

Kinetic Water Injectors: KiWi™

Nostrum KiWi™ Direct & Port injectors



Specialty Injectors

KiWi™ Direct Water

- High pressure, direct in-cylinder water injectors

KiWi™ Port Water

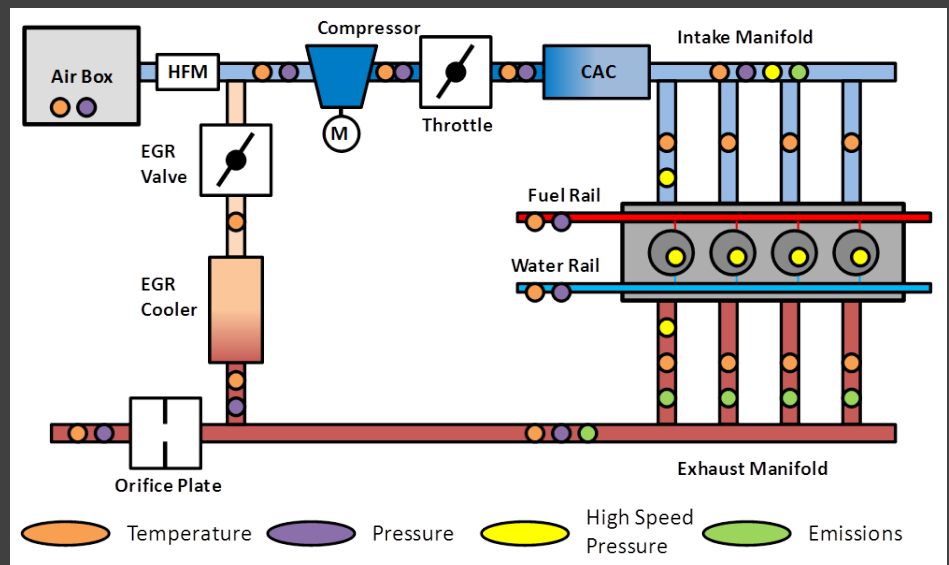
- Low and medium pressure, water injectors for intake track locations (single, multi and port)

Nostrum Energy's water injection technology with patented kinetic particle breakup nozzle is the unique proprietary injector designed to meet the extreme challenges of water injection. Nostrum's diluent injectors deliver improved atomization which enables Nostrum to reduce the amount of water that is used, maximizing the benefits of charge cooling and dilution, while minimizing any of the negative aspects that have been issues with prior efforts, such as oil dilution and component damage.

Kinetic Water Injection

- Patented kinetic particle breakup mechanism nozzle which delivers improved atomization, significantly reduced liquid lengths, and superior vaporization rates
- Operating Pressure: low (4bar) to high (250bar) pressure systems
- Spray targeting capabilities: up to 103deg plume widths and up to 35 degree targeting angle; split plume and special plume cross sections

