Section: D
Alternative Fuel

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Parker Racor

ENGINEERING YOUR SUCCESS.

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Questions? Contact Technical Support:
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FFC Series

D

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These assemblies are designed and tested for today's new alternative fuels: Compressed Natural Gas (CNG), Liquid Natural Gas (LNG) and Liquid Propane Gas (LPG). CNG, LNG and LPG have the same problems that plague diesel and gasoline, particulate contamination collects during handling, water condenses in tanks, and compressors leak oil into the fuel stream.

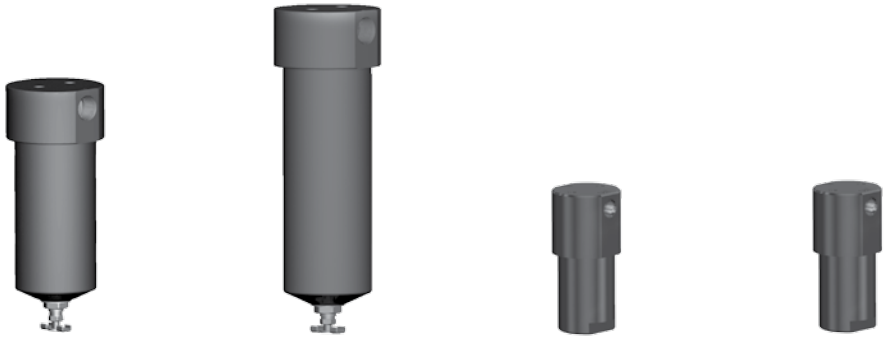
The precision components necessary for the efficient operation of an alternative fuel system demand superior filtration. Racor anticipated the need for ultra-fine filtration at the pressures required by compressed natural gas. The answer is the industry's first, most complete and most efficient line of alternative fuel filters/coalescers.

FFC series filters are designed to protect critical engine components in CNG, LNG, and LPG powered vehicles. Contaminants can be introduced into a vehicle's fuel tank when being fueled or may come from compressors and/or storage facilities. A grade 6 coalescing filter is specifically designed to remove oil, water, and solid contamination from compressed natural gas. The patented coalescing filter removes 99.97% of all aerosols in the 0.3 to 0.6 micron range.

These fuel filter/coalescer elements are produced by a patented process of arranging micro-glass fibers into a tubular form. During operation, fuel is forced through the coalescing media from the inside of a cartridge through a tubular wall to the outside, where large droplets fall to the bottom of the housing. Oily water emulsion accumulates until drained while dirt particles remain trapped and collect on surfaces of fibers.

FFC Series

FFC Series Overview



Specifications	FFC-110-06	FFC-110L-10	FFC-112	FFC-112-SAE
Fuels Used	CNG, LPG	CNG, LNG, LPG	CNG	CNG
Filter Type	Coalescer	Coalescer	Coalescer	Coalescer
Maximum Pressure	500 PSI (3,447 kPa)	500 PSI (3,447 kPa)	3,600 PSI (24,800 kPa)	3,600 PSI (24,800 kPa)
Max Flow Rate	25 SCFM (708 lpm)	50 SCFM (1,416 lpm)	15 SCFM (425 lpm)	15 SCFM (425 lpm)
Port Size	¼" NPT	½" NPT	¼" NPT	9/16"-8 SAE
Filter Element	CLS110-06	CLS110L-10	CLS112-10	CLS112-10
Length	7.9 in. (18.3 cm)	10.4 in. (26.4 cm)	4.8 in. (12.2 cm)	4.8 in. (12.2 cm)
Diameter	3.1 in. (7.9 cm)	3.1 in. (7.9 cm)	2.3 in. (5.8 cm)	2.3 in. (5.8 cm)
Weight	1.5 lbs (0.7 kgs)	1.8 lbs (0.8 kgs)	1.5 lbs (0.7 kgs)	1.5 lbs (0.7 kgs)
Clean Pressure Drop	1.0 PSI (6.9 kPa)	1.0 PSI (6.9 kPa)	3.0 PSI (20.7 kPa)	3.0 PSI (20.7 kPa)
Sump Capacity	5.0 oz. (148 cc's)	7.0 oz. (207 cc's)	0.5 oz. (15 cc's)	0.5 oz. (15 cc's)
Temperature	-40°/+225° F (-40°/+107° C)			

Notes: 1. For accurate flow rates and pressures, consult your engine manual, engine manufactures agent, or the vehicle manufacturer.
2. Some specifications are the result of tests conducted at the optimum flow rate.
3. Allow 3.0 in. (7.6 cm) of clearance below assembly for draining and maintenance of element.

