Additive Injectors

Liquid Automation Systems (LAS) has been a leading manufacturer, supplier, service and calibration contractor of automated fuel additive injection systems in Southern Africa for more than 30 years.

Fuel additives include amongst others:

- Oil majors' proprietary fuel additives for performance enhancement and identification
- Marking additive to either give a fuel grade a distinct colour or to add security marking additive
- LPG odour agent
- Jet A1 Biocide additive
- Jet A1 Stadis additive (at very small yet precise ratios)

LAS's automated additive injection offering includes:

- Automated "Mechanical standalone injection systems" - LAS is the authorised distributor of global market leading specialists, Hammonds® Injection Systems, in Southern Africa, supplying Fluid Powered Additive Injection Systems with or without electronic registering to the Petrochemical and Aviation Industry. Hammonds Injectors can doze additives accurately throughout a vast range of injection ratios to cater for any additive dozing application imaginable.

- Automated "electronic" injection systems
    - Sequential batch dozing
        - Selection of application specific additive injection controllers to control sequential batching of additive in a prescribed ratio to a mainline flow
        - LAS manufacture and supply our in-house manufactured additive injection module (LAS AIM2) for use with an electronic additive batch controller. All components incorporated (flow meter, solenoid valve and filtration) are selected global leading brands and often identical or better than other additive injection module brands. LAS's module is however designed and supplied with a separate meter cartridge instead of the common practice of an incorporated metering chamber. When any other brand's meter wear to a point when it is unserviceable, then the complete module needs to be discarded and replaced. All components on the LAS AIM2 are serviceable and replaceable giving the module an unlimited lifespan.

    - Ratio blending/dozing
        - Selection of application specific additive injection controllers to control ratio blending of additive in a prescribed ratio to a mainline flow in a continuous stream instead of typical sequential batching.

- LAS configure selected hardware components to be controlled by a ratio blending controller to meet a customer's specific custom needs.

The Hammonds Additive Injection systems are installed globally, with more than 12 000 installations. Hammonds Additive Injection systems are designed for low long-term cost of maintenance, precise dozing, long lifespan and prevents destructive downtime. Hammonds system can inject fuel biocides, anti-icing additives, antistatic additives, super lubricants, fuel stabilizers and dye markers for fuel identification, amongst many applications.

What set Hammonds additive injection systems apart from other systems is the ability to inject directly into the fuel flow, ensuring accuracy and even blending of fuel. The additive system is applicable for low to high flow units and have the adaptability to inject one or multiple additives simultaneously with a consistent accuracy.

Features and Benefits

- Constant proportion of additive injection into a fluid flow, resulting in accurate and even blend.
- No external electrical power required, no expensive explosion proof wiring, yet easily automated.
- Multiple additive capability with up to 8 additives per system.
- Flexibility & Modular – The system is scalable as the operational requirements change.
- The additive systems are reliable and user-friendly with zero programming needed.
- Low total cost of ownership because of low maintenance and durability.
- Stationary, portable and digital systems options are available.
- Less intrusive installation process.

Industries

Hammonds additive injection system service the following industries.

- Military
- Bulk Storage Depots
- Aviation
- Marine
- Construction Equipment
- Rail Roads
- Off-loading
- Trucks Loading

Injector Options- Hammonds Injection System and LAS Additive Block

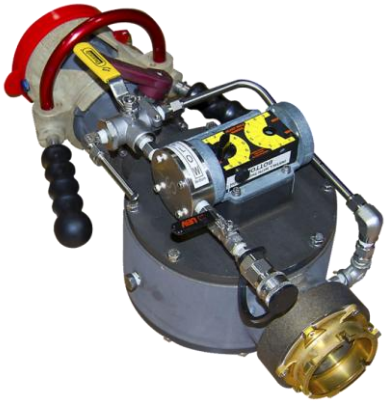
Hammonds provides solutions for various applications using specific models. Additive injectors perform a critical role for the injection of additives, dyes, markers, and etcetera into mainstream and primary product lines at high accuracy ratios.

Hammonds® Injector Models

PD Injectors

Turbine Injectors

Portable Injectors



Single-Point Injectors

LAS AIM2

LAS launched additive injection systems to the African fuel distribution industry by supplying individual components (solenoids, flow meters, strainer/filters, control needle valves) connected by instrumentation tubing and swage fittings. These assemblies were prone to frequent and excessive leaks. LAS introduced an Additive Injection Module, and it improved the performance and quality of additive dozing systems significantly. LAS refined the design and after several revisions, LAS standardised on the current LAS AIM2 model which has been proved to meet and exceed performance expectation of the industry and in comparison, to alternative module brands.

The LAS AIM2 module is manufactured from a solid 316SS billet. We use a Swagelok® filter element, ASCO® solenoid and superior quality and accuracy Macnaught® oval gear flow meter cartridge. All valves on the module are needle type for precise control and adjustment.

The LAS AIM2 is supplied by default with an Ex-d rated pulsar, but an Ex-option is available on request.