

High-Response Piezoelectric Gasoline Fuel Injector – Advanced Ultra-Fast Injection Nozzle for High-Performance Engines

Specifications :

Price	Contact us
Place of Origin	China
Min.Order Quantity	10
Payment Terms	OEM?ODM?OBM
Supply Ability	1000
Delivery Detail	3-7

Detail Introduction :

Parameter	Specification / Detail
Fuel Type	Premium Unleaded Gasoline / High-Octane Blends
Actuator Mechanism	Multi-Layer Piezoelectric Crystal Stack
Combustion System	Spark-Ignition Direct / Multiple Injection GDI
Core Function	Multi-Phase Micro Injection & High-Response Atomization
Switching Speed	Ultra-Fast (< 0.2 ms)
Pressure Rating	Up to 350 – 500 bar
Operating Temperature	-40°C to +150°C
Target Applications	High-Performance Cars, Premium Passenger Vehicles

Piezoelectric actuation represents the pinnacle of modern fuel injection technology. Unlike conventional magnetic coils, piezo stacks expand immediately upon receiving an electric charge, translating into needle reaction times that are up to five times faster than traditional injectors. This lightning-fast switching capability allows for multiple pre-injections, main injections, and post-injections within a single cycle. The result is superior combustion control, enhanced peak power output, lower engine noise, and significantly reduced exhaust emissions.

Key Product Highlights:

Ultra-Fast Actuation: Piezo crystal actuators allow instantaneous needle opening/closing for multiple injection pulses per combustion event.

Pinpoint Metering Accuracy: Delivers precise micro-doses of fuel even under extreme engine RPM and changing pressure demands.

Enhanced Power & Efficiency: Optimized heat release rates maximize thermal efficiency and peak torque.

Quiet & Smooth Operation: Reduced combustion knock and engine noise through flexible multi-injection control strategies.

Target Applications:

High-Performance Vehicles: Turbocharged GDI sports cars, premium luxury sedans, and performance-tuned gasoline passenger engines.

Advanced Powertrains: High-efficiency hybrid powertrain systems requiring rapid transient fuel control.

Why Choose Us:

We specialize in high-precision piezo stack integration and ultra-precise micro-hole machining. Every unit is tested under extreme thermal and pressure stress to ensure maximum piezoelectric stability and dynamic flow uniformity across all engine operating maps.