

TECHNICAL EVALUATION SUMMARY

Product Brand:	InTenZ: E-Clean+ ICE	Evaluation Date:	September 23, 2026
Evaluation Type:	Stationary Exhaust-Gas Comparison Test	Protocol	Spheretech EASYDIAG®
		Standard:	Protocol
Hardware Used:	BOSCH BEA 060 5-Gas Analyzer	Document Ref:	G4A-ICE-2026-002

Executive Summary: *This technical document summarizes rigorous comparative emission validation testing performed on operational, heavy-duty commercial freight tractors equipped with the InTenZ: E-Clean+ ICE molecular fuel conditioning system. All verification procedures and measurements were audited, witnessed, and confirmed by an officially designated European Union (EU) Technical Service authorized for automotive compliance and type-approval certifications.*

1. Purpose & Core Methodology

The objective of this engineering evaluation was to analyze changes in exhaust emissions before and after the setup of the InTenZ system. Testing strictly targeted structural shifts in carbon dioxide (CO₂) alongside core combustion byproducts to verify changes in engine thermal efficiency. In heavy commercial transport operations, a measured decrease in exhaust CO₂ concentration yields a direct correlation to fuel consumption reductions: less carbon released means less diesel consumed for identical mechanical effort.

All core measurements—including both the standardized protocol and extended operating points—were executed with the vehicles stationary to eliminate external routing variables. Engine speeds (RPM) were precisely modulated across stabilized operational windows to isolate system effects on fuel physics immediately prior to high-pressure injection.

2. Controlled Evaluation Test Profiles



COMMERCIAL TEST PROFILE 1: HEAVY FLEET PLATFORM (530 HP CLASS)

- **Engine Architecture:** Heavy-duty inline 6-cylinder common-rail diesel powertrain.
- **Emission Baseline Class:** Euro VI E ultra-low emission fleet standard.
- **Active Fleet Mileage Baseline:** Over 292,000 km (181,000+ miles) of continuous logistics service.
- **Fuel Calibration:** Standard, commercially available B7 heavy transit diesel (no additives or refueling changes during testing).



COMMERCIAL TEST PROFILE 2: HEAVY FLEET PLATFORM (460 HP CLASS)

- **Engine Architecture:** Heavy-duty industrial common-rail diesel propulsion block.
- **Emission Baseline Class:** Euro VI E ultra-low emission fleet standard.
- **Active Fleet Mileage Baseline:** Over 161,000 km (100,000+ miles) of active regional routing.
- **Fuel Calibration:** Standard, commercially available B7 heavy transit diesel.

3. Standardized 5-Phase Diagnostic Sequence

To establish baseline parity, an identical multi-phase evaluation protocol was executed for each heavy commercial platform both before and after the low-pressure fuel line hardware installation:

- **Phase 1 – Core Idle:** Engine startup followed by 45 seconds of continuous operational idling stabilization.
- **Phase 2 – Heavy-Duty Green-Range Speed:** Static acceleration held at 1,500 RPM to evaluate the engine's primary torque band.
- **Phase 3 – Peak Thermal Capacity:** Full-load stabilization with the accelerator pedal fully depressed for 10 seconds.
- **Phase 4 – Thermal Dissipation:** Controlled return to standard engine idle for 45 seconds.
- **Phase 5 – Post-Shutdown Evaluation:** Immediate engine stop followed by a 45-second closed-circuit exhaust stream measurement.

4. Key Engineering Takeaways for Fleet Operators

- **Direct Fuel Cost Reduction:** Third-party regulatory verification confirmed systemic drops in exhaust CO₂ parameters, validating an immediate optimization of thermal energy release per unit of fuel consumed.
- **Green-Range Efficiency Maximization:** The molecular conditioning technology demonstrated high stability and emission mitigation precisely inside the 900 RPM to 1,500 RPM spectrum. This green-range band represents more than 80% of real-world heavy transport operating schedules.
- **Non-Invasive Infrastructure Footprint:** Strict validation was achieved with the hardware mounted exclusively to the low-pressure intake line. The configuration functions independently without requiring any recalibration of OEM engine computers, powertrain parameters, or original fuel delivery loops.

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