



CNG Vehicle Gas Regulator System

Innovating fuel filtration, regulation, and control

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



ENGINEERING YOUR SUCCESS.

Setting the new standard in CNG fuel systems

Parker is an expert in natural gas. A leader in the design and manufacture of products and systems that filter, regulate, control and convey compressed natural gas (CNG).

A Streamlined Design Process: Extensive experience in design, prototyping, and manufacturing shortens the design cycle. In-house tooling and manufacturing capabilities facilitate rapid prototyping. Plus application and validation support is available as needed.

A System Solution: Our complete CNG product package is unmatched in the industry, providing an integrated and efficient gas handling system for both medium- and heavy-duty vehicles.

REDUCED RISK

- Our proven, multi-technology systems reduce risk for CNG vehicle integrators
- Selectable levels of integration – which include components, modules, and integrated systems – reduce technical risk
- National and international certifications verify that our systems and solutions offer the highest possible quality and reliability

GREATER VALUE

- Early-on collaboration from concept through production delivers trouble-free systems with class-leading performance
- As a single source provider, Parker saves you time and money

GLOBAL CONNECTIVITY • LOCAL AVAILABILITY

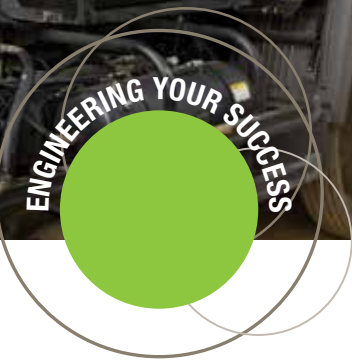
Our global footprint assures local availability, no matter where you develop, assemble, manufacture, or operate.

CUSTOMIZED SOLUTIONS

Parker has the ability to integrate multiple technologies into unique, customer-focused solutions that redefine performance and speed development. One such example is this CNG gas regulator using several Parker products. **Contact Parker Veriflo at 1-800-962-9590 to find out more or email us at: ngv@parker.com.**

Photo courtesy of Kwik Trip, Inc.





A History of Proven Regulator Precision

Veriflo has been responding to industry change through innovative engineering and manufacturing for more than 85 years. Renowned for quality and reliability, the Veriflo range of regulators has been designed to meet the most stringent requirements of industries from analytical to offshore. Veriflo regulators are available in a choice of materials and designs, including single-stage, two-stage, heated and changeover, and are suitable for both liquid and gas applications. The company has built upon this regulator expertise to create a regulator for CNG systems that incorporates lessons learned for impressive performance and durability.

PARKER ON-VEHICLE:

SAFE. ROBUST. RELIABLE. PRECISE.

Advanced gas regulator system withstands variations in temperature, flow, vibration, supply pressure, and gas composition.

Parker Veriflo's gas regulation system – available with multiple options – is an integrated system that provides advanced fuel handling performance.