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FFC Series Overview

Specifications	FFC-113-NF-01	FFC-114	FFC-116N
Fuels Used	CNG, LNG	CNG, LPG	CNG
Filter Type	Coalescer	Coalescer	Coalescer
Maximum Pressure	3,600 PSI (24,800 kPa)	3,600 PSI (24,800 kPa)	3,600 PSI (24,800 kPa)
Max Flow Rate	50 SCFM (1,416 lpm)	50 SCFM (1,416 lpm)	8.4 SCFM (238 lpm)
Port Size	¾" SAE	½" NPT	¼" NPT (SAE J4760)
Filter Element	CLS47133-01	CLS47133-02	CLS116-10
Length	8.0 in. (20.3 cm)	7.0 in. (17.8 cm)	3.9 in. (9.9 cm)
Diameter	3.0 in. (7.6 cm)	3.0 in. (7.6 cm)	1.8 in. (4.6 cm)
Weight	5.5 lbs (2.5 kgs)	5.3 lbs (2.3 kgs)	1.8 lbs (0.8 kgs)
Clean Pressure Drop	1.7 PSI (11.7 kPa)	1.7 PSI (11.7 kPa)	1.3 PSI (8.6 kPa)
Sump Capacity	5.0 oz. (148 cc's)	3.0 oz. (88.0 cc's)	0.3 oz. (7.4 cc's)
Temperature	-40° /+225° F (-40° /+107° C)		-40° to +350°F (-40° to +177°C)

Notes: 1. For accurate flow rates and pressures, consult your engine manual, engine manufactures agent, or the vehicle manufacturer.
2. Some specifications are the result of tests conducted at the optimum flow rate.
3. Allow 3.0 in. (7.6 cm) of clearance below assembly for draining and maintenance of element.

FFC Series

FFC-110-06

Replacement Element

FFC-110-06
Basic Unit 25 SCFM (500 PSI)

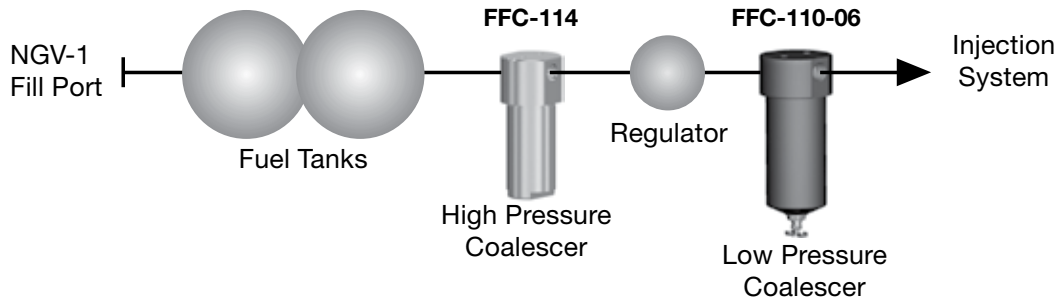
Height
2.5 in.
(6.4 cm)

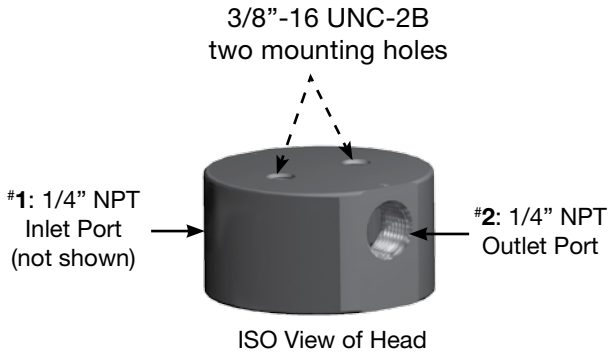
Diameter
1.5 in.
(3.8 cm)

CLS110-06

Mounting Information

Typical Installation Layout





ISO View of Head

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FFC Series

FFC-110L-10

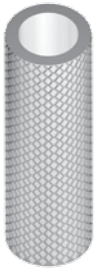
D

Replacement Element

FFC-110L-10
Basic Unit 25 SCFM (500 PSI)

