

MARCKHEM

# DISCOVER BETTER PERFORMANCE™

AFTON PERFORMANCE FUEL ADDITIVES



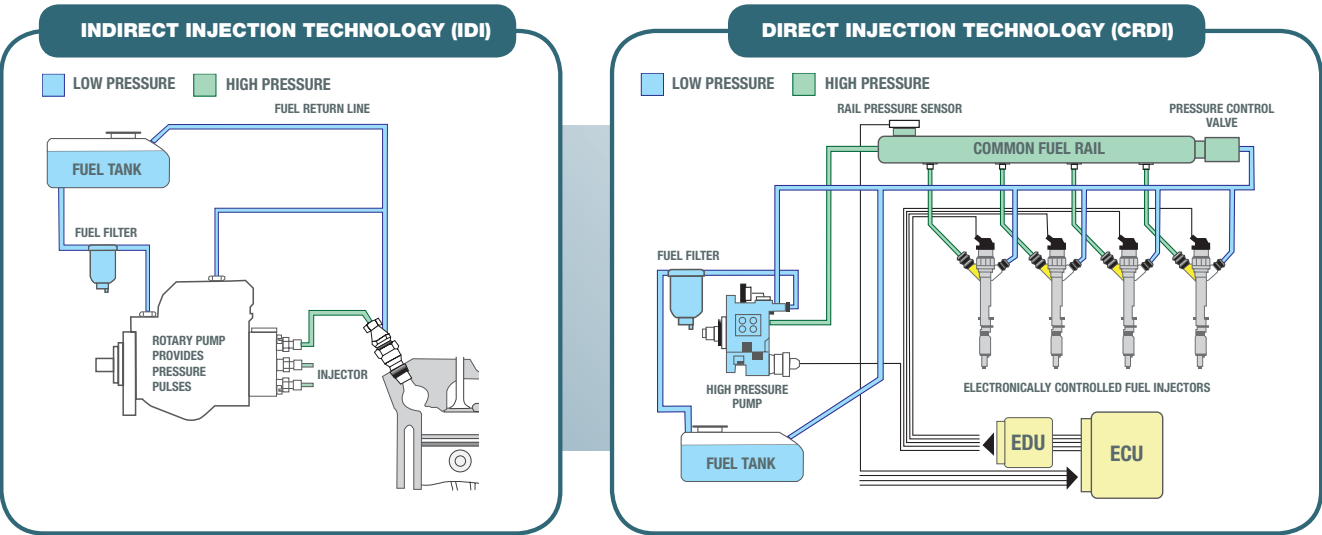
 **Afton**  
CHEMICAL  
Passion for Solutions®



# DIESEL

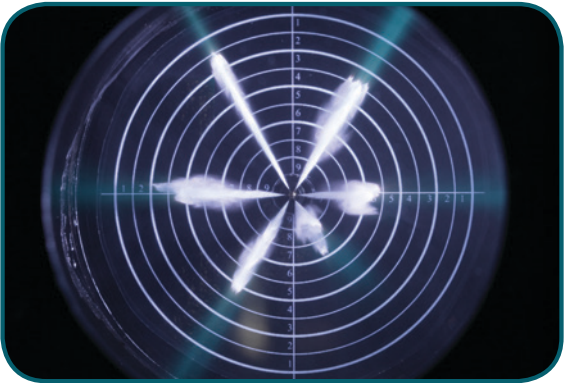
Today, industry is faced with an increasing demand from consumers for improved performance as well as a global desire to improve air quality. There is a wide variety of diesel engine technologies present in the market from Indirect Injection (IDI) to Common Rail Direct Injection (CRDI). Each of these present challenges and all command the ultimate in performance from fuel.

Our diesel performance fuel additives clean and restore cleanliness in both the older IDI engine technology and the more modern CRDI engines. Performance is recovered, enhancing power, acceleration and fuel economy.

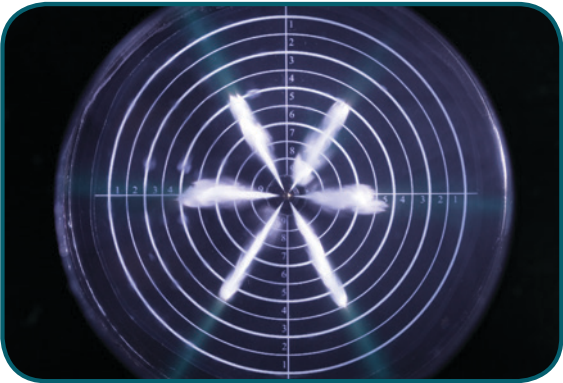


Our diesel additives also provide critical protection against the build-up of deposits in fuel injectors and filters – the source of many real-world engine failures.

