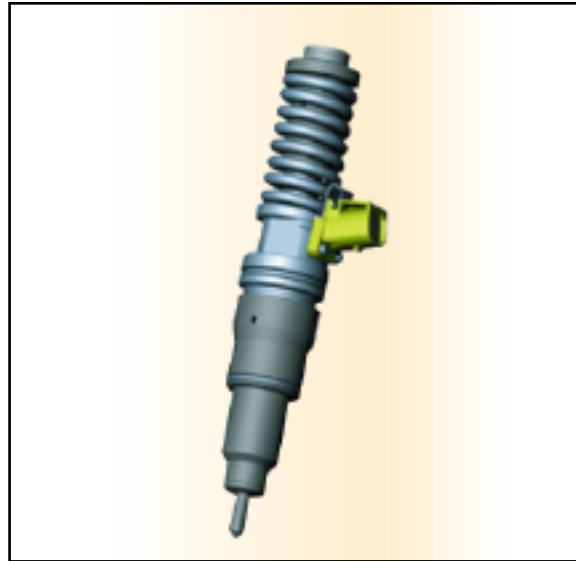


Delphi E3 Diesel Electronic Unit Injector

Delphi is an industry leader in diesel fuel injection technology. Delphi is actively involved in the development of advanced diesel technology to create fuel injection equipment that continues to help meet stringent emission requirements while enhancing fuel economy and performance. Extensive experience in high-pressure fuel injection technology has helped Delphi develop several innovative design and control strategies to meet customer needs for cost-competitive, high-value fuel injection systems that provide accurate injection over the life of the vehicle. These systems are designed to help minimize emissions while providing robust performance and low noise.

Description – The Delphi E3 diesel electronic unit injector (EUI) is a revolutionary new advanced diesel fuel injection system. It is intended for heavy-duty diesel applications. Utilizing the same body profile as the class-leading E1 electronic unit injector, the E3 electronic unit injector incorporates a patented two solenoid valve technology that enables the system to generate higher pressures at lower engine speeds.

Within a compact and lightweight body, the E3 electronic unit injector has two independent fast response precision actuators that together can change the injection pressure level (up to 2,000 bar) and adjust fuel delivery timing and duration on a per shot basis. This leap in technology gives the E3 injector the unique ability to achieve full pressure control at low and high engine speeds. The unique technology has been further enhanced to give pilot split main- and post-injection along with a rising pressure characteristic during these events.



Competitor fuel systems generally maintain or reduce pressure during the injection event.

Features

- 2,000 peak bar pressure injection
- Compact and lightweight
- High-speed actuation
- Electronic pilot injection
- Individual injector electronic characterization
- Two-valve system within EUI injector body
- High-pressure post-injection
- Programmable shot-to-shot injection control
- Programmable variable nozzle opening and closing pressure

DELPHI

www.delphi.com

Delphi Energy & Chassis
5820 Delphi Drive
Building D
Troy, Michigan 48098-2815 U.S.A.
Tel: [1] 248.813.2000

Delphi E3 Diesel Electronic Unit Injector

Benefits

- Helps meet Euro III/IV and US02/04 emissions levels, with potential for Euro V and US07
- Smaller installation envelope benefits engine designers
- Reduced response time
- Reduced noise
- Injection optimization for differing combustion systems
- Spill and nozzle control
- Smoke and particulate reduction
- Flexible end of injection (spill, pressure backed, combined)
- Split main injection (rate shaping)
- Programmable high-pressure profile over speed range
- Helps improve fuel consumption and performance

Typical Application – Intended for heavy-duty diesel applications, the radically redesigned E3 electronic unit injector provides the widest flexibility of injection characteristics, allowing injection optimization for differing combustion systems at all engine operating conditions.

Performance Advantages – The Delphi E3 injector provides the flexibility to help achieve extremely low smoke/particulate levels at any load and speed point due to the fact that high injection pressure can be generated across all operating conditions. These low smoke/particulate levels also help reduce the need for large and costly aftertreatment devices.

The reduced size of the E3 electronic unit injector frees up valuable space in the cylinder head, allowing greater flexibility for rocker and valve layout. More significantly, the pumping route of the fuel is shortened, which benefits the injector's hydraulic performance and achieves a more rapid response to electronic signals from the electronic control unit (ECU).

The ECU contains specially developed software and solenoid wave forms to provide full electronic control of both actuators. Utilizing engine sensor inputs, the exact injection parameters required for optimum engine emissions, fuel consumption, and performance are determined and delivered by virtue of the functionality offered by the E3 electronic unit injector, a major advantage to diesel engine original equipment manufacturers in the development of Euro IV and Euro V engines. With optimized hydraulic performance and 1,609,000 km (1,000,000 miles) durability*, the Delphi E3 diesel electronic unit injector represents a significant step forward in diesel fuel injection technology.

*Based on accelerated durability testing

Specifications	
Plunger diameter range	9 mm to 11 mm
Stroke range	up to 18 mm
Engine cylinder capacity	1.5 liters to 2.6 liters
Peak pressure	2,000 bar
Weight	1.1 kg
Emission levels	Euro III/IV/V and US 02/04/07