



Alternative Fuel Injectors

Advanced components for Hydrogen and CNG applications

At Quantum we design, manufacture, and market state-of-the-art Type IV fuel storage tanks and gaseous fuel components.



H₂ and CNG Injectors

Connector:

Injector mates with AMP™ connector

Supply Voltage:

8-16 Volts typical

Resistance:

2.05 +/- 0.25 Ω at 20°C

Inductance:

3.98 +/- 0.3 mH at 1000 Hz typical

Drive Circuit:

Peak and Hold



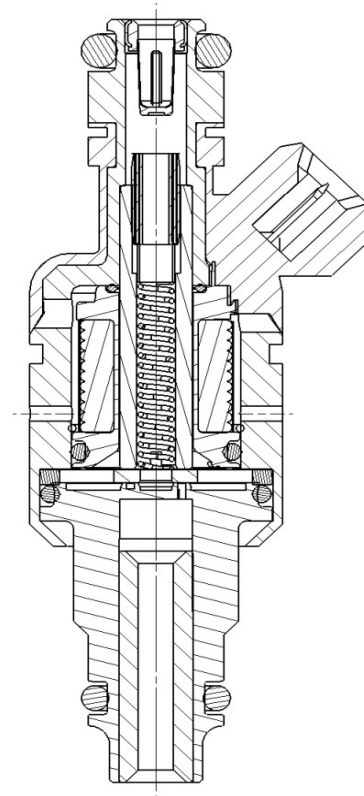
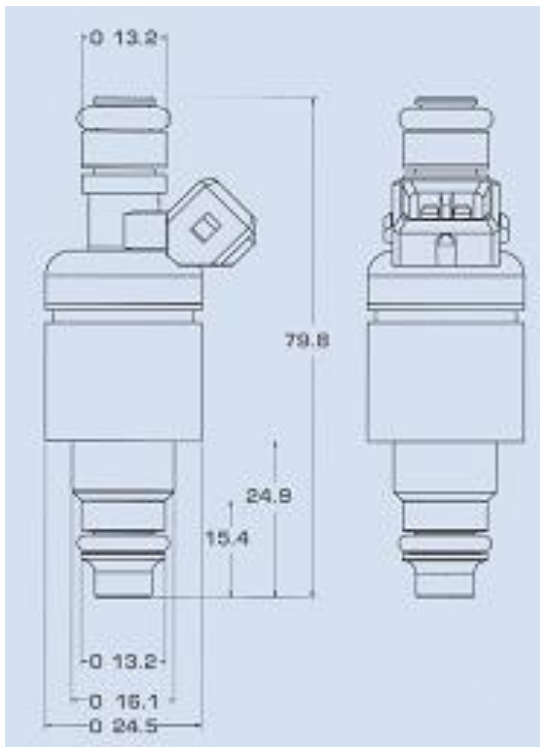
Quantum Part #	Description
110764	Hydrogen injector
100078	CNG injector

The Quantum alternative fuel injector is designed for multi-port internal combustion engine applications and for metering hydrogen in fuel cells. Existing liquid fuel injector designs suffer from premature failure in dry gas applications and are subject to both orifice contamination and flow capacity limitations for today's applications.

The Quantum injector provides freedom from frictional wear and sticking to enhance durability. Quantum's alternative fuel injectors have been designed and tested to achieve over 500 million cycles with CNG and over 150 million cycles with hydrogen.

Alternative Fuel Injector Specifications

Description	Specifications
Length	80 mm
Diameter (max)	24.5mm (excl. connector)
Flow capacity (Static)	3.2g/s @ 345kPa (50psi) tested with air
Dynamic Flow Rate	8.5 mg/pulse @ 3.5 ms pulse width (air)
Working Pressure	345kPa (50psi)
Durability Hydrogen	150 million cycles
Durability CNG	500 million cycles
Pulse period (Frequency)	10 ms (100Hz)
Peak/Hold current levels	4/1 amps
Internal (Tip) Leakage	Max 0.50 SCCM Nitrogen @ 345 kPa
External Leakage	Max 0.05 SCCM Nitrogen @ 345 kPa



The Quantum injector is a low impedance device requiring a peak and hold drive circuit. The system voltage is supplied during the peak current time followed by a hold current for the remainder of the pulse.