
EP **///X**

Engine Service & De-Carbonizing Units



OVERVIEW

ES //X | EP //X

Engine Service & De-Carbonizing Units



ES-X

three tanks, every treatment ready at all times. No fluid or filter change between cycles: maximum throughput.



TANK TO TAILPIPE - TREATMENT PATH

Deposits accumulate progressively across the fuel and exhaust path: injector nozzle coking degrades spray pattern and flow, carbon on intake valves and piston rings restricts breathing and compression, turbine vanes stick, and soot and ash load the DPF toward forced regeneration or replacement. One connected cycle treats the complete path.

FROM THE TANK TO THE TAILPIPE. IN ONE CYCLE

The engine runs on ES-X / EP-X Series detergent supplied through its own fuel circuit. The chemistry therefore reaches every surface the fuel reaches, high-pressure pump, rail, injectors, combustion chamber, turbine, catalyst and DPF.



Component	Treatment
Fuel pump & lines	Deposits and varnish removed
HP pump & rail	Internal lacquer removed - pump conditioned
Injectors	Nozzle deposits removed - spray pattern and flow restored
Intake manifold, throttle body & valves	Carbon build-up removed - IMC.01 kit
Combustion chamber, pistons & rings	De-carbonized - rings released, compression restored
Turbocharger	Carbon released from turbine and vane assembly
Catalytic converter & DPF	Particulate matter, soot, ash, organics and sulfates removed in situ - DPF.01 kit
Exhaust system	Complete path, diesel or gasoline

Chemical de-carbonization through the injection system. No disassembly.

SYSTEMS & APPLICATIONS

- **Diesel:** Common-Rail and conventional
- **Gasoline Direct Injection:** GDi, FSI, HPI, CGI
- **Conventional injection:** MPFi / TBI / CIS - LPG, alternative fuels and carbureted engines
- **Duty classes:** Passenger car and HEV / PHEV, motorcycle, racing, Light to Heavy-Duty, Industrial and Marine
- **Universal fittings and adapter kits** for all engine configurations

OPERATING PRINCIPLE & CONTROL

- **Detergent delivery through the fuel circuit:** ESX / EPX Series detergents activate inert carbon, resins, varnish and gums, which are then oxidised through normal combustion
- **Automatic pressure adjustment** and automatic operation cycle: electric pump, up to 10 bar
- **Programmable duty-cycle software** in the DPF.01 and IMC.01 adapter kits
- **Common-Rail cleaning** with high-pressure pump conditioning
- **Guided on-display procedure** with language localization; visual and audible cycle alarms
- **Online software updates**
- **Non-combustible detergents** used in the DPF and intake manifold kits

METHOD COMPARISON

- **Against intake-side gas systems (HHO / hydrogen):** gas introduced at the intake cannot reach the high-pressure pump, rail or injectors. Fuel-circuit delivery treats the injection system and the combustion side in the same cycle.
- **Against aerosol foams and pour-in additives:** the cycle runs under controlled pressure and a defined duty cycle rather than open-loop application, giving repeatable treatment across vehicles.
- **Against mechanical methods:** no intake manifold removal, no blasting media to extract, no filter removal for off-vehicle thermal or aqueous cleaning.
- Supplied outright: no franchise, licence or territory agreement. 2-year full warranty worldwide; upgradeable design.



EP-X

single tank, the full treatment range at entry investment; fluid and filter changed when switching cycle type.

70%+

Exhaust emissions reduced by more than 70%

30-40%

Power and torque restored up to 30-40% recovered on heavily fouled engines; blocked valves and piston rings released, compression recovered

10-15%

Fuel consumption reduced typically 10-15%, often more on neglected engines, with measurably improved combustion efficiency

Idle-speed stability improved and engine knocking reduced

DPF and catalyst regeneration frequency reduced after treatment

Recovery figures are indicative and depend on engine condition, deposit level, fuel quality and service history. The more heavily fouled the engine, the greater the measurable recovery.

OVERVIEW

FST/FST-HF

HP-G2500 | HP-G250

Fuel System Testing & Analysis

NOT EVERY INJECTION FAULT
IS AN INJECTOR.

Most injector complaints are supply faults: a restricted filter, a tired lift pump, a collapsed return line, a rail that never reaches commanded pressure. These three tools confirm the condition of the fuel circuit on the vehicle before parts are removed and bench time is spent.

On-vehicle pressure, flow and vacuum diagnosis from lift pump to common rail.

FST / FST-HF

Low-Pressure Circuit & Engine Breathing

A single hood-mounted unit reading fuel pressure, fuel flow, manifold vacuum and exhaust back-pressure together, so supply, induction and exhaust restriction are assessed in one connection.

HP-G2500

Common-Rail Gauge, up to 2,500 bar

Reads true rail pressure independently of the vehicle's own rail pressure sensor. The check that separates a failing sensor or ECU signal from a genuine high-pressure fault.

HP-G250

High-Pressure Gauge, up to 250 bar

The gasoline GDi and Conventional Diesel counterpart, covering the pressure band where port-injection and direct-injection supply faults occur.



BEYOND SCAN TOOL READINGS

Real measurements reveal the true fault.

FST / FST-HF

- **Fuel pressure and flow:** identifies incorrect supply pressure, low system flow, a plugged filter or inlet strainer, a faulty lift pump or check valve, and restrictions in supply and return lines
- **Leaking injectors** detected through abnormal pressure decay
- **Manifold vacuum:** fluctuation indicating induction and mechanical engine faults
- **Exhaust back-pressure:** DPF and catalytic converter restriction measured on the vehicle
- **Turbo-boost pressure** operation verified
- **FST-HF high-flow version:** for racing and performance fuel systems with elevated delivery rates
- **Analog gauges and flow tube:** direct reading, no calibration drift, no batteries; spill-free quick connectors and an engine-hood hook
- **Adaptable to all makes, models and types:** diesel and gasoline

HP-G2500

- **Up to 2,500 bar:** covers current and next-generation common-rail injection systems
- **Static and dynamic testing:** pump delivery on cranking and system pressure with the engine running
- **Confirms high-pressure pump output,** pressure control valve and regulator operation, and rail pressure sensor accuracy
- **Adaptable to all CRDi systems:** Bosch, Delphi, Denso, Schaeffler / Continental, and others
- **Compact and portable:** high-pressure hose set, no power supply required

HP-G250

- **Up to 250 bar:** conventional Diesel systems and gasoline GDi fuel systems
- **Static and dynamic testing:** cranking and running pressure
- **Verifies GDi high-pressure pump delivery** and fuel supply integrity ahead of the injectors
- Adaptable to all DI and GDi systems
- **Compact and portable:** hose set included, no power supply required



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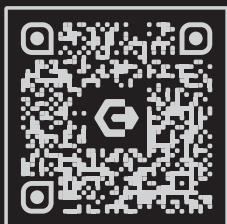
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