Height
5.0 in.
(12.7 cm)

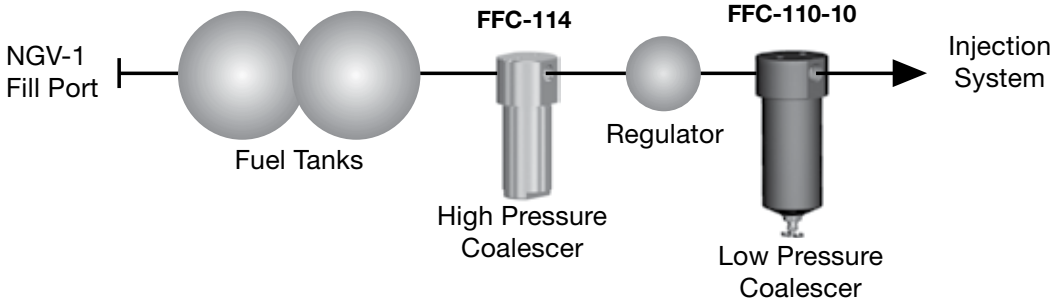
Diameter
1.5 in.
(3.8 cm)

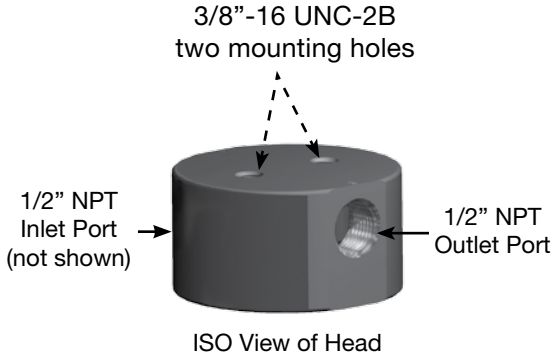


CLS110L-10

Mounting Information

Typical Installation Layout





FFC Series

FFC-112

Replacement Element

FFC-112	-SAE
Basic unit with ¼”-18 NPTF ports. 15 SCFM (425 lpm)	Add **SAE** for 9/16”-18 SAE o-ring ports. 15 SCFM (425 lpm)

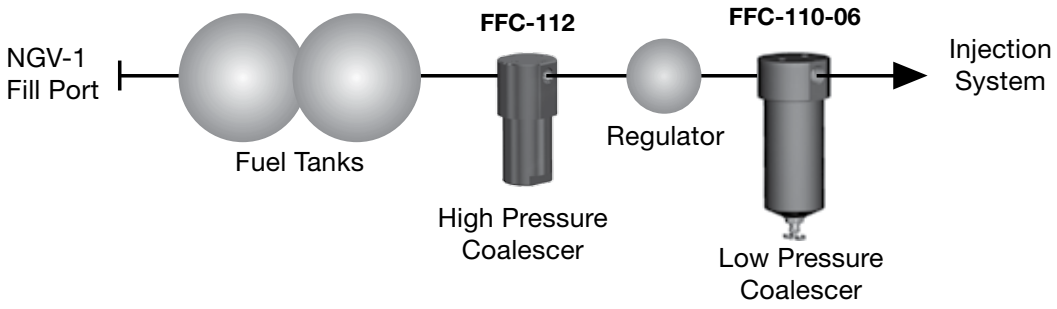
Height
3.0 in.
(7.6 cm)

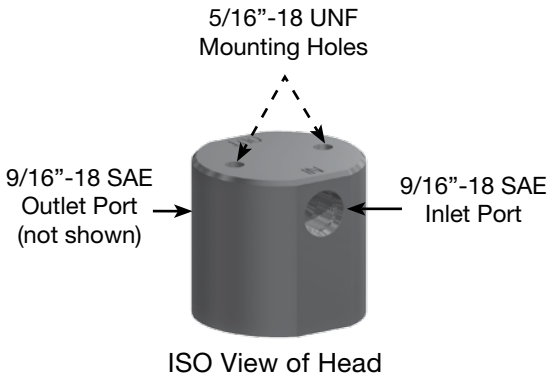
Diameter
0.8 in.
(2.0 cm)

CLS112-10

Mounting Information

Typical Installation Layout





ISO View of Head

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FFC Series

FFC-113-NF-01

D

Replacement Element

FFC-113-NF-01
Basic Unit 50 SCFM (1,416 lpm)

