

DIMETHYL ETHER (DME) TRUCK

EASILY MEETS U.S. EMISSION STANDARDS TO TAKE EFFECT IN 2010

**High-Efficiency
Equivalent to
Diesel Engines**

**No Black
Smoke**

**Significant
Reduction
of NOx**

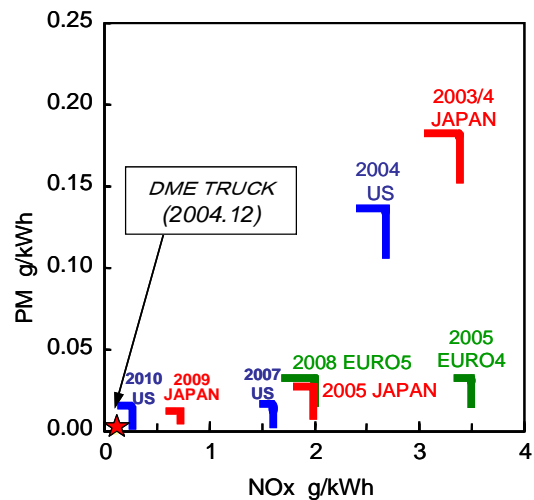
Long Range



A DME truck is a truck fueled by dimethyl ether (DME). DME is one of the alternative fuels for petroleum that is produced from variety of carbon resources such as natural gas, coal seam gas, and biomass. DME is also notable as a clean fuel to replace diesel, for its usability in compression ignition engines and its liquefaction characteristics (i.e., DME liquefies easily at relatively low pressures) which makes the handling and loading of fuel into vehicles easy, with the absence of sulfur and black smoke generation.

In the project called “Next-generation Environmentally Friendly Vehicles Development Promotion” which is commissioned by the Japanese

Emission regulation for H/D diesel engine



DME truck specification		NISSAN DIESEL PW25A
Dimension	Overall Length [m]	12
	Overall Width [m]	2.5
	Overall Height [m]	3.4
Gross vehicle weight [ton]		20
DME tank capacity [L]		342 (171 + 171)
Driveng mileage [km]		627(*1)
Engine spec.	Type	4-cycle, water-cooled
	Cylinder	in-line, 6 cylinders
	Valve type	OHV, 2valves per cylinder
	Bore / Stroke [mm]	108 / 126
	Displacement [cc]	6925
	Aspiration	Turbocharged with intercooler
	Combustion type	Compression ignition
	Max. Power [kW / rpm]	199 / 2700
	Max. Torque [Nm / rpm]	750 / 1100
	Emission reduction sytem	EGR, Oxidation catalyst, NSR(*2)

*1; Calculated value from the Japanese JE-05 mode test result

*2; NSR: NOx storage reduction catalyst

Ministry of Land, Infrastructure and Transport (MLIT) for the National Traffic Safety and Environment Laboratory (NTSEL), an independent administrative institution, NTSEL developed a heavy-duty DME truck in collaboration with Nissan Diesel Motor Co., Ltd. It is a practical environmentally friendly heavy-duty truck for long-distance and high speed transport, with drastically reduced exhaust emissions while maintaining the high efficiency performance of a diesel engine by adding a fuel system designed with DME features to a base diesel engine.