

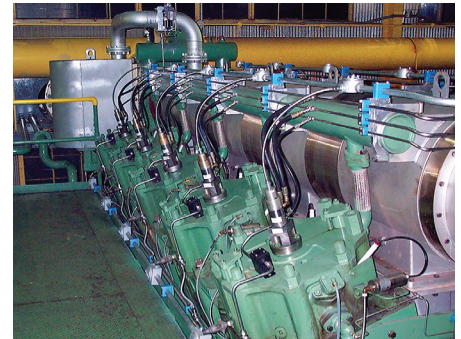
Dresser-Rand

Enginuity HPFi

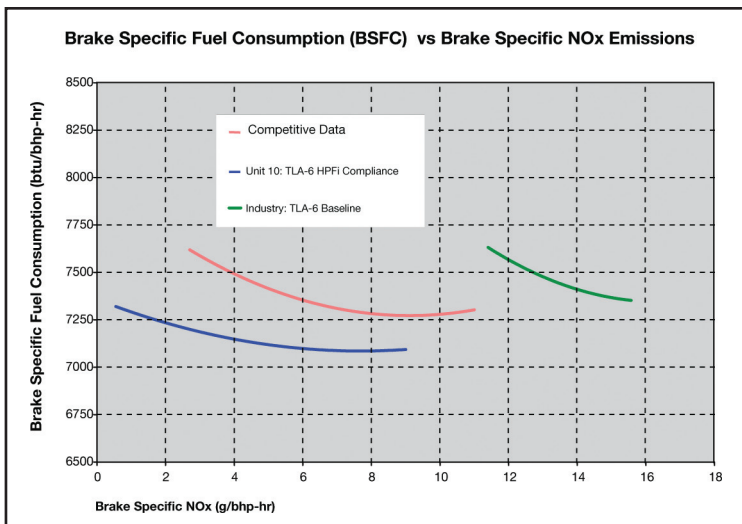
High Pressure Fuel Injection System

Dresser-Rand's leadership in technology, business processes, and operational excellence creates products and services capable of achieving the highest level of client satisfaction and long-term loyalty throughout the global energy industry.

Dresser-Rand's Enginuity high pressure fuel injection (HPFi) system provides a cost-effective upgrade of fuel/gas control for direct-injected, natural gas-fired industrial engines. The Enginuity HPFi was the first advanced combustion control technology for direct-injected, natural gas-fired industrial engines. HPFi is an electronically controlled, high-pressure fuel injection system that combines several proven control components aimed at meeting very stringent operating, performance, and emissions requirements. This technology eliminates many of the characteristic problems of direct-injected, large-bore, natural gas-fired engines at a fraction of the cost of traditional combustion retrofit technology. With HPFi, poor air/fuel mixing and unbalanced fuel metering between cylinders are a thing of the past.



HPFi provides exact control of the fuel gas to provide an optimally mixed air/fuel charge that produces combustion performance and emissions characteristics equivalent to well-designed, state-of-the-art IC engines. The commercial availability of HPFi is the result of our commitment to turn advanced technology into applied solutions. We have worked with key suppliers, including Woodward Industrial Controls, to develop a well-engineered system that provides a cost-effective strategy for upgrading existing engines in the field. HPFi is another example of technology that works.



Benefits*

- Up to 95 percent reduction of NOx emissions**
- Up to 50 percent reduction of CO emissions**
- Up to 8 percent fuel savings**
- Improved start-up reliability
- Easy integration with iMPACT for closed-loop balancing and combustion control
- Elimination of mechanical governor and valve train

For more information on [Enginuity](#) products and services contact the following location.

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Fort Collins, CO 80525
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For a complete listing of products and services, visit www.dresser-rand.com or contact one of the following Dresser-Rand locations.