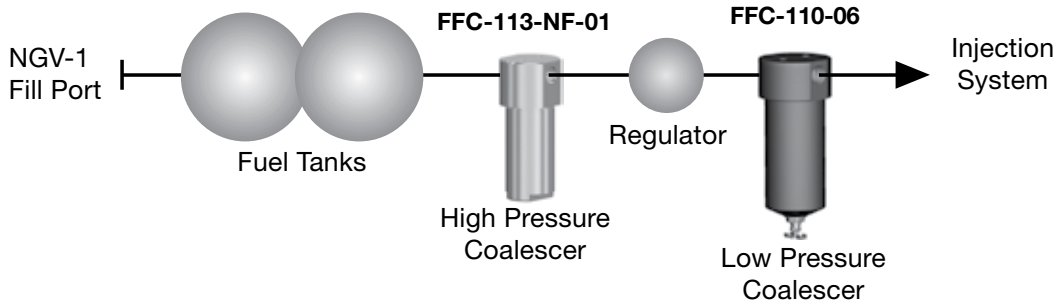
Height
5.0 in.
(12.7 cm)

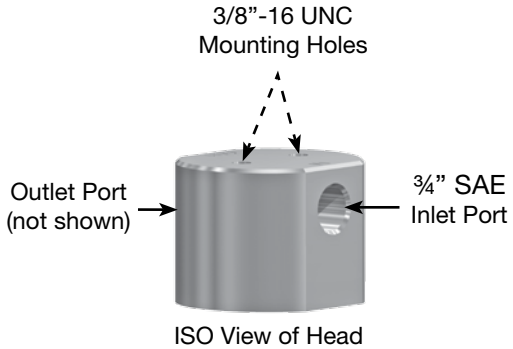
Diameter
1.5 in.
(3.8 cm)

RK47133-01

Mounting Information

Typical Installation Layout





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FFC Series

FFC-114

Replacement Element

FFC-114
Basic Unit 50 SCFM (1,416 lpm)

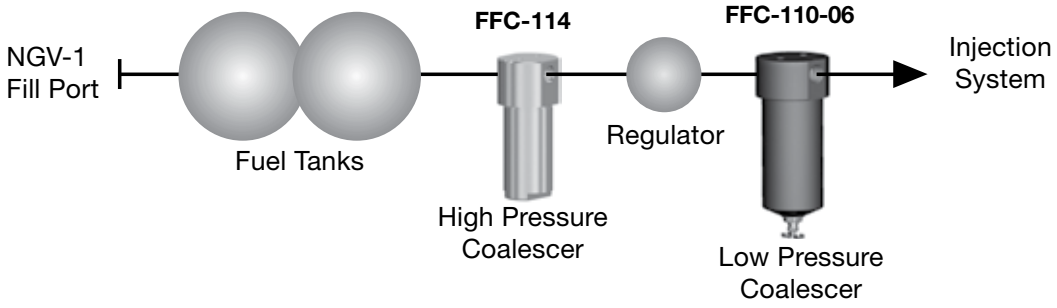
Height
5.0 in.
(12.7 cm)

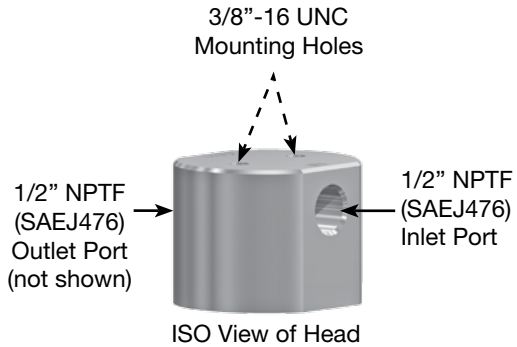
Diameter
1.5 in.
(3.8 cm)

RK47133-02

Mounting Information

Typical Installation Layout





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FFC-116N

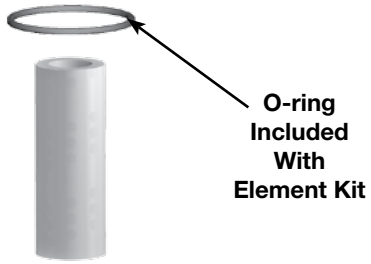
D

Replacement Element

FFC-116N
Basic Unit 8.4 SCFM (238 lpm)

