


Hydrogen Injection Portfuel Injection Valve (HIPI)

PFI Valve for Commercial Applications

*depending on Hydrogen pressure, valve opening time and engine rpm

	HIPI
Housing type Insert	
Flow direction Axial	
Solenoid Assembly Specific	
Specific power*	
Geometrical Flow Area	5 mm ² 10 mm ² 15 mm ²
Static flow rate	6 kgH ₂ /h @ 7 [bara] 12 kgH ₂ /h @ 7 [bara] 18 kgH ₂ /h @ 7 [bara]

Functional description

- ▶ The port fuel injector HIPI, injects gaseous fuel (H₂) cylinder-specific into the intake manifold of a spark-ignited gas engine for commercial vehicle applications.

Features

- ❑ Gaseous fuels: Hydrogen; other fuels on request
- ❑ Cover of large static mass flow range by stepwise valve size design
- ❑ Lifetime target min. 10.000 [h]
- ❑ Supply voltage 24 V (48 V boost)
- ❑ Target of overall gas leakage: < 1*10⁻³ mbar l/s (He)
- ❑ Supply pressure up to 15 bara
- ❑ ambient temperature: -40°C / +125°C
- ❑ gas temperature: -40°C / +125°C

Benefits

- ❑ High-precision gas admission to each cylinder in gas engines
- ❑ Modular assembly to supply different flow rates according to targeted engine power output
- ❑ Design is based on injector concept derived from already industrialized gas injectors for industrial applications
- ❑ Robustness and endurance validation defined based on the requirements for commercial vehicles

Maturity

- ❑ Pre-SOP (SOP planned 2028)