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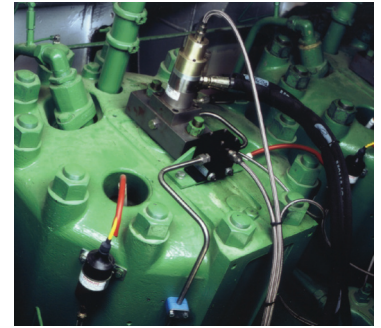
* When compared with mechanical fuel injection system.

** According to actual test data. Specific results will vary depending on engine make/ model and operating conditions.

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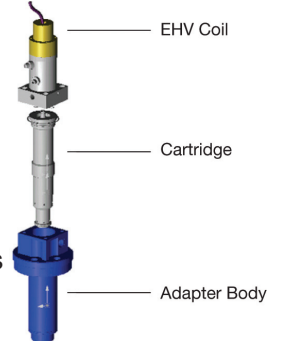
Performance and Operating Characteristics

- Electronically controlled fuel direct injection
- High-pressure fuel injection for superior in-cylinder air/fuel mixing
- User-defined emissions and fuel performance
- Closed loop automatic power cylinder balancing (requires iMPACT system) balancing and combustion control
- Injection valve safety monitoring
- Precision speed control



Specifications

- Fuel injection pressure: 500 psig (nominal)
- Hydraulic pressure: 800 psig (nominal)
- Supports up to 550 hp/cyl@300 rpm and 500 psig supply
- Electric power supply: 120VAC or 24 VDC
- Compliant with all DOT and intercompany requirements
- Compliant with all CSA Class 1, Div 2 and UL requirements



New HPFi Valve Replacement Program

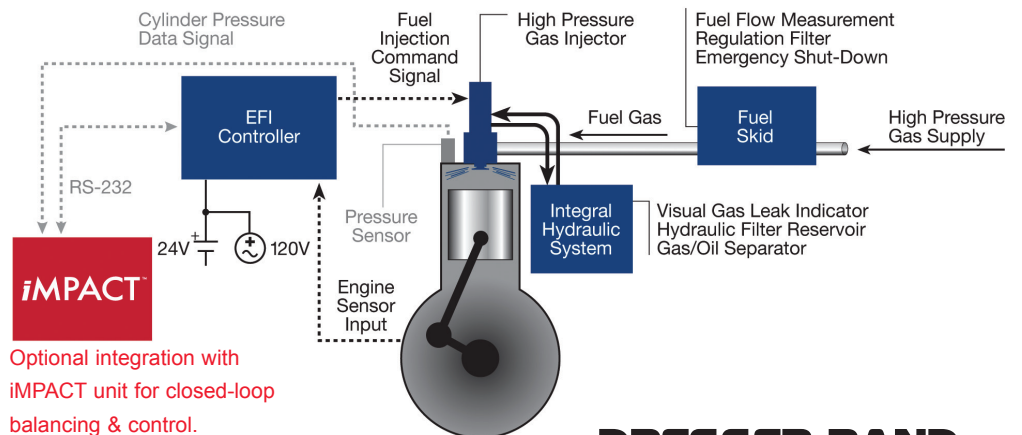
The Enginuity high-pressure replacement valve (HPiV) replacement program is designed to give you flexibility when it comes to maintaining the performance of your high-pressure fuel injection valves. Like any fuel injection valve, the Enginuity HPiV will eventually wear out. The most probable wear items are the gas/oil valve stem seal or the valve seat itself. D-R is providing its clients with several options for replacing the HPiV:

- Field rebuild – using new or remanufactured cartridges
- Factory rebuild – using new or remanufactured cartridges
- New fuel valve

Remanufactured Cartridges

Through Dresser-Rand's Enginuity HPiV cartridge remanufacturing program, existing cartridges are disassembled, cleaned, and inspected; all soft seals are replaced and the final assembly is tested for functionality and leakage.

We can help you diagnose your fuel valve needs, determine what you need to purchase if a remanned valve is the appropriate choice, and show you how to replace an HPiV if you decide to do it yourself.



Optional integration with iMPACT unit for closed-loop balancing & control.