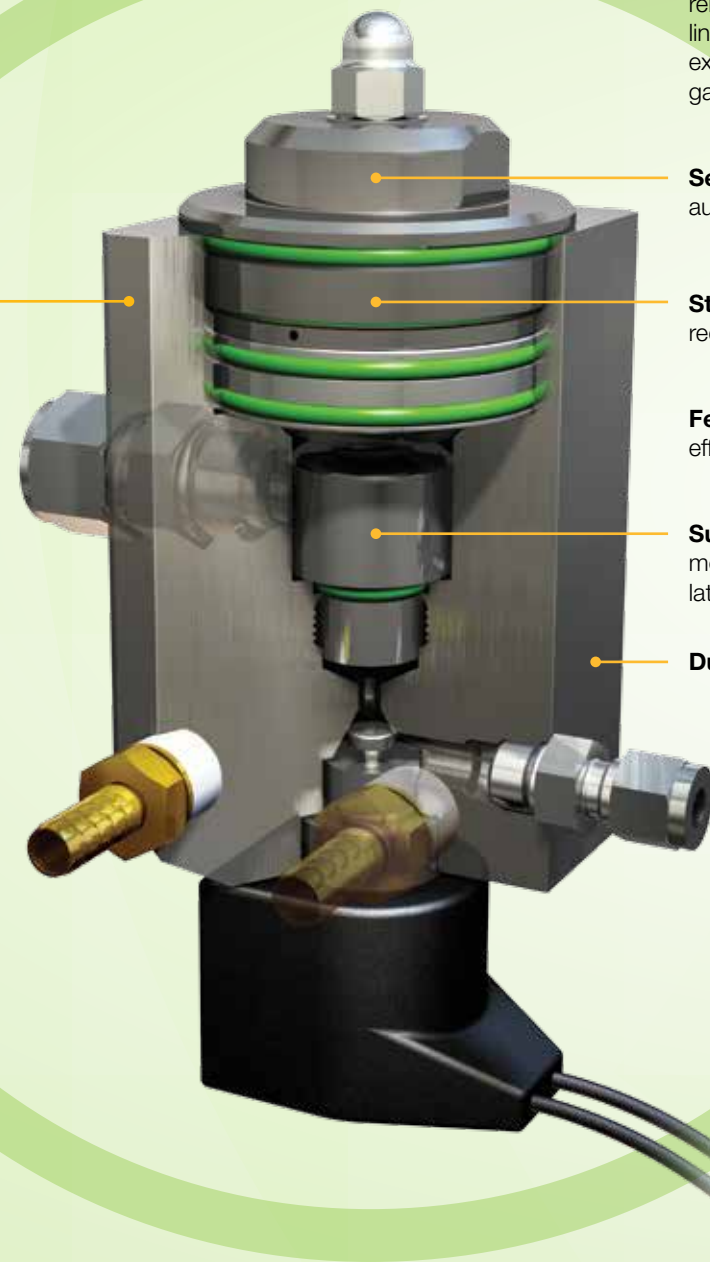
Optimized for 6 to 15 liter engines, Veriflo's piston regulator design offers better control, fewer connections, longer range, and higher performance.

Parker is setting the new standard in CNG gas regulation.

HOW PARKER REGULATORS DEFINE THE PERFORMANCE OF A CNG FUEL SYSTEM

Because the pressure regulator responds to system pressure conditions, it interacts with the entire fuel system in various ways.

PROBLEM	SYSTEM REACTION	PARKER INNOVATION
Extreme moisture in fuel	<ul style="list-style-type: none">Regulator icingPoor drivability and acceleration, increased exhaust emissionsPotential permanent damage to regulator	<ul style="list-style-type: none">Integrated filtration optionsSpecially designed sealsThermal shielding
Excessive fuel oil vapors	<ul style="list-style-type: none">Oil precipitation and downstream migration, clogging the fuel injection systemComponent damage with the use of solvents	<ul style="list-style-type: none">Integrated filtration optionsMetal pistonNo diaphragm or rubber parts
Particulate contamination	<ul style="list-style-type: none">Regulator damagePossible fuel metering component damagePossible gas from low pressure relief valve	<ul style="list-style-type: none">Built-in particle filterProtected constrained poppet
Poor flow to regulator	<ul style="list-style-type: none">Inadequate flow at low storage tank pressuresShortened vehicle range	<ul style="list-style-type: none">Patented piston designLarge orifice and flow-through area



No freezing in cold weather. Improved reliability at low temperatures eliminates fuel line failures due to freezing. Integrated heat exchanger uses heated radiator fluid to warm gas before it enters engine.

