

Diesel-NH3 Injection

Hydrofuel Inc is designing a sophisticated diesel-NH3 dual fuel injection system for compression-ignition engines. We expect that the market for this conversion system would be on-road and off-road heavy duty trucks .

Our design uses an ammonia injection system in the intake manifold of a diesel engine. The NH3 controller monitors intake manifold pressure and engine speed, which it uses to control NH3 flow. The system also monitors engine cooling water temperature to enable NH3 operation above a minimum temperature. It also monitors the NH3 regulator gas temperature to prevent it from frosting. Finally, the system has an exhaust gas temperature sensor to ensure that the engine is not overfueled with NH3. In the event that all of the onboard NH3 fuel is consumed, the system reverts back to 100% diesel operation.

An injection system is ideally suited to engines with rapidly varying load and speed. Fumigation systems are better suited to engines with relatively constant speed and load.