



# D-LUBE

## ON-LINE MEASUREMENT OF FUEL DILUTION AND EVAPORATION IN I.C. ENGINES

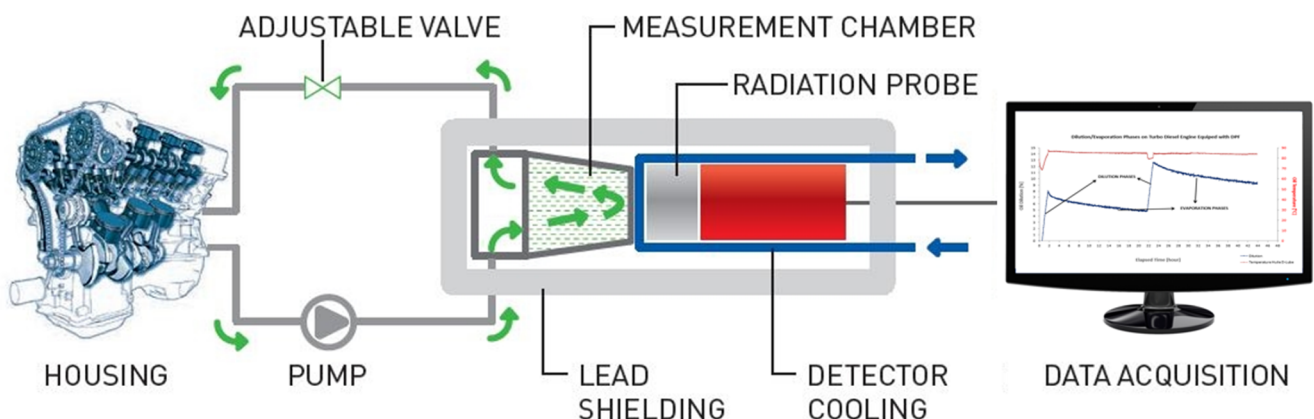
D-Lube is the right tool to study the impact of engine parameters and post-injection strategies on fuel dilution process



### D-LUBE

The principle is based on the use of a radiotracer compound, which allows real-time measurement of fuel dilution on running engines.

The methodology applies to gasoline, diesel, and bio-fuel engines for optimization of cold start procedures, for the development of post-injection strategies and evaporation cycles.



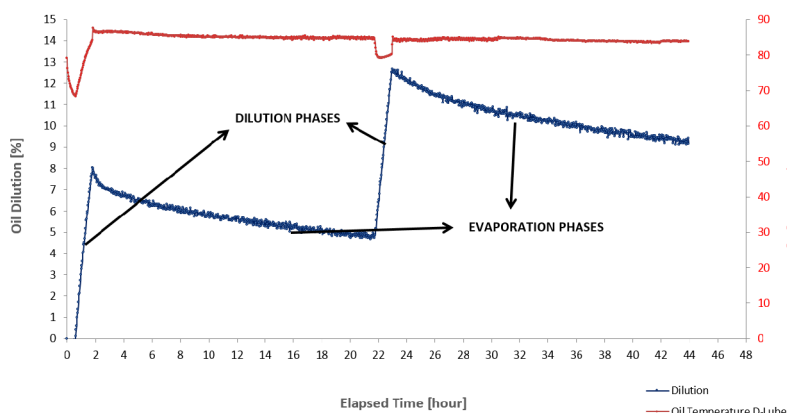
## SPECIFICATIONS

- ⚙ On-line / Real-time results: Fuel dilution is continuously monitored during engine operation at a rate of 1 measurement per minute.
- ⚙ Short Test Durations: Dilution rates are accurately measured within runs
- ⚙ High Sensitivity: 0.05% per hour (in terms of volumic dilution rate)
- ⚙ No Change in Oil Properties: Less than 100 µl of tracer is added to the engine oil pan – Moreover, the tracer is of the same nature as base oil
- ⚙ Easy to Install: 2 hoses are easily connected between the engine oil sump and D-Lube equipment
- ⚙ Applicable on test beds and on vehicles: standard equipment is dedicated to test bench applications. A compact version is available for on-board installation on passenger cars and HD vehicles.

## BENEFITS

- ✓ Results available on-line, during engine operation
- ✓ High sensitivity of ~0.05% per hour (in terms of dilution rate)
- ✓ Excellent discrimination between fuel and lubricant, which is the weakness of the GC method where superposition of the heavy fuel fraction and the light oil fraction can induce uncertainties
- ✓ It can be combined to other radiotracer methodologies to study the impact of dilution on wear of critical components such as bearings, camshafts, etc.

Dilution/Evaporation Phases on Turbo Diesel Engine Equipped with DPF



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