Height
2.3 in.
(5.8 cm)

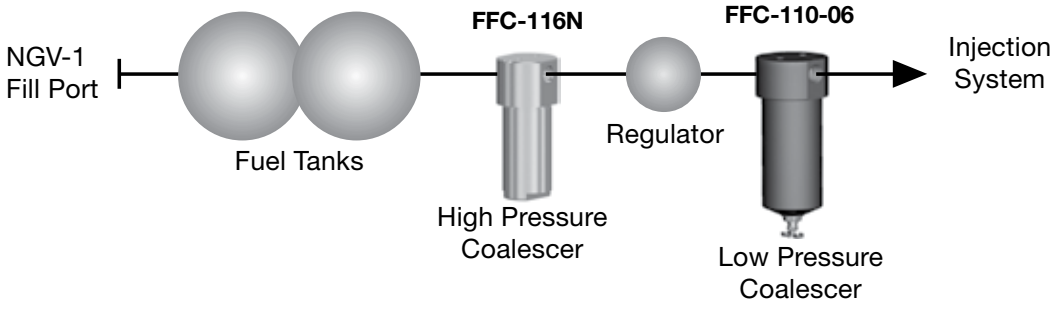
Diameter
0.8 in.
(2.0 cm)

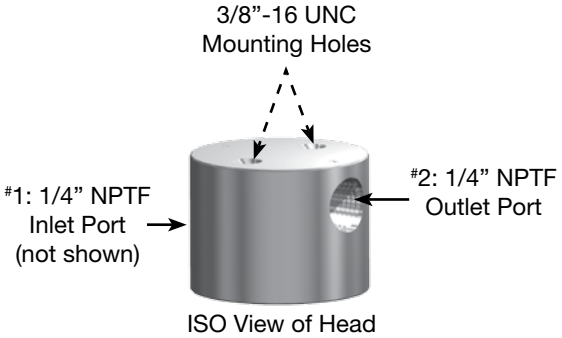


CLS116-10

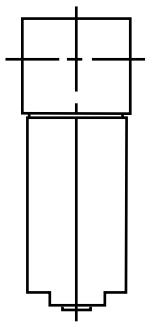
Mounting Information

Typical Installation Layout

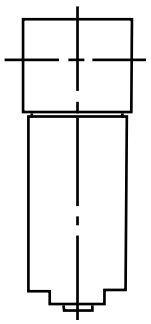




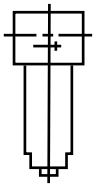
FFC Series



FFC-114
FFC-114-NF



FFC-115



FFC-116

Specifications - continued

BASIC MODELS		***FFC-113-NF***	***FFC-114***	***FFC-114-NF***	***FFC-115***	***FFC-116***
Fuels		CNG, LNG	CNG, LPG	CNG, LPG	LNG	CNG
Filter Type		Coalescer	Coalescer	Coalescer	Coalescer	Coalescer
Operating Pressure, Max.	PSI kPa	3,600 24,800	3,600 24,800	3,600 24,800	3,600 24,800	5,000 34,480
Maximum Flow Rate	SCFM lpm	50 1,416	50 1,416	50 1,416	60 1,700	8.4 238
Port Size NPT (SAEJ478)		3/4" SAE	1/2" NPT	3/4" SAE	1" NPT	1/4" NPT
Filter Element		CLS113-6	CLS113-6	CLS113-6	CLS113-6	CLS116-10
Length	in. mm.	8.03 204	6.98 177	6.98 177	6.98 177	3.85 97
Diameter	in. mm.	2.97 75	2.97 75	2.97 75	3.15 80	1.75 44
Weight (dry)	Lbs. kgs.	5.5 2.49	5.25 2.3	5.25 2.3	6.0 2.7	1.75 0.79
Clean Pressure Drop	PSID kPa	1.7 11.7	1.7 11.7	1.7 11.7	1.7 11.7	1.25 8.6
Sump Capacity	ounces cc's	5.0 148	3.0 88	3.0 88	3.0 88	0.25 7.4
Operating Temperature		-40^0 / $+225^0$ F / -40^0 / $+107^0$ C				

1. For accurate flow rates and pressure consult your engine manuel, engine manufacturer's agent or the vehicles manufacturer.
2. Some specifications are the result of tests comducted at the optimum flow rate.

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Part Number Index

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