The photographs below show the spray pattern of fuel from an injector of a CRDI engine. The first demonstrates how the injector can become easily blocked by poor quality fuel and the second how the use of Afton’s diesel additive can remove the deposits and restore performance.



Deposits formed from poor quality fuel affect the spray and cause loss of power and fuel economy



Same injector, cleaned with additised fuel – fully restores performance

## ECONOMICS THAT MAKE SENSE!

- Grow sales and profitability through improved fuel quality and make substantiated marketing claims
- Our additives are used at ppm levels, so you require very little to make a significant difference in performance
- Our additive cost is <0.2% of the regular retail diesel price\*

\* Based on Markchem pricing at time of publication

Afton has a choice of diesel additives to suit your requirements. With patented detergent technology and over 90 years of technical expertise our product performance is proven.

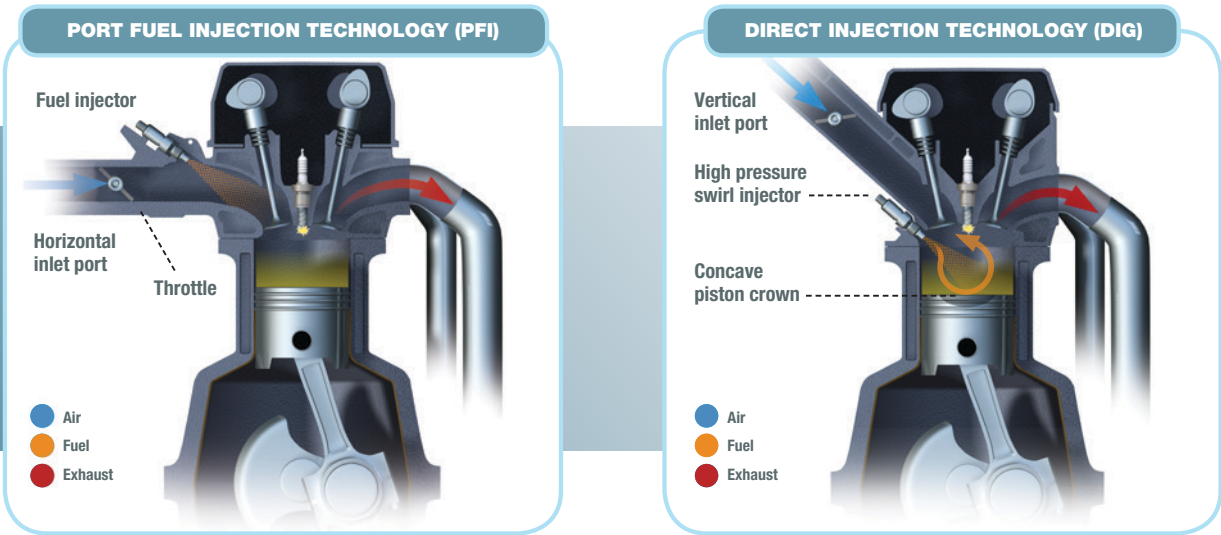
**For more information on Afton products please contact MarkChem who will be able to provide comprehensive technical information, together with commercial details.**

# GASOLINE

As with diesel, gasoline engine technologies and fuels are constantly evolving and providing new challenges. The market penetration of Direct Injection Gasoline (DIG) engines is growing fast.

Driveability, fuel economy, reduced emissions, power, ethanol compatibility, engine cleanliness and reduced friction are just some of the demands of today’s drivers. Afton’s additives provide the platform on which to deliver all these marketing claims and more.

Our gasoline performance fuel additives provide exceptional performance in both traditional PFI and modern DIG engines.



Additives reduce inlet valve deposits (PFI) and injector deposits (DIG) leading to improved fuel economy

	Vehicle I	Vehicle II
FUEL CONSUMPTION	LITRES / 100KM	LITRES / 100KM
AVERAGE Start of Test	7.315	8.151
AVERAGE End of Test	7.056	7.947
FUEL ECONOMY IMPROVEMENT	3.5%	2.5%

The table on the left illustrates two examples of real world fuel economy achieved with Afton’s standard gasoline additive.

Our gasoline additives also provide critical protection against corrosion and enhance the vehicle life.



Corrosion – untreated gasoline



Corrosion control – additive treated gasoline

## ECONOMICS THAT MAKE SENSE!

- Grow sales and profitability through improved fuel quality and make substantiated marketing claims
- Our additives are used at ppm levels, so you require very little to make a significant difference in performance
- The additive cost is <0.3% of the average retail gasoline price\*

\* Based on Markchem pricing at time of publication

Afton has a choice of gasoline additives to suit your requirements. Our patented Mannich detergent technology provides the basis of our DIG performance. With the addition of an effective friction modifier, fuel economy and power output are further enhanced.

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MarkChem represents Afton Chemical and distributes/sells their products providing customers with complete technical and commercial service.