to 3600 psig - 4500 psig. The primary reason CNG is compressed to these high pressures is for storage purposes. CNG provides vehicles with acceptable ranges, high pressure storage, and to reduce size and weight of the storage canisters themselves.

Cylinders are used to house the high pressure gas. However, the gas is actually burned in the engine at a much lower pressure, therefore coalescing filters are used at both the high and low pressure ranges.



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Benefits:

- Design pressures from 500-3600 psi allow housing to be used in a wide range of pressure applications.
- Finite .3 micron rated filters provide excellent protection to remove solids and liquids.
- Can be installed with either piping or tubing without the need of a separate bracket.
- Depending upon media grade and operating pressure, flow rates can range up to 473 scfm.
- Ease of serviceability.

Features:

- Pressure rating of housing for both low and high ranges
- High efficiency filter elements
- High flow rates
- Corrosion resistant anodized aluminum housing
- Robust design



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Application:

After the natural gas is compressed to required pressures, the fuel is transferred to a Natural Gas Vehicle (NGV) through a CNG dispenser. Depending upon the amount of protection in the compression stages, some dispensers incorporate additional filtration to remove any carryover of contaminants. Finite J series filters (5000 psig) are used to remove these contaminants. If liquids are not removed at this stage of refueling, the on-board CNG storage cylinders could fill with liquids and would eventually carryover into the vehicle's operational system.

High pressure coalescers are utilized between the storage cylinders and a pressure reducing valve.

Lower pressure (<500 psig) coalescers are employed downstream from this valve, but ahead of the fuel injectors, protecting them from becoming fouled with the buildup of submicronic liquid and solid contaminants.



Product Specifications:

Product Series	FFC 112
Pressure	3600 psi, 4:1 burst strength
Temperature	225°F
Materials of Construction	
Head	Anodized Aluminum
Bowl	Anodized Aluminum
Seals	Buna-N
Connection Sizes	1/4" NPT or 9/16" SAE
Drain	SAE 6
Weight	1.5 lbs. (0.68 kg)
Dimensions	4.75"L x 2.25"W (12cm x 5.7cm)
Elements	Finite Grade 6 (0.3 micron, 99.97%) or Finite Grade 10 (0.7 micron, 95%)