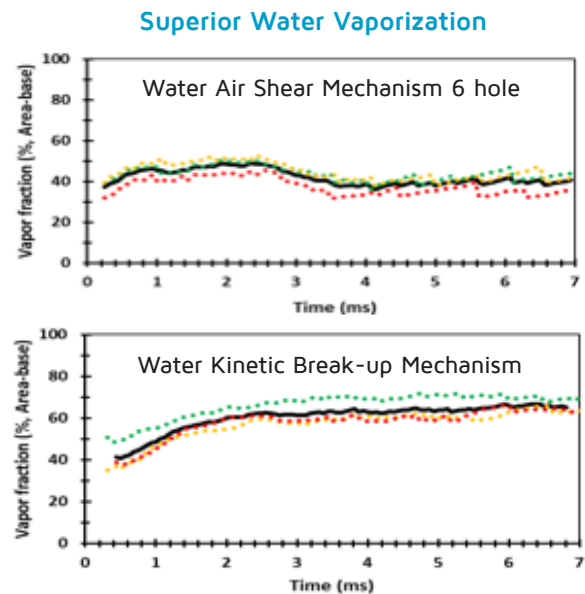
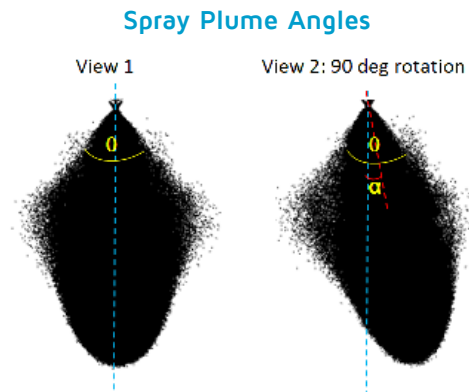
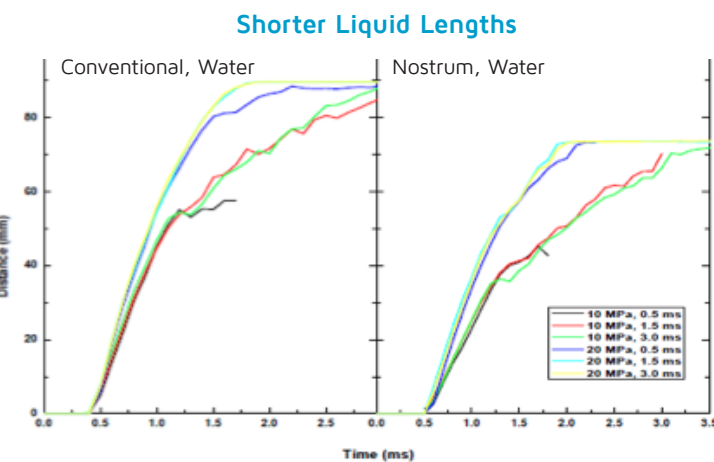
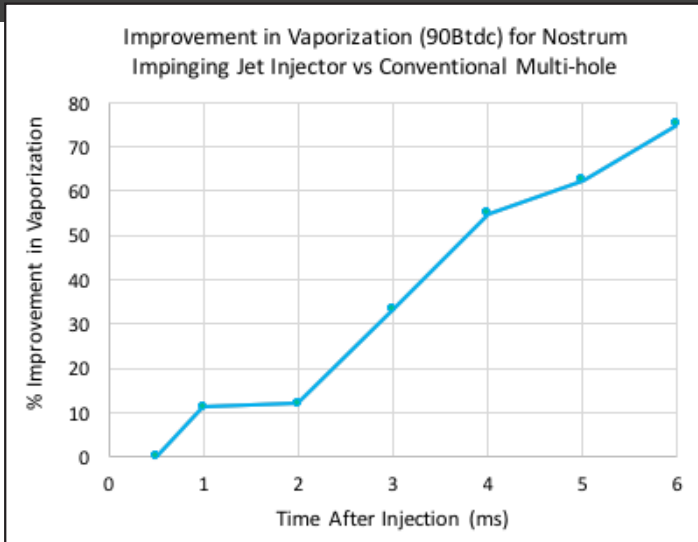
Engine Instrumentation



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An Effective Mechanism for Charge Cooling in Forced Induction Engines.

Product Line	KiWi™ Direct Water	KiWi™ Port Water [®]
Application	Direct- in cylinder water injection	Port & Intake track water injection
Description	Fully integrated high pressure nozzle with colliding jet geometry	Modular plate with colliding jet geometry
Spray Type	Diffuse Cone Plume	Diffuse Cone Plume
Number of holes (n)	2-12	2-14
Plume angles (Theta)	35-110°	20-120°
Targeting angles (Alpha)	0-35°	0-45°
Plume cross sections	Round, Oval, Irregular, Concavely or Convexly polygonal, or any freehand shape	Round, Oval, Irregular, Concavely or Convexly polygonal, or any freehand shape
Static flow rates	Up to 25g/sec	Up to 16g/sec
Minimum pulse width	0.35msec	0.6msec
Static flow tolerance	+/- 3%	+/-3%
Dynamic flow tolerance	+/- 3% @ 1ms	+/- 6% @ 1ms
Operating pressure	Up to 280 Bar	Up to 8 bar
Operating temperature range	-31°C - 130°C	-40°C - 110°C
Power Supply	Standard GDI Driver	9-16.5 V
Coil Resistance	1.5 Ω	12 Ω
Length (mm)	90	22.6, 48.65, 60.66