

RDE EASY

CONTROLLED MEASUREMENT AND ANALYSIS OF EMISSIONS.
V-MOTECH SERVING AN ECO-FRIENDLY AUTOMOTIVE INDUSTRY

V-MOTECH OFFERS TURN-KEY SOLUTIONS TO EFFECTIVELY ASSIST YOU
AND ACCELERATE YOUR R&D WHILE COMPLYING WITH THE REGULATION.



MEASUREMENT OF EXHAUST EMISSIONS AND « ENGINE OUT »

THC, NO_x (NO + NO₂), CO, CO₂, O₂ : concentration
and flow rate particle number and mass



POST-PROCESSING AND ANALYSIS

V-Motech is committed to provide accurate and detailed analysis through data processing in accordance with both **EMROAD** and **CLEAR** methods imposed by the **RDE-LDV regulations**.

Our added value consists of providing car manufacturers with robust tools associated with experienced technical skills for the implementation of emissions tests.

V-Motech qualified engineers teams are able to synchronize the emissions measurement with external data such as **cylinder pressure, energy consumption, engine control data and CAN vehicle records**.

Measurement system know-how (PEMS, EFM, etc.)

Road Test definition and management

Robust test methodology

Storage of vehicles in our secure workshop

Soaking at variable temperatures

Channel Name	Unit	Value
GPS_Lat	d°m's"	48°37'48.2
GPS_Long	d°m's"	2°15'36.89
GPS_Alt	m	50.20
GPS_Vel	km/h	2.00
AMB_Hum	%	62.20
AMB_Pre	mbar	1015.65
AMB_Temp	°C	19.200
GPIS_NO	ppm	8.66
GPIS_NO2	ppm	10.39
GPIS_CO	ppm	57.00
GPIS_CO2	%	0.01
	%	20.8



V-MOTECH IS ABLE TO QUANTIFY ACCURATELY AND ROBUSTLY EXHAUST EMISSIONS IN TWO CONFIGURATIONS:

EMBEDDED IN A VEHICLE

Achieving runs in actual use conditions, as required by regulations.



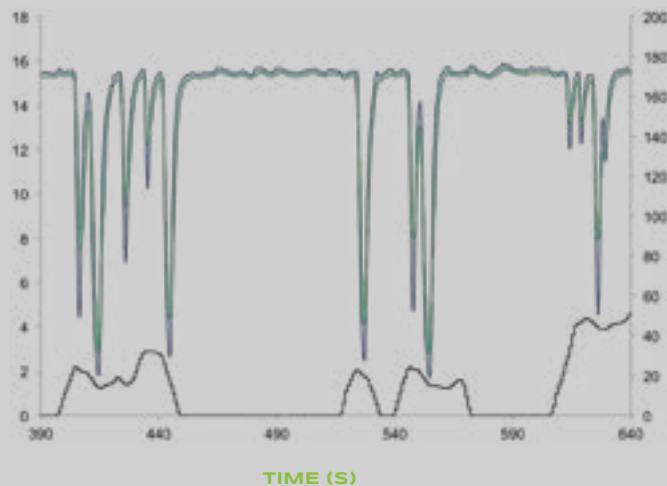
COMBINED WITH V-ROAD

Allows reproducible cycles under the conditions imposed by the RDE-LDV regulation.



CO₂ CONCENTRATION (%)

VEHICLE SPEED (KM/H)



— CO₂ emission bench
— CO₂ PEMS
— Vehicle speed

Correlation of results between a standard

TECHNICAL SPECIFICATIONS

GAS	MEASUREMENT RANGE	MEASUREMENT ACCURACY	DERIVATIVE AT 0	SPAN DERIVATIVE
THC	0-30 000 ppmC1	From 0 to 249 ppmC1 : ± 5 ppmC1 From 250 to 30 000 ppmC1 : ± 2% rel	1,5 ppmC1 /8h	≤1% rel /sem
NO	0-5 000 ppm	± 0,2 % FS or ± 2% rel	2 ppm /8h	≤1% rel /sem
NO ₂	0-2 500 ppm	± 0,2 % FS or ± 2% rel	2 ppm /8h	≤1% rel /sem
CO	Linear range : 0-5 vol% Total range : 0-15 vol%	From 0 to 1 499 ppm : ± 30 ppm abs From 1 500 to 49 999 ppm : ± 2% rel	20 ppm /8h	≤20 ppm abs /8h ou 2% rel /8h
CO ₂	0-20 vol%	From 0 to 9,99 vol% : ± 0,1 vol% abs From 10 to 20 vol% : ± 2% rel	0,1 vol% /8h	≤0,1% abs /8h ou 2% rel/8h
O ₂	0-25 vol%	± 1 vol% FS	-	-
GAS FLOW	T°C gas at 100°C : 15-2 140 kg/h T°C gas at 400°C : 23-1600 kg/h	The largest of ± 2% rel ou ± 0,5 FS	-	-
PARTICLES NUMBER AND MASS	From 10 ⁴ to ~ 2x10 ⁷ #/cm ³	Counting efficiency: > 50% for particles ≥ 23 nm > 99% for particles ≥ 50 nm	-	-

ppmC1: concentration of the number of carbon atoms in a hydrocarbon molecule



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