

Dual Fuel Compression Ignition Internal Combustion Engine System Employing Compressed Natural Gas and Diesel and Method of Operating the Same

The engine system includes an exhaust gas recirculation loop having a catalytic converter in the exhaust outline of the engine and passing through a gas cooler. The engine includes an exhaust plenum chamber in the exhaust outlet line trailing the catalytic converter and a mixing chamber in the air inlet line. The inlet of the exhaust gas recirculation loop is connected across the exhaust outlet line through a first bypass line disposed before the catalytic converter and having a first bypass valve and is further connected across the exhaust outlet line through a second bypass line disposed after the catalytic converter and having a second bypass valve. A ring CNG injector is coaxially located with the air intake manifold and has a row of nozzles radially equally spaced from one another and directed towards the centre of the ring injector. The exhaust outlet line includes an exhaust outlet control valve at the outlet end thereof past the second bypass line. Engine is operated in two modes.

Patent application no. 3009/MUM/2014