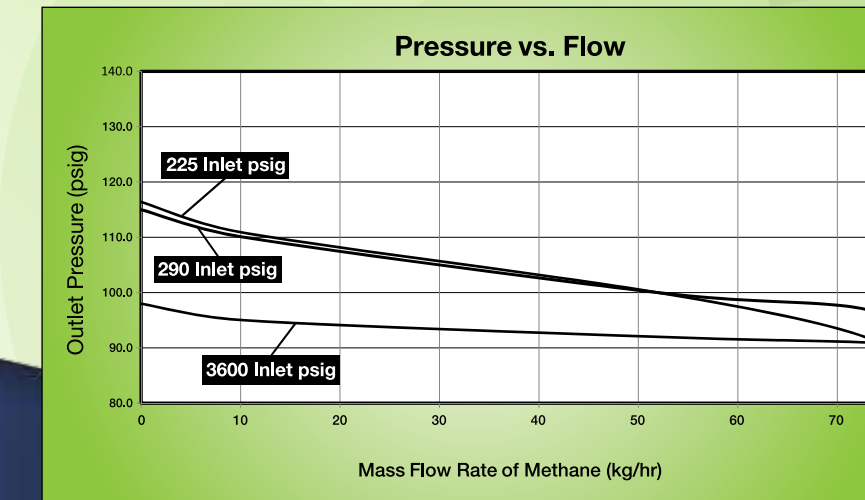
Sealed dome captures vent and boost pressure, augmenting outlet pressure.

Stable. Well-dampened piston reduces flow-induced vibration.

Fewer leak paths for more efficient performance.

Superior cycle life. Constrained motion poppet design eliminates lateral loads and seat wear.

Durable machined body.



FUNCTIONAL SPECIFICATIONS

Design	
Burst Pressure	10,800 psig (750 bar)
Proof Pressure	5,400 psig (375 bar)
Flow Capacity	165 lbs / hr (75 kg / hr) NG
Solenoid Valve	12 / 24 V DC
Filter	Custom options for Particulate and Coalescent Filters

OPERATING PARAMETERS

Pressure Envelope	
Inlet Pressure	225 – 3,600 psig (16 – 250 bar)
Outlet Pressure	25 – 140 psig (1.75 – 10 bar) Factory set at time of delivery

Integrated system saves assembly time.

Full flow to regulator increases vehicle range.

Meets or exceeds industry specs.

Fuel line pressure rise is reduced. The contained volume of fuel between the solenoid valve and regulator seals is minimized.

Compact. Maximum efficiency in a small space.

Reduced drop at high flow (75 kg / hr NG).

Parker offers multiple regulator options for systems integrators and OEMs

No other company can provide you with as many options to customize your fuel system. Choose a machined or cast body regulator with any or all of the following:

- Integrated filters
- Pressure sensors
- Lock-off solenoid valve
- Heat exchanger
- Low-pressure relief valve



Choose from a full line of leak-free, high efficiency components to complete your fuel system.

FFC-112 / 112L / 113 Filters

Positioned on the high-pressure side of the vehicle system between the storage tank and the pressure regulator where pressures can typically reach 3,600 psig.

- Anodized filter housing for long life and corrosion resistance in hostile environments
- Easy drainage without bowl removal
- ECE R110 certified



FFC-110 / 110L Filters

Positioned on the low-pressure side of the vehicle system between the pressure regulator and the fuel injectors. Protect fouling of fuel injectors.

- 800 psig maximum pressure is highest known
- Excellent corrosion resistance
- Easy drainage without bowl removal
- ECE R110 certified



FMS-362 Receptacles

NGV1 / ANSI compliant receptacles are keyed and pressure-activated to prevent backflow and over-pressurization.

- 3,000 and 3,600 psi versions
- Can connect with other manufacturers' compliant products
- Bulkhead designs for rigid mounting
- Integral filter element option



High-Pressure Fuel Line Fittings

The widest range available. Choose from stainless steel Seal-Lok® O-ring face seal fittings or CPI™ / A-LOK® compression fittings with Supercase® hardened ferrules for advanced corrosion resistance.



FOR MORE INFORMATION ON OUR CNG VEHICLE GAS REGULATION SYSTEM, visit solutions.parker.com/alternativefuels or email us at ngv@parker.com



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